

DRAFT

**TRANSPORTATION ASSESSMENT
FOR
SHADOWBOX STUDIOS**

SANTA CLARITA, CALIFORNIA

JANUARY 2023

PREPARED FOR
LA RAILROAD 93, LLC

PREPARED BY



DRAFT

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January 2023

Prepared for:

LA RAILROAD 93, LLC

Prepared by:

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Chapter 1

Introduction

This report presents the transportation assessment for the proposed development of Shadowbox Studios (formerly Blackhall Studios), a full purpose film studio (Project) located at the northeast corner of Railroad Avenue & 13th Street, including the northeast corner of Arch Street & 12th Street, (Project Site) in the City of Santa Clarita (City). The methodology and base assumptions used in the analysis were established in consultation with the City and in conformance with *Transportation Analysis Updates in Santa Clarita* (Fehr & Peers, May 19, 2020) (TAU).

PROJECT DESCRIPTION

Project Site Information

The Project Applicant is LA Railroad 93, LLC. Entitlement applications were filed with the City Planning Department in May 2021 and have been assigned Master Case Number 21-109. In total, the Project Site is approximately 95.2 acres over multiple contiguous parcels; approximately 72 acres of the site will be developed and approximately 23.2 acres will remain undeveloped. The Project Site is bounded by vacant land to the north, vacant land and residential uses to the east, 12th Street and 13th Street to the south, and Railroad Avenue, the railroad and Arch Street to the west.

The location of the Project Site is shown in Figure 1. The Project Site is assigned the following Parcel Numbers in the Los Angeles County Assessor's records:

- 2834-001-007, 2834-001-012(-015), 2834-002-046; 2834-002-046; 2834-003-044; 2834-004-045; 2834-005-041; 2834-006-041; 2834-007-045; 2834-008-039; 2834-010-043; 2834-011-021; 2834-012-023; 2834-013-041; 2834-014-043; 2834-015-021; 2834-016-041; 2834-017-021; 2834-020-111; 2834-020-114; 2834-021-134; 2834-022-067

The Project would be constructed continuously in one phase and be completed by 2026. A site plan for the Project is shown in Figure 2.

Project Land Uses

The Project includes the development of 476,000 square feet (sf) of stage area, 608,500 sf of studio support (including 37,500 sf of catering space), and 210,000 sf of production office. Base camp areas, a parking structure, and potential back lot space will also be provided.

A previous proposal for this site under a different development group would have constructed 310 single-family residential units. This proposal was being processed by the City and a Draft Environmental Impact Report was pending release to the public when the property was acquired, and the full purpose film studio was proposed. A detailed analysis of that residential project (Placerita Meadows) was published in *Placerita Meadows EIR Traffic Study* (Stantec, February 28, 2020).

Undeveloped Land Area

The Project includes approximately 23.2 acres of undeveloped land. This portion of the Project will consist largely of undeveloped hillside land with some additional landscape areas and picnic areas to be utilized by studio staff and invited guests.

Parking

The Project would provide up to 2,468 vehicle parking spaces in one five-level parking structure accommodating 1,070 parking spaces and three surface parking lots accommodating an additional 1,398 spaces (including parking for electric vehicles). Included in the 2,468 on-campus parking spaces, 296 parking spaces for electric vehicles would be provided, as would 56 accessible spaces compliant with the Americans with Disabilities Act (ADA).

The Project would also provide 170 bicycle parking spaces (146 long-term and 24 short-term) for Project uses.

Project Access and Infrastructure

Primary access to the Project Site is proposed via two driveways on 13th Street east of Railroad Avenue. Secondary access is provided via one driveway on 12th Street (Gate 3 Driveway east of Arch Street). Internal circulation will be provided by on-campus loop roads that deliver all campus traffic to/from the three proposed driveways. Similar to the previously approved residential project on the site, the Project Site will be served by the Dockweiler Drive Extension Project (DDEP), which would improve access to/from the south. The Project proposes to signalize Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2 and locate two driveways at this intersection: Gate 1 Driveway from the north leg and Gate 2 Driveway from the east leg. Arch Street, and possibly a portion of 13th Street, may be renamed Dockweiler Drive with completion of the DDEP.

All three driveways would include security checkpoints for vehicles and pedestrians that would limit access to the facility to approved employees and visitors.

Pedestrian Access and Infrastructure. Pedestrian access to the on-site buildings would be provided at multiple points throughout the Project Site separated from vehicular access, as shown in Figure 2. The Project would also provide or maintain high-visibility crosswalks at Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2 and Arch Street & 12th Street & Dockweiler Drive.

Bicycle Access and Infrastructure. Access points to Project bicycle parking spaces, along with the existing and proposed bicycle infrastructure, are shown in Figure 3. As shown, the Project would implement a two-way bicycle path along the project frontages of 12th Street, Arch Street, and 13th Street, allowing for connection to City-proposed bicycle paths and bicycle lanes along Railroad Avenue west of the Project and future Dockweiler Drive south of the Project.

Roadway Dedication Requirements

Circulation Element of the General Plan (City of Santa Clarita, June 2011) (Circulation Element) provides street designations and required right-of-way (ROW) and roadway widths for streets throughout the City, as summarized in Table 1. The Project Site borders a number of public roadways, including Railroad Avenue, 12th Street, Arch Street, and 13th Street.

The Project would dedicate property and improve the adjacent sidewalk and roadway at locations along 13th Street, 12th Street, and Arch Street. The proposed dedications are summarized in Table 2 and described in detail in Chapter 4.

Transportation Demand Management (TDM) Measures

Although the analysis of vehicle miles traveled (VMT) presented in Chapter 5 of this report shows that the Project will meet the City's target thresholds for VMT, the Project proposes to incorporate several TDM features to help reduce VMT and vehicle trips to and from the Project Site. These actions are consistent with City and State of California (State) transportation and greenhouse gas (GHG) policies and objectives. The following measures would be incorporated into the Project to reduce VMT and vehicle trips:

- Flexible Work Schedules and Telecommuting Programs
- Bicycle Amenities (Bicycle Racks, Lockers, Showers, etc.)
- Carpool Programs and Support
- Tenant-based Guaranteed Ride Home (GRH) program
- Flex Car Support
- Preferential Parking Locations for high occupancy vehicles (HOV)
- TDM promotions and marketing
- Pedestrian network improvements
- On-street bicycle facilities
- Bicycle Parking per Santa Clarita Unified Development Code (SCUDC)

Existing Land Uses

The Project Site is currently vacant.

Project Schedule

Project construction is expected to be completed in 2026. For the purposes of these analyses, the Project will be constructed continuously in one phase and will be open in 2026. To be conservative, the effects of Project traffic on the surrounding roadway network was evaluated under Future Background conditions in 2028.

ANALYSIS METHODOLOGY

Two broad categories of transportation analysis are required by the City in the TAU.

The first category, found in TAU Chapter 5, relates to potential transportation impacts under the California Environmental Quality Act (CEQA). Should a project exceed thresholds identified in the TAU, its impact would be considered significant under CEQA and, thus, would require any feasible mitigation measures be implemented to reduce the impact below the threshold of significance. The City's CEQA thresholds identified in the TAU are consistent with State CEQA guidance.

The other category of analysis, non-CEQA transportation analysis, found in TAU Chapter 6, is the review of transportation issues relating to safety, access, and congestion as they may be affected by construction or operation of a project.

Specific screening criteria in Chapters 4 and 6 of the TAU determines whether each type of CEQA and non-CEQA transportation analysis is required for a particular project. Screening criteria for each type of analysis are described and applied to the Project in Chapter 3 of this report. As detailed herein, the Project is subject to the following analyses:

CEQA Analyses

- Conflicting with Plans, Programs, Ordinances, or Policies
- Causing Substantial Vehicle Miles Traveled
- Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use
- Freeway Safety Analysis

Non-CEQA Analyses

- Pedestrian, Bicycle, and Transit Access Assessment
- Project Access and Circulation Evaluation
- Project Construction
- Residential Street Cut-Through Analysis

In addition, this report includes a discussion of Project parking requirements and supply.

ORGANIZATION OF REPORT

This report is divided into 10 chapters:

1. Introduction
2. Project Context
3. Transportation Assessment Screening
4. CEQA Analysis: Consistency with Policy
5. CEQA Analysis: VMT
6. CEQA Analysis: Geometric Design and Land Use Hazards
7. CEQA Analysis: Freeway Safety
8. Non-CEQA Analysis: Pedestrian, Bicycle, and Transit Access
9. Non-CEQA Analysis: Project Access, Safety, and Circulation
10. Non-CEQA Analysis: Project Construction

The appendices contain supporting documentation and additional details supporting the technical analyses.



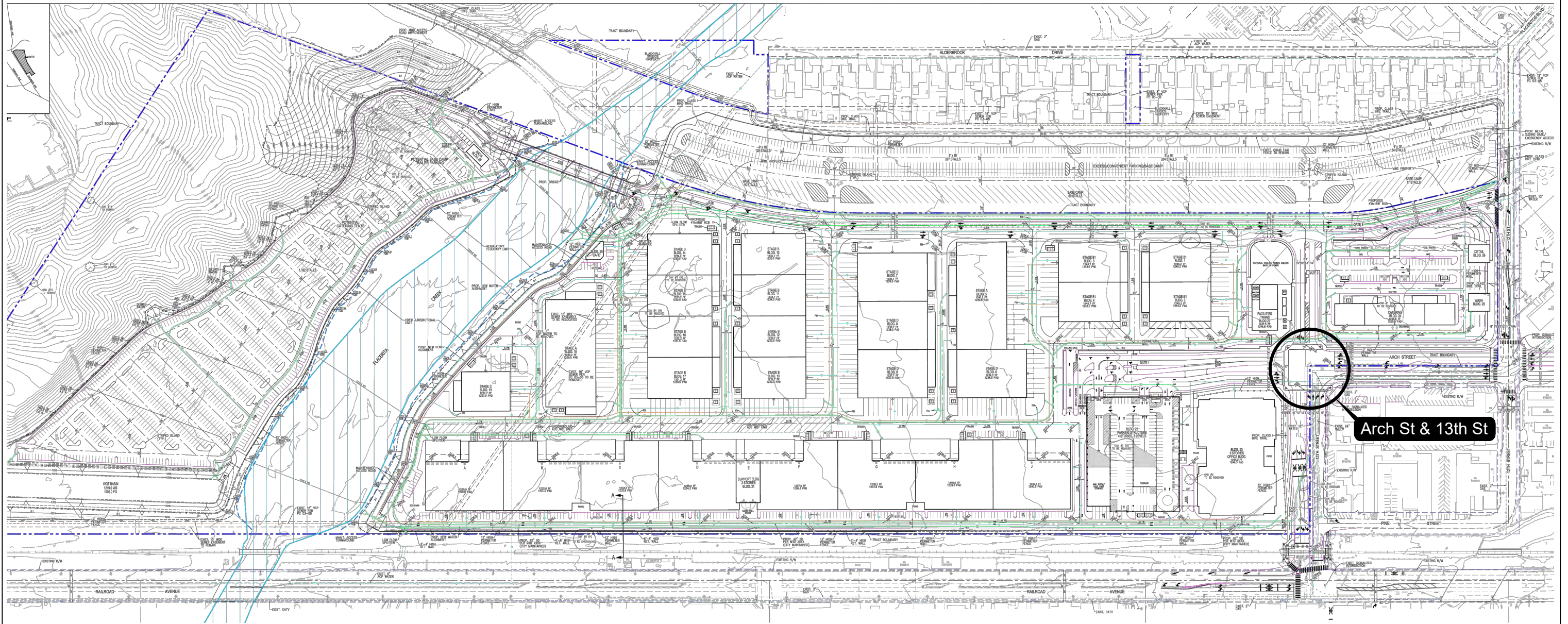
LEGEND

 Project Site



PROJECT SITE OVERVIEW

FIGURE
1



Source: GAA Architects. September, 2021.



SHADOWBOX STUDIOS SITE PLAN

FIGURE
2

**TABLE 1
GENERAL PLAN STREET DESIGNATIONS**

Street Designation	Typical ROW (ft)	Travel Lanes	Streets within Study Area
Major Highways	116-138	6-8	Bouquet Canyon Road, Soledad Canyon Road, Lyons Avenue, Magic Mountain Parkway, Newhall Avenue, Newhall Ranch Road, Orchard Village Road, Railroad Avenue, Sierra Highway, Wiley Canyon Road
Secondary Highways	88-92	2-4	Dockweiler Drive, Newhall Avenue, Railroad Avenue, Rockwall Canyon Road, Valley Street, Oak Ridge Drive, Wiley Canyon Road
Limited Secondary Highways	84	2-5	None
Collector Streets	64-66	2	Arch Street, Placerita Canyon Road, Oak Ridge Drive, Valle del Oro, 12th Street, 13th Street
Local Streets	58-60	2	None

Notes:

All widths in feet.

Source: *City of Santa Clarita General Plan Circulation Element* (City of Santa Clarita, June 2011).

**TABLE 2
SUMMARY OF WAIVERS AND DEDICATIONS**

Street	Designation	Typical ROW (ft)	Current ROW (ft)	Dedication Provided (ft)	Future ROW (ft)
12th Street	Collector Street	64-66	26	10	36
13th Street	Collector Street	64-66	45	20	65
Arch Street	Collector Street	64-66	30	35	65

Notes:
All widths in feet.

Chapter 2

Project Context

This chapter presents a comprehensive summary of the area surrounding the Project Site in conformance with the requirements of the TAU. It describes key streets, transit routes, and freeway ramps within the Study Area.

EXISTING STREET SYSTEM

The existing street system in the Study Area consists of a regional roadway system including freeways, primary and secondary arterials, and collector and local streets that provide regional, sub-regional, or local access and circulation within the Study Area. These transportation facilities generally provide two to six travel lanes and usually allow parking on either side of the street. Typically, the speed limits range between 25 and 50 miles per hour (mph) on the streets and between 55 and 65 mph on freeways.

The Circulation Element outlines the classifications of streets within the City limits in an effort to show the functions of each street in the network and defines the available facilities in the Study Area as follows:

- Regional Freeway Facilities are high-volume, high-speed roadways that provide regional access to the area. These generally have limited access provided by interchanges that carry regional through traffic and do not provide local access to adjacent land uses.
- Arterial Street System consists of five roadway types which includes Major Highways, Secondary Highways, Limited Secondary Highways, Collector Streets, and Local Streets. Most roadways are further classified as “divided” or “undivided” to denote the inclusion of turning lanes to improve the vehicular capacity of the roadway.
 - Major Highways represent the widest streets that typically provide regional access to major destinations. These highways are at least six lanes wide, provide limited access to and from driveways and cross streets, and generally provide left-turn pockets at intersections. The intent of all Major Highways is to accommodate most traffic between different portions of the City and adjacent communities and the

freeway system. Bicycle lanes are delineated on major highways where parallel and adjacent bikeways are not available.

- Secondary Highways are typically four lanes wide, provide limited access from driveways and cross streets, and generally provide left-turn pockets at intersections. The intent of all Secondary Highways is to service most through traffic and collect traffic from Limited Secondary Highways. Bicycle lanes are delineated on Secondary Highways where parallel and adjacent bikeways are not available.
- Limited Secondary Highways are typically four lanes wide, provide partial control of vehicular and pedestrian access to the roadway from driveways, cross streets, and crosswalks, and do not typically have left-turn pockets at intersections. The roadway does provide limited on-street parking. The intent of all Limited Secondary Highways is to provide local access to Major and Secondary Highways.
- Collector Streets are typically two lanes wide, provide limited access from driveways and cross streets, and generally do not provide left-turn pockets at intersections. The intent of all Collector Streets is to service all local traffic from residential, commercial, and industrial uses and provide access to Major, Secondary, and Limited Secondary Highways.
- Local Streets are classified as any street that must be accessed through the use of any of the four previously identified roadways. Typical Local Streets include residential streets, private streets, service roads, and public alleys.

The following is a brief description of the major roadways and their designations in the Circulation Element:

Roadways

- Railroad Avenue – Railroad Avenue is a designated Major Highway from Magic Mountain Parkway to Lyons Avenue and a designated Secondary Highway from Lyons Avenue to Newhall Avenue. It runs in the north-south direction and is located west of the Project Site. It provides four travel lanes, two in each direction. On-street parking is generally not provided within the Study Area.
- 13th Street – 13th Street is a designated Collector Street that runs in the east-west direction and is located south of the Project Site. It provides two travel lanes, one in each direction. On-street parking is not available within the Study Area, although angle parking immediately off the street is provided along the south side of 13th Street. 13th Street has an at-grade railroad crossing just east of its intersection with Railroad Avenue.
- 12th Street – 12th Street is a designated Collector Street that runs in the east-west direction and is located south of the Project Site. It provides two travel lanes, one in each direction.

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- Arch Street – Arch Street is a designated Collector Street that runs in the north-south direction between 12th Street and 13th Street and is located southwest of the Project Site. It provides two travel lanes, one in each direction.
 - Soledad Canyon Road – Soledad Canyon Road is a designated Major Highway that runs in the east-west direction and is located north of the Project Site. It provides four to six travel lanes, two to three in each direction. On-street parking is generally not available.
 - Newhall Ranch Road – Newhall Ranch Road is a designated Major Highway that runs in the east-west direction and is located north of the Project Site. It provides four to six travel lanes, two to three in each direction. On-street parking is generally not available.
 - Oak Ridge Drive – Oak Ridge Drive is a designated Secondary Highway north of Via Princessa and a designated Collector Street south of Via Princessa. It runs in the north-south direction and is located north of the Project Site. It provides four travel lanes, two in each direction, north of Via Princessa and two travel lanes, one in each direction, south of Via Princessa. On-street parking is not available north of Via Princessa and is available south of Via Princessa.
 - Lyons Avenue – Lyons Avenue is a designated Major Highway that runs in the east-west direction and is located south of the Project Site. It provides four travel lanes, two in each direction. On-street parking is available.
 - Wiley Canyon Road – Wiley Canyon Road is a designated Major Highway from Via Princessa to Lyons Avenue and a Secondary Highway south of Lyons Avenue. It generally travels in the north-south direction and is located west of the Project Site. It provides four travel lanes, two in each direction. On-street parking is generally not available north of Lyons Avenue and is available south of Lyons Avenue.
 - Orchard Village Road – Orchard Village Road is a designated Major Highway that runs in the north-south direction and is located west of the Project Site. It provides four travel lanes, two in each direction. On-street parking is available.
 - Dockweiler Drive – Dockweiler Drive is a designated Secondary Highway that runs in the east-west direction and is located southeast of the Project Site. It provides two to four travel lanes, one to two in each direction. On-street parking is available west of Ivy Lane.
 - Placerita Canyon Road – Placerita Canyon Road is a designated Collector Street that runs in the east-west direction and is located southeast of the Project Site. It provides two travel lanes, one in each direction. On-street parking is not available.
 - Newhall Avenue – Newhall Avenue is a designated Secondary Highway from 16th Street to Railroad Avenue and a designated Major Highway from Railroad Avenue to State Route 14 (SR 14). It generally runs in the east-west direction and is located southwest of the Project Site. It provides six travel lanes, three in each direction, east of Main Street and two travel lanes, one in each direction, west of Main Street. On-street parking is not available east of Main Street.

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- Valle De Oro – Valle De Oro is a designated Collector Street that runs in the north-south direction and is located southeast of the Project Site. It provides two travel lanes, one in each direction. On-street parking is available.
 - Sierra Highway – Sierra Highway is a designated Major Highway that runs in the north-south direction and is located southeast of the Project Site. It provides four to six travel lanes, two to three in each direction. On-street parking is not available.
 - Magic Mountain Parkway – Magic Mountain Parkway is a designated Major Highway that runs in the east-west direction and is located north of the Project Site. It provides six travel lanes, three lanes in each direction. On-street parking is generally provided within the Study Area.
 - Valencia Boulevard – Valencia Boulevard is a designated Major Highway that runs in the east-west direction and is located northwest of the Project Site. It provides six travel lanes, three lanes in each direction. On-street parking is generally provided within the Study Area.

PEDESTRIAN, BICYCLE, AND TRANSIT FACILITIES

A comprehensive inventory was conducted of destinations and facilities serving pedestrians, bicyclists, and transit riders within 0.5 miles of the Project Site. Figure 4 identifies commercial and institutional destinations to which pedestrians may be drawn, as well as the residential neighborhoods that may attract pedestrians. Figure 5 inventories pedestrian, bicycle, and transit infrastructure. There are also many locations where the more rural characteristics of the Study Area result in missing segments of sidewalks.

There are no existing bicycle facilities adjacent to the Project Site. Nearby, there are Class III bicycle routes on Orchard Village Road, Wiley Canyon Road between Orchard Village Road and Newhall Avenue, and Newhall Avenue between Railroad Avenue and Sierra Highway. There are also Class II bicycle lanes on Wiley Canyon Road west of Orchard Village Road, Dockweiler Drive east of Valle Del Oro to Sierra Highway, and 16th Street between Orchard Village Road and Newhall Avenue, as well as Class I bicycle paths adjacent to Wiley Canyon Road / Via Princessa that starts east of Orchard Village Road and another that runs along the South Fork River Trail. Multi-Use paths are located along the South Fork River Trail and adjacent to Newhall Station connecting to Placerita Canyon Road.

Table 3 summarizes the transit stops within 0.5 miles of the Project Site, including the routes they serve. As shown, there are bus stops along Railroad Avenue served by Santa Clarita Transit Route 12. Newhall Station is located at the intersection of Railroad Avenue & Market Street.

Additionally, Figure 4 indicates locations of various commercial, recreational, and institutional establishments within 0.5 miles of the Project Site. West of the Project Site, Railroad Avenue is a commercial corridor with various businesses including fast-food restaurants and several small storefronts. To the east, south, and west of the Project are numerous residential uses, including single-family homes and multi-family apartment buildings, residents of which may be employees at the Project Site.

PUBLIC TRANSIT SERVICE

The Study Area is served by bus lines operated by Santa Clarita Transit, Antelope Valley Transit Authority, and Amtrak. Figure 6 illustrates the existing transit service in the Study Area.

In addition to the bus lines that provide service within the Project vicinity, Metrolink operates the Antelope Valley Line in the Study Area. The Antelope Valley Line runs between Lancaster and downtown Los Angeles, where it connects with multiple services at Union Station. The Project Site is located approximately 2,500 feet north of Newhall Station.

Table 4 summarizes the transit lines providing service within the Study Area, including the type of service (peak vs. off-peak, express vs local), frequency of service, service area, and hours of operation. The average frequency of transit service during the peak hour was derived from the number of peak period stops made nearest the Project Site.

REGIONAL TRANSPORTATION

Primary regional access to the Project Site is provided by Interstate 5 (I-5) and SR 14. The following is a brief description of the freeways serving the study area:

- I-5 – I-5 is a freeway that generally runs in the north-south direction and is located approximately 2.0 miles west of the Project Site. In the vicinity of the Study Area, I-5

provides four travel lanes in each direction. Access to and from I-5 is available via interchanges at Lyons Avenue. I-5 carries between 200,000 and 286,000 Average Daily Traffic (ADT) in the Study Area.¹

- SR 14 – SR 14 is a freeway that generally runs in the north-south direction and is located approximately 2.0 miles east of the Project Site. In the vicinity of the Study Area, SR 14 provides four travel lanes in each direction. Access to and from SR 14 is available via interchanges at Newhall Avenue and Placerita Canyon Road. SR 14 carries between 155,000 and 170,000 ADT in the Study Area.²

FUTURE CUMULATIVE CONDITIONS

Project construction is anticipated to be completed in 2026. At that time, the Study Area would be affected by other development projects and transportation infrastructure improvements completed in the interim. To be conservative, this analysis accounts for Projects anticipated to be completed by 2028.

Related Projects

A list of Related Projects that are proposed, approved, or under construction within the Study Area was prepared based on information provided by City and verified during the development of this transportation assessment. This list includes any project that may contribute traffic to study intersections included in the operational analysis in Chapter 9. The Related Projects are detailed in Table 5, along with their vehicular trip generation estimates, and shown on a map in Figure 7. Where trip generation estimates were not provided by the City nor found in studies prepared for those projects, the estimates were prepared using rates from *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers, 2021) (Trip Generation Manual), as noted in Table 5.

¹ Source: <https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes/2017/route-5-6>

² Source: <https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes/2017/route-11-15>

Future Infrastructure Improvements


The transportation network within the Study Area could also be affected by the following regional improvement plans, local specific plans, and programmed improvements.

DDEP. The Project assumes the DDEP, as studied in *Lyons Avenue/Dockweiler Drive Extension Project Final Environmental Impact Report* (Parker Environmental Consultants, February 2018), would be completed. The alignment would connect Dockweiler Drive to Arch Street and continue along Arch Street and 13th Street to link to Railroad Avenue.

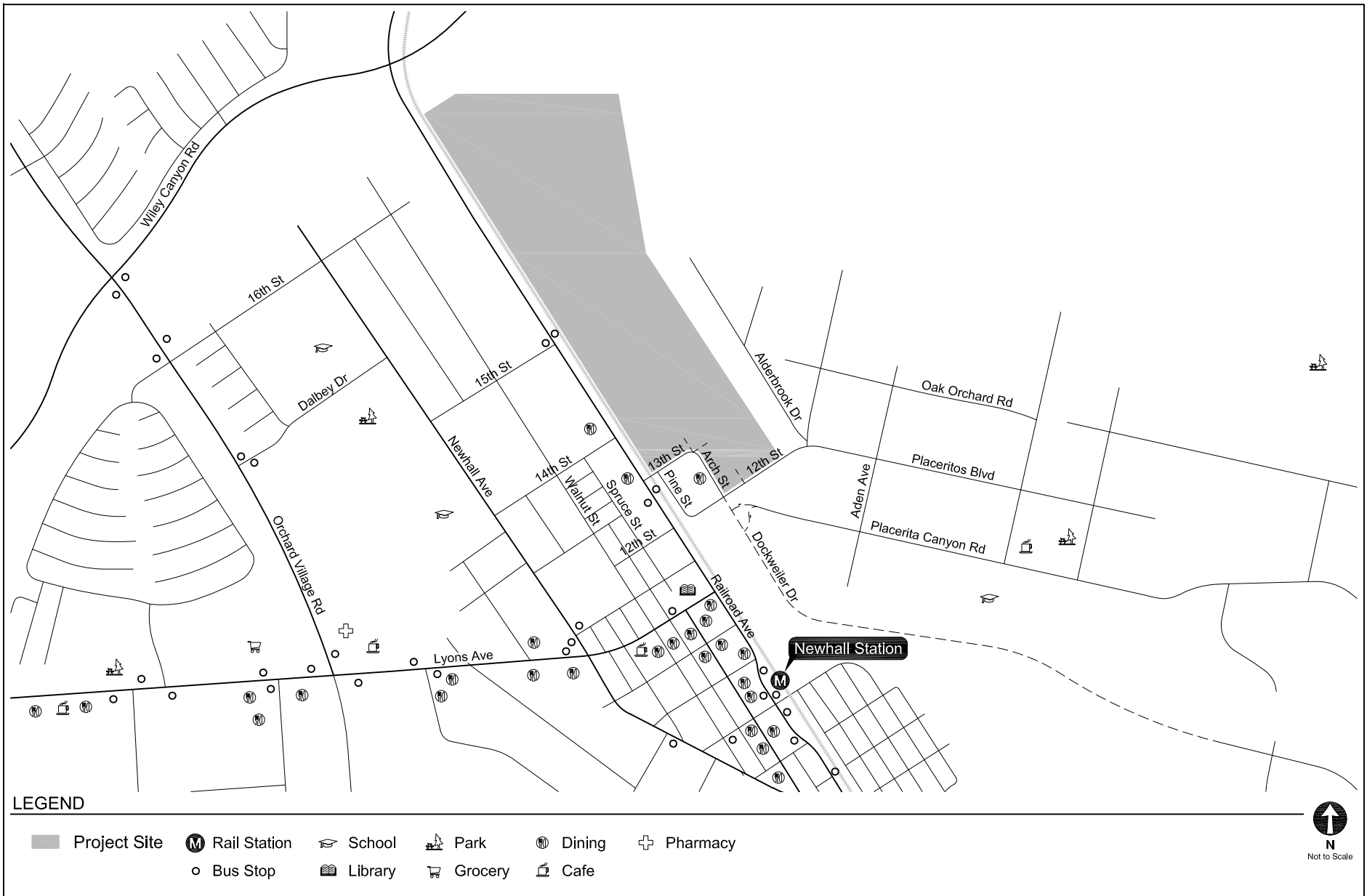
An improved rail crossing at 13th Street just to the east of Railroad Avenue would be installed. The crossing upgrade would provide room for additional travel lanes and sidewalks, improving connectivity between Railroad Avenue and Arch Street. With the improvement, the westbound approach of 13th Street would provide two left-turn lanes and a free right-turn lane at Railroad Avenue. The east leg would also include a second receiving lane at this intersection. Under existing conditions, this assessment analyzed the Project with and without the upgrade. For future conditions, it was assumed the railroad crossing will be upgraded to include a five-lane cross-section, bicycle lanes, and upgraded signal equipment. The final design of the crossing will be developed by RailPros upon finalization of the railroad gate design.

This Project would also include upgrades to the intersection of Arch Street & 12th Street to replace the existing fourth intersection leg, Placerita Canyon Road, with Dockweiler Drive. This intersection would be controlled by either a traffic signal or a roundabout, both of which were studied in this assessment. Placerita Canyon Road would intersect with Dockweiler Drive to the south of this intersection and would be controlled by a traffic signal. It is anticipated that the DDEP would be completed by 2025-26, subject to funding availability.

Non-Motorized Transportation Plan. *2020 City of Santa Clarita Non-Motorized Transportation Plan* (Alta Planning + Design, September 2020) (Non-Motorized Transportation Plan) identifies the City's vision for a more integrated bicycle and pedestrian network throughout the City, including within the Study Area. It proposes Class III bicycle routes on Race Street, 8th Street, Sierra Highway, and Walnut Street. It also proposes Class II bicycle lanes on Placerita Canyon Road and the Dockweiler Drive extension. It proposes a Class I bicycle path along the south side of the South Fork River Trail and adjacent to Railroad Avenue, 13th Street, and Arch Street from

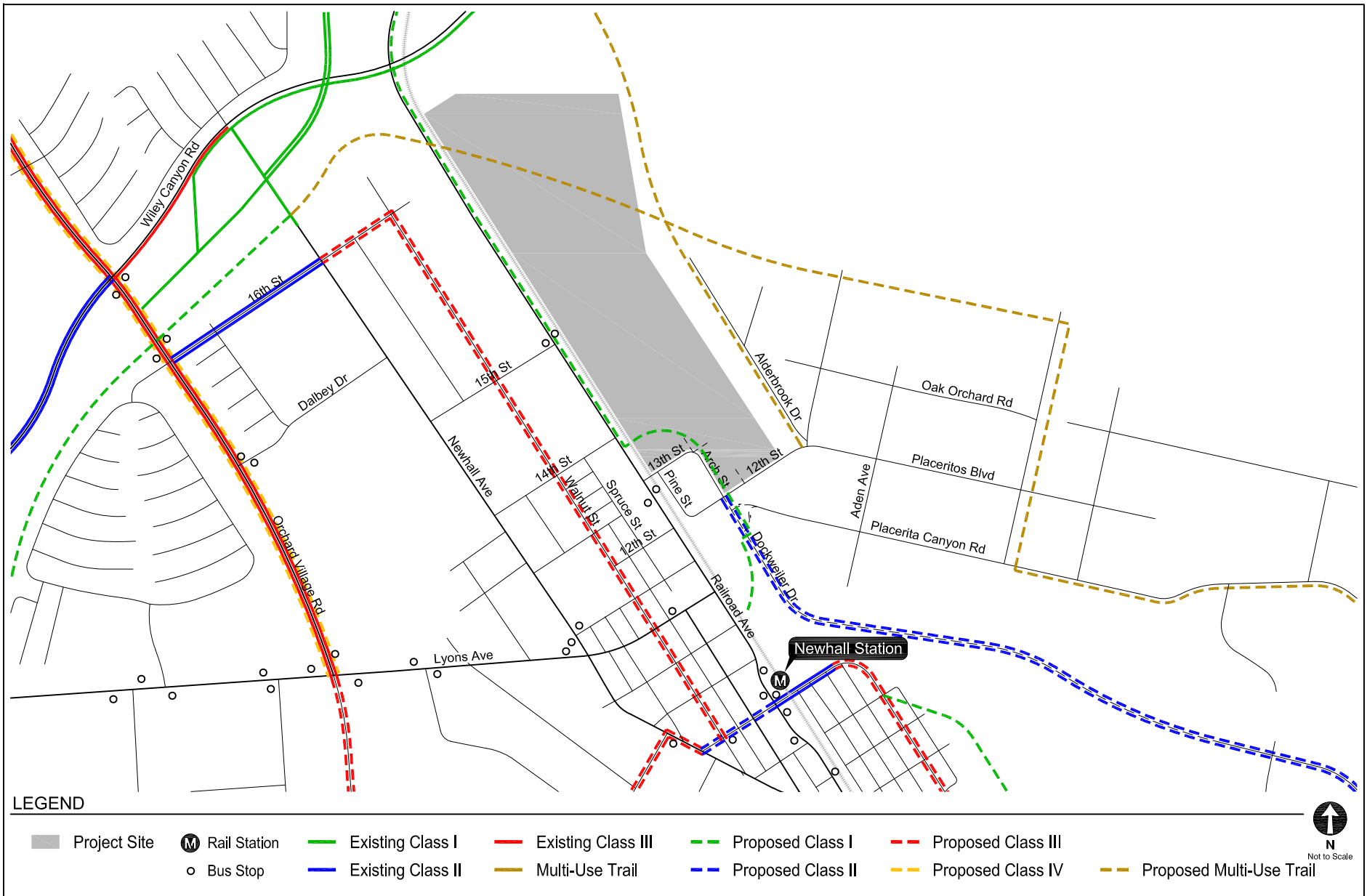


Magic Mountain Parkway to Newhall Station and continuing southeast along the basin after a small gap in the network. Finally, it proposes Class IV separated bikeways on Orchard Village Road from Mill Valley Road to Lyons Avenue. Multi-Use paths are proposed that would run adjacent to the northeastern boundary of the Project Site from 12th Street to Via Princessa. North of the Project Site, the path would cross another proposed Multi-Use path from the southern side of the South Fork Trail to Oak Orchard Road.



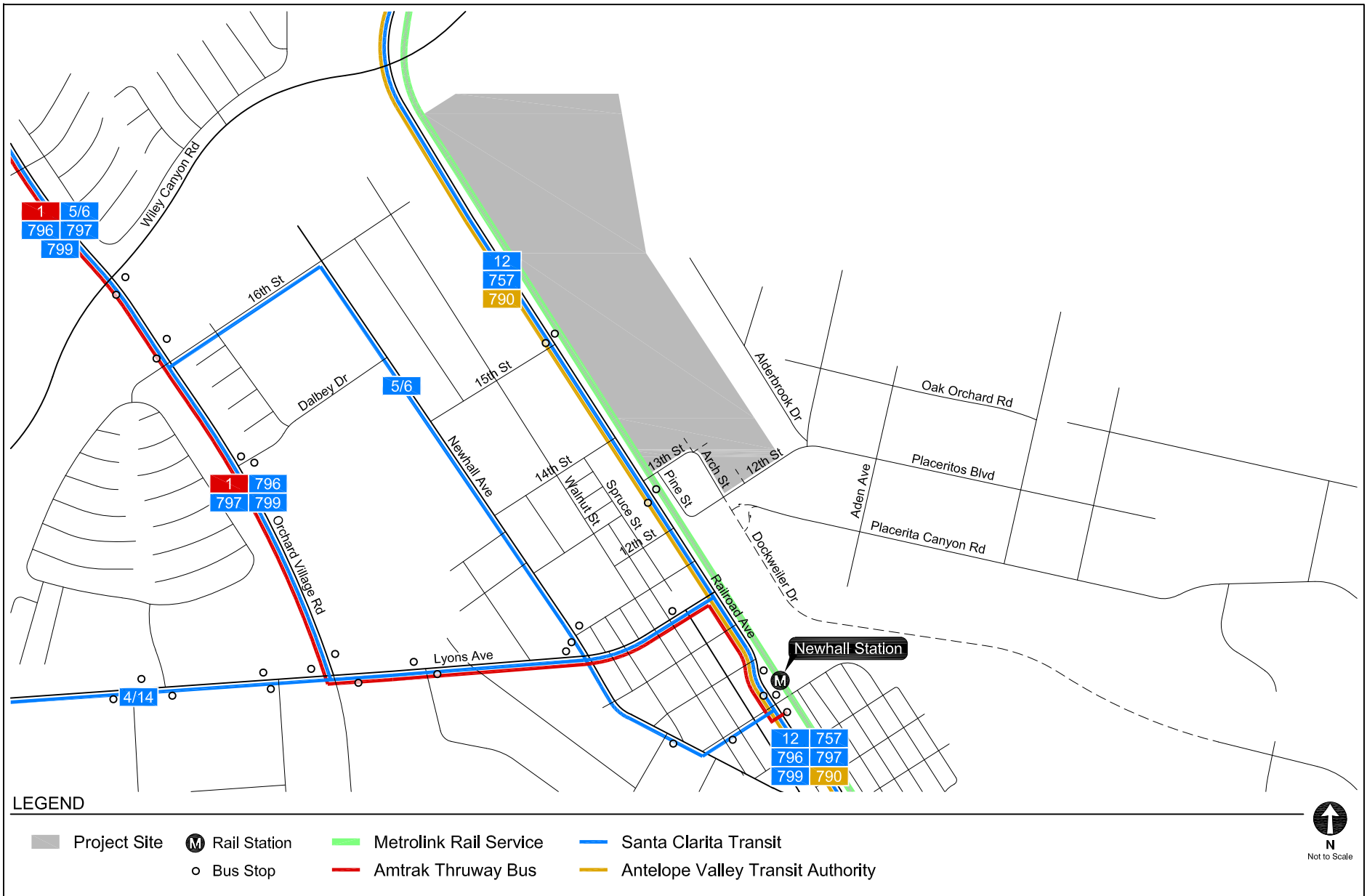
INVENTORY OF PEDESTRIAN AND BICYCLE DESTINATIONS

FIGURE
4



INVENTORY OF PEDESTRIAN / BIKE / TRANSIT FACILITIES

FIGURE 5



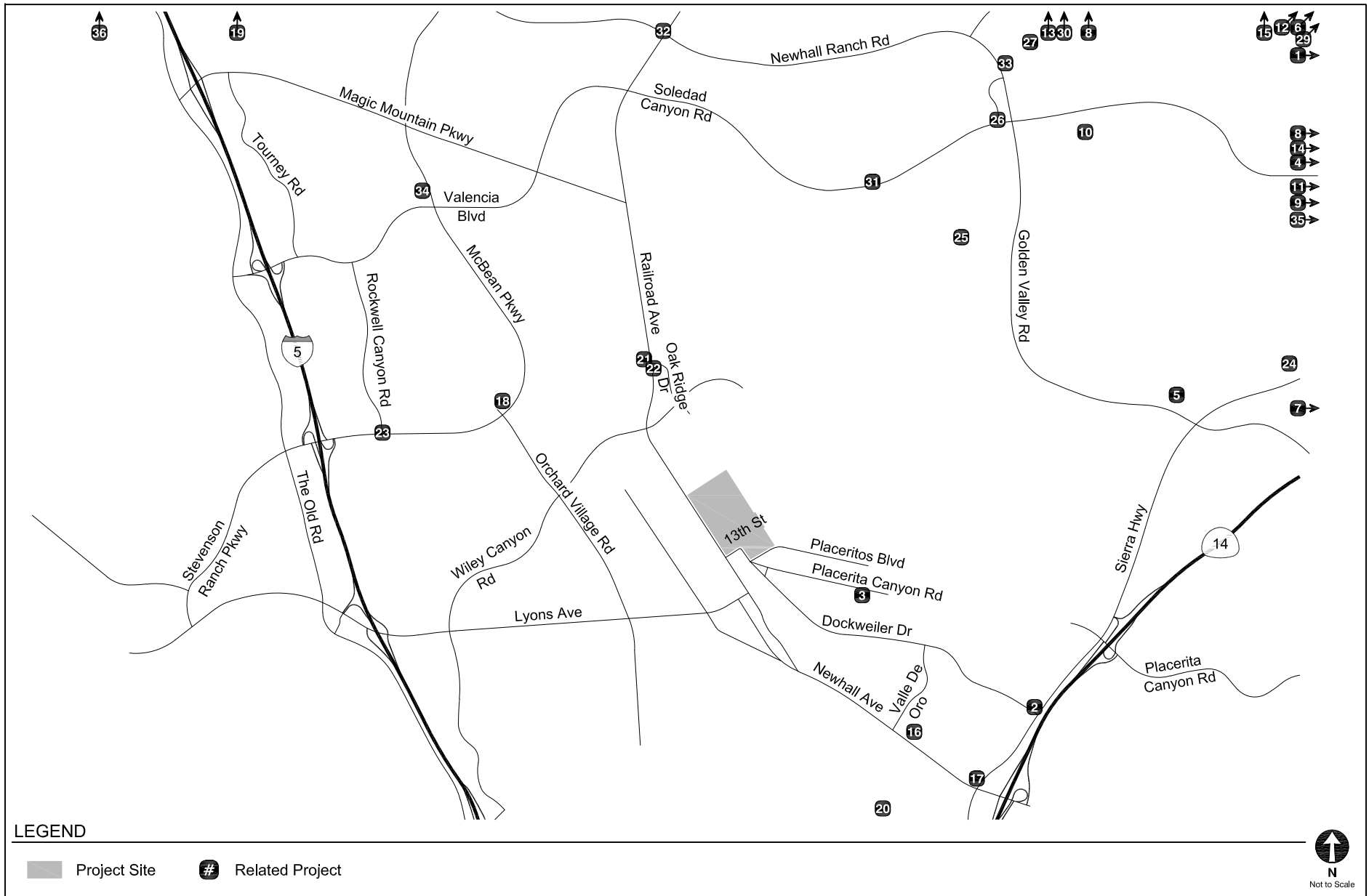
LEGEND

- Project Site
 Rail Station
 Metrolink Rail Service
 Santa Clarita Transit
- Bus Stop
 Amtrak Thruway Bus
 Antelope Valley Transit Authority



EXISTING TRANSIT SERVICE

FIGURE 6



LOCATIONS OF RELATED PROJECTS

FIGURE
7

**TABLE 3
LOCATIONS OF BUS STOPS IN PROJECT VICINITY**

Stop Location	Route(s)
Newhall Station	Santa Clarita Transit (SCT): 4/14, 5/6, 12, 757, 796, 797, 799 AVTA: 790 Metrolink: Antelope Valley Line Amtrak: Route 1
Railroad / 13th	SCT: 12
Railroad / 15th	SCT: 12
Lyons / Main	SCT: 4/14, 5/6
Railroad / 8th	SCT: 4/14, 5/6, 12
Market / Walnut	SCT: 4/14, 5/6
Newhall / 8th	SCT: 4/14, 5/6
Lyons / Newhall	SCT: 4/14, 5/6
Newhall / 13th	SCT: 5/6
Newhall / 14th	SCT: 5/6
Newhall / 15th	SCT: 5/6
Dalbey / Newhall	SCT: 5/6

**TABLE 4
EXISTING TRANSIT SERVICE**

Provider, Route, and Service Area	Service Type	Hours of Operation	Average Headway (minutes) [a]			
			Morning Peak Hour		Afternoon Peak Hour	
Santa Clarita Transit			NB/EB	SB/WB	NB/EB	SB/WB
4/14 Bouquet Canyon & Plum Canyon - Newhall	Local	6:00 AM - 9:30 PM	40	48	30	30
5/6 Stephenson Ranch - Vasquez Canyon / Shadow Pines	Local	5:00 AM - 10:30 PM	34	34	30	34
12 McBean Regional Transit Center - Whites Canyon	Local	6:00 AM - 9:30 PM	24	24	22	24
757 Santa Clarita - North Hollywood	Commuter	6:30 AM - 8:00 PM	60	N/A	40	N/A
796 Santa Clarita - Warner Center	Commuter	5:00 AM - 7:00 PM	N/A	60	60	N/A
797 Santa Clarita - Westwood	Commuter	5:50 AM - 9:00 PM	N/A	60	60	N/A
799 Santa Clarita - Downtown Los Angeles	Commuter	5:30 AM - 8:00 PM	N/A	30	40	N/A
Rail and Regional Bus Service			Number of Peak Hour Stops			
			Morning Peak Hour		Afternoon Peak Hour	
Antelope Valley Transit Authority			NB/EB	SB/WB	NB/EB	SB/WB
790 Newhall - Palmdale	Regional	6:00 AM - 9:30 PM	1	2	2	1
Metrolink Rail Service			NB/EB	SB/WB	NB/EB	SB/WB
Antelope Valley Line	Rail	5:00 AM - 10:30 PM	2	2	2	1
Amtrak Thruway Bus Service			NB/EB	SB/WB	NB/EB	SB/WB
Route 1 [b]	Regional	24 Hours	1	0	1	1

Notes:

[a] Headway information based on operating data for October 2021.

[b] Services provide infrequent headways throughout the day.

**TABLE 5
RELATED PROJECTS**

No.	Project Name	Address	Description	Trip Generation Estimates [a]						
				Daily Trips	Morning Peak Hour Trips			Afternoon Peak Hour Trips		
					In	Out	Total	In	Out	Total
1. [b]	Sand Canyon Plaza Mixed Use and Assisted Living	Sand Canyon Road & Soledad Canyon Road	580 residential units, 45 ksf commercial, 147 ksf other	7,986	128	265	393	386	309	695
2.	Dockweiler 21	21046 Dockweiler Drive	93 residential units	422	8	26	34	22	14	36
3. [b]	Master's University Master Plan	21726 Placerita Canyon Road	600 student increase, 240 ksf of development	1,884	88	32	120	67	97	164
4. [b]	River Walk Chandler Mixed Use Project	18300 Soledad Canyon Road	136 residential units. 10 ksf commercial	841	20	35	55	38	34	72
5.	Veluzat Condos	25800 Sierra Highway	9 residential units	61	1	3	4	3	2	5
6.	Canyon Brook	15626 Lucille Court	35 residential units	236	3	11	14	11	7	18
7.	Sand Canyon Ranch	Sand Canyon Road & Cachuma Lane	22 residential units	148	2	7	9	7	4	11
8. [b]	Bouquet Canyon Project	Bouquet Canyon Road & Pam Court	375 residential units	3,212	46	191	237	202	117	318
9.	MetroWalk Specific Plan	Los Canyon Road & Harriman Drive	498 residential units	3,357	48	151	199	160	94	254
10.	Golden Triangle Apartments	20600 Golden Triangle Road	164 residential units	1,105	16	50	66	53	31	84
11. [b]	Vista Canyon Specific Plan Balance	Lost Canyon Road, Humphreys, Mitchell	477 residential units, 134 ksf commercial, 616 ksf office, 140 ksf other development	21,832	655	880	1,535	1,253	900	2,153
12. [b]	Skyline Ranch	Skyline Ranch Road	678 residential units	12,059	371	810	1,181	714	413	1,127

Notes:

Related project information provided by Department of City Planning. ksf = 1,000 square feet

[a] Trip generation estimates based on rates from *Trip Generation, 11th Edition* (Institute of Transportation Engineers, 2021).

[b] Trip generation estimates taken from EIR's or Traffic Studies for Project

**TABLE 5 (CONTINUED)
RELATED PROJECTS**

No.	Project Name and Address	Address	Description	Trip Generation Estimates						
				Daily Trips	Morning Peak Hour Trips			Afternoon Peak Hour Trips		
					In	Out	Total	In	Out	Total
13.	Galloway Five Knolls	Golden Valley & Five Knolls	44 residential units	297	4	14	18	14	8	22
14.	Porta Bella Specific Plan	Soledad Canyon Road	2,911 residential units, 539 ksf commercial, 971 ksf office, 974 ksf other development	59,570	2,268	1,673	3,941	2,913	3,487	6,401
15.	Sierra Victoria	Whites Canyon & Skyline Ranch	48 residential units	327	4	15	20	15	9	24
16.	Family Promise Supportive Transitional Housing	23652 Newhall Avenue	5 residential units, 2.8 ksf office	33	0	2	2	2	1	2
17.	Sierra West Assisted Living	Sierra Highway & Newhall Ave	61 ksf assisted living	256	17	6	23	9	20	29
18.	Henry Mayo Specific Plan Balance	23815 McBean Parkway	115.7 ksf inpatient building, 84.3 ksf diagnostic and treatment	7,520	445	105	550	221	517	738
19.	Rye Canyon Studios	Rye Canyon Loop	480.494 ksf sound stages, 267.048 sf production office/flex/support space	2,202	166	38	204	44	160	204
20.	Needham Ranch Phase 2 Balance	Needham Ranch Parkway	904 ksf industrial park	3,314	250	57	307	66	241	307
21.	Oak Ridge Industrial	Oak Ridge and Railroad Avenue	300 ksf industrial park	1,101	83	19	102	22	80	102
22.	Oak Ridge Commercial	Oak Ridge and Railroad Avenue	15 ksf office, 15 ksf commercial	970	39	18	57	53	67	119
23.	UCLA Film Archives Phase 3	Rockwell Canyon and McBean Parkway	134 ksf other development	495	37	9	46	10	36	46
24.	Friendly Valley Gas Station	Sierra Highway & Friendly Valley	3 ksf gas station	1,872	60	62	122	72	74	146

Notes:

Related project information provided by Department of City Planning. ksf = 1,000 square feet

[a] Trip generation estimates based on rates from *Trip Generation, 11th Edition* (Institute of Transportation Engineers, 2021).

[b] Trip generation estimates taken from EIR's or Traffic Studies for Project

**TABLE 5 (CONTINUED)
RELATED PROJECTS**

No.	Project Name and Address	Address	Description	Trip Generation Estimates						
				Daily Trips	Morning Peak Hour Trips			Afternoon Peak Hour Trips		
					In	Out	Total	In	Out	Total
25.	Salazar Self Storage	Diamond Place & Centre Pointe	1 ksf office, 112 ksf self-storage	162	6	4	10	8	9	17
26.	Valley Center Skilled Nursing	Valley Center and Soledad Canyon	51 ksf nursing home	215	14	5	19	8	17	24
27.	Rent A Bin Recycling	20745 Santa Clara	60 ksf industrial	220	17	4	20	4	16	20
28.	Soledad Assisted Living	17901 Soledad Canyon Road	100 ksf assisted living	358	24	8	32	13	28	41
29.	Canyon Country Commerce Park	14550 Soledad Canyon (at Mammoth Lane)	30 ksf commercial	1,635	42	30	72	99	99	198
30.	Plum Bouquet Retail	Plum Canyon & Bouquet Canyon	10 ksf commercial	545	14	10	24	33	33	66
31.	Prima Way Commercial	Soledad Canyon and Prima Way	6 ksf commercial	327	8	6	14	20	20	40
32.	Williams Homes Office	Bouquet Canyon & Newhall Ranch Road	14 ksf office	152	18	3	21	3	17	20
33.	Valley Center Self Storage	Golden Valley and Valley Center	156 ksf self-storage	225	8	6	14	11	13	24
34.	Oliver Hotel	26501 McBean Parkway	134 room hotel	1,071	35	27	62	40	39	79
35.	Chinquetera Office	Sierra Highway	91 ksf office	988	117	20	137	20	111	130
36.	Hampton/Homewood Hotel Balance	28700 Newhall Ranch Road	185 room hotel	1,478	48	37	86	55	54	109

Notes:

Related project information provided by Department of City Planning. ksf = 1,000 square feet

[a] Trip generation estimates based on rates from *Trip Generation, 11th Edition* (Institute of Transportation Engineers, 2021).

[b] Trip generation estimates taken from EIR's or Traffic Studies for Project

Chapter 3

Transportation Assessment Screening

As summarized in Chapter 1, the TAU provides a set of screening criteria for each of the CEQA and non-CEQA analyses that may be required in a transportation assessment. This chapter presents the screening criteria and applies them to the Project.

PROJECT TRIP GENERATION

Some of the screening criteria include a minimum daily Project trip generation threshold. The TAU specifies that this estimate should be prepared using the most recent version of the Trip Generation Manual. Table 6 contains the Project's trip generation estimates.

As shown in Table 6, the Project is estimated to generate 7,293 daily trips, with 605 of these trips occurring in the morning peak hour and 684 in the afternoon peak hour, prior to accounting for any TDM measures the Project proposes to incorporate. The Project conservatively did not take any trip credits for proximity to transit.

SCREENING FOR CEQA ANALYSES

The TAU identifies the four CEQA analyses and an additional analysis, the Freeway Safety Analysis, separately required for the California Department of Transportation (Caltrans) facilities. As shown in below, the Project exceeds the screening criteria for the following four CEQA analysis types:

- **Project Size:** Projects that generate fewer than 110 daily trips may be screened from conducting a VMT analysis. Local serving retail projects less than 50,000 sf may be presumed to have a less than significant VMT impact, absent substantial evidence to the contrary. As shown in Table 6, the Project exceeds the 110 daily trip threshold and

contains more than 50,000 sf of non-retail use; therefore, it exceeds the thresholds established by the screening criteria and requires further study

- Low VMT: Residential and office projects located within a low VMT generating area may be presumed to have a less than significant impact, as long as the new development in the traffic analysis zone (TAZ) is similar to the development already in the TAZ and absent substantial evidence to the contrary. As shown in Figure 8, the Project Site lies within zones that have a greater daily home-based work VMT per employee than the City baseline and, therefore, requires further study.
- Transit Priority Area (TPA): Projects located within TPAs may also be exempt from VMT analysis and shall also not have the following characteristics:
 - Floor Area Ratio (FAR) < 0.75
 - More parking than required by City
 - Inconsistent with the applicable Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) (as determined by the City)
 - Replaces affordable residential units with a smaller number of moderate- or high-income residential units

As shown in Figure 9, the southern portion of the Project is located within a TPA; however, the Project has a FAR of less than 0.75 and will provide more parking than required by the City. Therefore, further study is required.

- Affordable Housing: Affordable housing units can be presumed to have a less than significant impact on VMT, absent substantial evidence to the contrary, and can be screened from requiring further VMT analysis. The Project does not include any affordable housing units and cannot be screened out from further analysis.

A fifth type, Substantially Inducing Additional Automobile Travel, is intended primarily for transportation infrastructure projects that increase vehicular capacity on highways. While the Project does modify lanes on 13th Street, additions of short sections of lanes are specifically exempted from the screening criteria. Therefore, this does not apply to the Project.

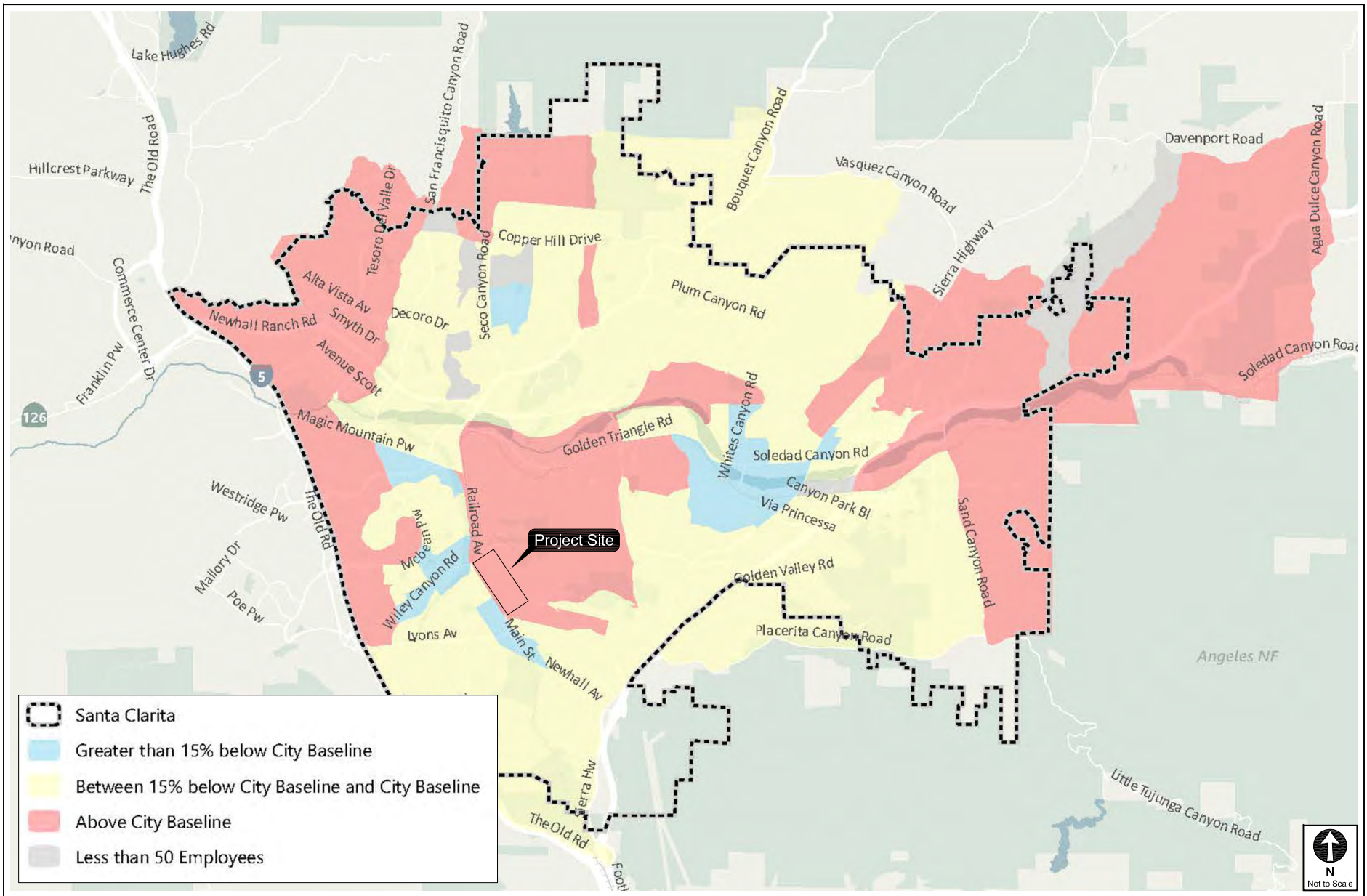
As shown above, the Project does not screen out from further CEQA analysis. This analysis is provided in Chapters 4 through 7.

NON-CEQA ANALYSES REQUIREMENTS

In addition to the CEQA analysis discussed above, the City requires a set of non-CEQA related transportation analyses to determine if operational improvements are needed to accommodate the new traffic generated by a project. The scope and methodology of the non-CEQA analyses

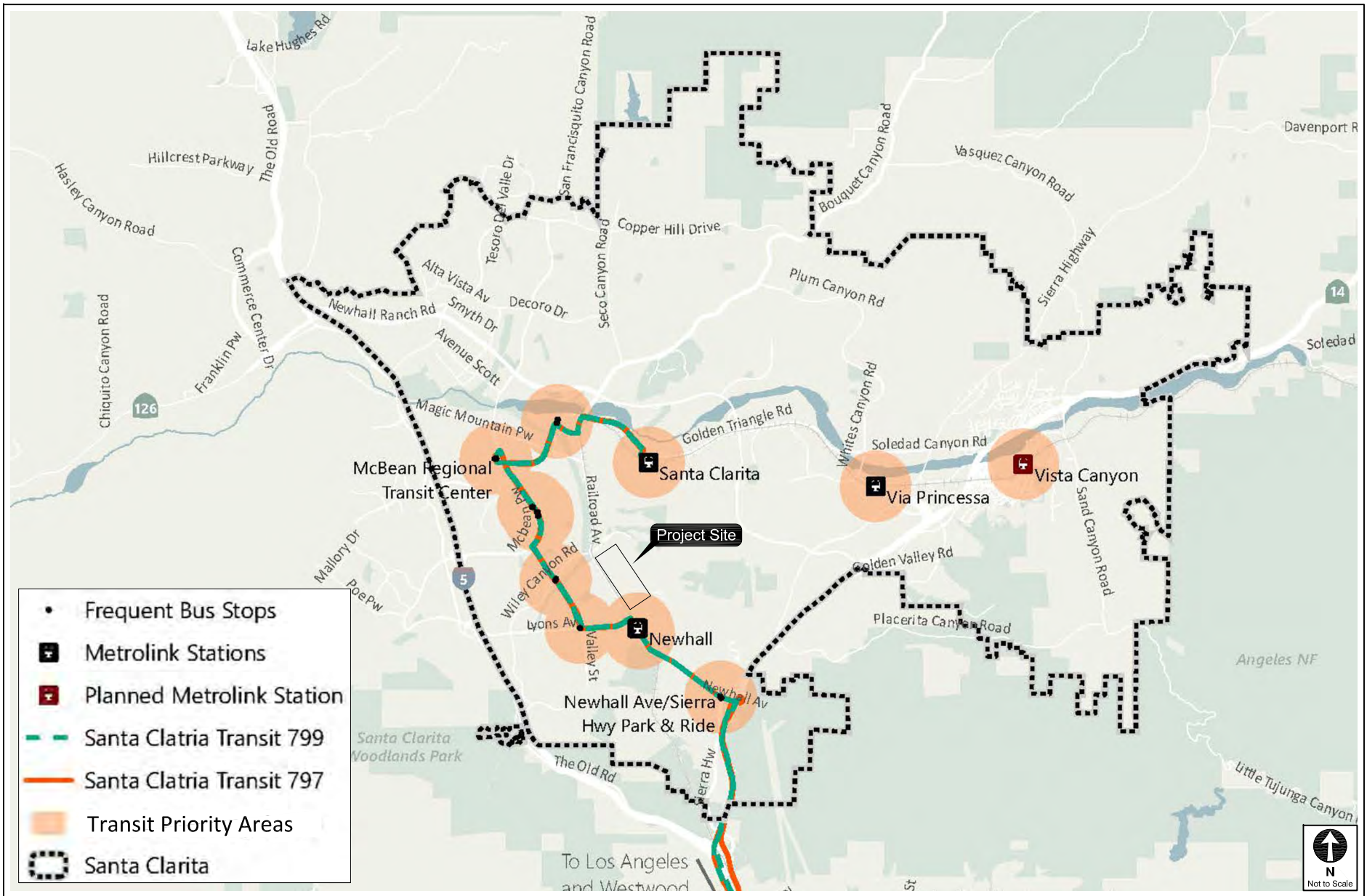
were established in conjunction with the City Traffic Engineer and memorialized in *Transportation Analysis Scope for the Blackhall Studios Project, Santa Clarita, California* (Gibson Transportation Consulting, Inc. [GTC], September 27, 2021) (Scoping Memo) submitted to the City for approval and provided in Appendix A.

The detailed analyses for the non-CEQA studies are provided in Chapters 8 through 10.



DAILY HOME-BASED WORK VMT PER EMPLOYEE
COMPARED TO CITY AVERAGE

FIGURE
8



CITY OF SANTA CLARITA TRANSIT PRIORITY AREAS

FIGURE
9

**TABLE 6
PROJECT TRIP GENERATION ESTIMATES**

TRIP GENERATION RATES									
Land Use	ITE Land Use	Size	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
Stage	[a]	per 1,000 sf	5.91	63%	37%	0.20	40%	60%	0.43
Support [b]	[a]	per 1,000 sf	4.14	65%	35%	0.61	45%	55%	0.57
Production Office	[a]	per 1,000 sf	9.34	62%	38%	0.66	45%	55%	0.63

TRIP GENERATION ESTIMATES									
Land Use	ITE Land Use	Size	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
<u>Proposed Project</u>									
Stage	[a]	476 ksf	2,813	60	35	95	82	123	205
Support [b]	[a]	608.5 ksf	2,519	241	130	371	156	191	347
Production Office	[a]	210 ksf	1,961	86	53	139	59	73	132
Gross Project Trips			7,293	387	218	605	297	387	684
TOTAL - NEW PROJECT TRIPS			7,293	387	218	605	297	387	684

Notes

ksf: 1,000 square feet

[a] Rate based on empirical rates for studio land uses within the Los Angeles region.

[b] Includes 37,500 sf of catering and specialty services space

Chapter 4

CEQA Analysis: Consistency with Policy

This chapter presents a review of the Project's consistency with plans and policies guiding development and transportation networks in the City.

SIGNIFICANCE CRITERIA

Based on CEQA guidance, a project would result in a significant impact if it would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities.

A project would be determined not to conflict with a particular program, plan, policy, or ordinance if it is generally in conformance and does not obstruct the implementation of that policy. If a conflict is identified, mitigation measures would focus on improving access, comfort, and safety for all road users, especially pedestrians, bicyclists, and transit riders.

Cumulative Impact Analysis

In addition to potential Project-specific impacts, CEQA requires that the Project be reviewed in combination with other development projects that may affect transportation networks within the Study Area (i.e., the Related Projects shown in Figure 7 and Table 5). The analysis would seek to identify any cumulatively significant impacts resulting from inconsistency with a particular program, plan, policy, or ordinance. The majority of the 36 Related Projects are fully or primarily residential; the remainder are school expansions, self-storage facilities, a coffee shop, gas stations, and several master plans.

PLANS, PROGRAMS, ORDINANCES, AND POLICIES

GTC identified a series of City adopted programs, plans, ordinances, and policies that establish the transportation planning regulatory framework for development in the City.

Each of the documents discussed below was reviewed for applicability to the Project, and the relevant transportation-related policies, along with the Project's conformance, are described below.

Circulation Element of the General Plan

The Circulation Element plans for the continued development of transportation systems that are consistent with regional plans, local needs, and the community's character. The Circulation Element identifies and promotes a variety of techniques for improving mobility including development of alternative travel modes and support facilities; increased efficiency and capacity of existing systems through management strategies; and coordination of land use planning with transportation planning by promoting concentrated, mixed-use development near transit facilities. The Circulation Element identifies the following seven areas with specific goals, objectives, and policies that define the City's transportation priorities:

1. Multi-Modal Circulation Network
2. Street and Highway System
3. Vehicle Trip Reduction
4. Rail Service
5. Bus Transit
6. Bikeways
7. Pedestrian Circulation

It further enumerates a variety of objectives, goals, and policies in support of each those areas. The policies and programs that are applicable to the Project, along with a detailed discussion of the Project's consistency with each, are provided in Table 7. In summary, the Project is consistent with the applicable objectives of the Circulation Element. The Project would help to improve the

vehicular and bicycle network, provide end-of-trip facilities, and encourage alternative travel modes as well as supporting and encouraging electric vehicles.

Non-Motorized Transportation Plan

The Non-Motorized Transportation Plan guides future pedestrian and bicycle infrastructure, policy, and planning in the City.

A detailed analysis of the Project's consistency with the policies in the Non-Motorized Transportation Plan is provided in Table 8. In summary, the Project would promote walking and biking to work. For bicyclists, it provides a bicycle path on 13th Street along the Project frontage, bicycle parking, and end-of-trip facilities including lockers and showers. For pedestrians, it will provide employment opportunities for the numerous nearby residential developments as well access to Newhall Station approximately 0.5 miles south of the Project Site.

Specific Plans

The Project is not located within an area currently governed by a Specific Plan.

SCUDC Title 17 Division 5 (Use Classifications and Required Parking)

GTC and the City established the parking requirements for the Project in *Parking Analysis Form, Blackhall Studios – Santa Clarita, Santa Clarita, California* (GTC, Updated December 20, 2022), which detailed the land uses from the SCUDC that would apply to the Project for parking requirements and is provided in Appendix B. The Project's base vehicular parking requirement based on the SCUDC would be 2,969 spaces before accounting for applicable reductions for a development in a Jobs Creation Overlay Zone (JCOZ). The Project requires 2,375 parking spaces after application of the 20% JCOZ reduction. The Project's provision of 2,450 spaces for Project uses would meet the requirements of the SCUDC.

Similar to the Project, each of the Related Projects would be individually responsible for providing on-site parking based on SCUDC requirements or any applicable specific plan. Therefore, the Project, together with the Related Projects, would not result in cumulative impacts with respect to consistency with SCUDC Title 17 Division 5.

2016 California Green Building Standards Code (CALGreen) Sections 5.106.4.1.1 and 5.106.4.1.2 (Bicycle Parking)

CALGreen Sections 5.106.4.1.1 and 5.106.4.1.2 details the bicycle parking requirements for new developments. Based on its parking supply of 2,450 vehicular parking spaces, per CALGreen's requirement for provision of bicycle parking at a rate of at least 5% of vehicular spaces, the Project would be required to provide 149 bicycle parking spaces. As the majority of the parking provided for the Project is intended for tenant use, with few visitors expected, the bicycle parking spaces should be mostly long-term bicycle storage as opposed to short-term bicycle racks for public use. The Project would provide 169 bicycle parking spaces for studio users (including 145 long-term and 24 short-term spaces). The Project would meet or exceed the CALGreen requirements for on-site bicycle parking supply.

Similar to the Project, each of the Related Projects would be individually responsible for providing on-site bicycle parking based on CALGreen requirements. Therefore, the Project, together with the Related Projects, would not result in cumulative impacts with respect to consistency with CALGreen Sections 5.106.4.1.1 and 5.106.4.1.2.

Streetscape Plans

There are no streetscape plans near the Project Site and, therefore, streetscape plans do not apply to the Project. However, the Project proposes the development of a streetscape plan for the public ROW fronting the Project Site, which is intended to promote a balanced approach to all modes of transportation and provide safe and adequate space for sidewalks, bicycle paths, transit, parking, vehicular traffic, street trees, landscaping, lighting, and street furnishings.

Community Character and Design Guidelines

City of Santa Clarita Community Character and Design Guidelines (rrm Design Group, March 24, 2009) (Design Guidelines) identifies urban design principles to guide architects and developers in designing high-quality projects that meet the City's functional, aesthetic, and policy objectives and help foster a sense of community. The Design Guidelines are organized around four design goals: Sense of Timelessness, Sense of Ownership, Sense of Place and Identity, and Sense of Community.

The policies that are applicable to this transportation assessment are those under the Industrial and Business Park Chapter and include the following Design principles:

- Controlled site access
- Service areas located at the sides and rear of buildings
- Convenient access, visitor parking, and on-site circulation
- Screening of outdoor storage, work areas, and equipment
- Emphasis on the main building entry and landscaping
- Landscaped open space

In summary, the Project meets the objectives and goals set in the Design Guidelines and is therefore consistent with all applicable policies. Table 9 provides a further summary of the Project's compliance.

Similar to the Project, the Related Projects are also required to be consistent with the Design Guidelines, therefore, the Project, together with the Related Projects, would not result in cumulative impacts with respect to consistency with the Design Guidelines.

SUMMARY

The Project is consistent with each of the City documents discussed above. Therefore, the Project would not result in a significant impact in relation to Plan and Policy consistency and no mitigation measures are required.

Each of the Related Projects considered in this cumulative analysis of consistency with plans and policies would be separately reviewed and approved by the City, including a check for their consistency with applicable policies. Therefore, the Project, together with the Related Projects identified in Table 5, would not create inconsistencies nor result in cumulative impacts with respect to the identified plans and policies.

**TABLE 7
PROJECT CONSISTENCY WITH CIRCULATION ELEMENT OF THE GENERAL PLAN**

Objective	Analysis of Project Consistency
Area 1 – Multi-Modal Circulation Network	
<p><u>Objective C 1.1</u> Provide multi-modal circulation systems that move people and goods efficiently while protecting environmental resources and quality of life.</p>	<p>Consistent. The Project proposes to include a bicycle path on 13th Street as well as upgrades to the intersection of 13th Street & Arch Street that will help meet this objective.</p>
<p><u>Objective C 1.2</u> Coordinate land use and circulation planning to achieve greater accessibility and mobility for users of all travel modes.</p>	<p>Consistent. The Project provides commercial infill development near residential neighborhoods that will allow for reduced commuter trips and opportunities for alternative modes of transportation. In addition, the Project provides employment within walking distance of the Newhall Metrolink Station, further encouraging alternate travel modes.</p>
<p><u>Objective C 1.3</u> Ensure conformance of the Circulation Plan with regional transportation plans.</p>	<p>Consistent. This objective is not applicable to the Project because it is not the Project's responsibility to ensure conformance of the Circulation Plan with regional transportation plans. However, the Project does not preclude the implementation of the current Circulation plan or any regional transportation plans.</p>
Area 2 – Street and Highway System	
<p><u>Objective C 2.1</u> Implement the Circulation Plan (as shown on Exhibit C-2) for streets and highways to meet existing and future travel demands for mobility, access, connectivity, and capacity.</p>	<p>Consistent. This objective is not applicable to the Project because it is not the Project's responsibility to ensure implementation of the Circulation Plan. However, the Project does not preclude the implementation of the current Circulation plan and will contribute to the improvement of the Dockweiler Drive corridor as envisioned in the Circulation Element.</p>
<p><u>Objective C 2.2</u> Adopt and apply consistent standards throughout the Santa Clarita Valley for street design and service levels, which promote safety, convenience, and efficiency of travel.</p>	<p>This objective is not applicable to the Project because it is not the Project's responsibility to plan the street system.</p>

**TABLE 7 (CONTINUED)
PROJECT CONSISTENCY WITH CIRCULATION ELEMENT OF THE GENERAL PLAN**

Objective	Analysis of Project Consistency
<p><u>Objective C 2.3</u> Balance the needs of congestion relief with community values for aesthetics and quality of life.</p>	<p>Consistent. The Project supports congestion relief by providing dedications along the Project Site for street enhancements along 12th Street, 13th Street and Arch Street. These dedications will help improve traffic flow and provide for active transportation options such as walking and biking. These improvements would have appropriate landscaping to enhance and reinforce the local community aesthetics and quality of life.</p>
<p><u>Objective C 2.4</u> Allow trucks to utilize only major and secondary highways as through routes, to minimize impacts of truck traffic on surface streets and residential neighborhoods.</p>	<p>Consistent. The Project Site is adjacent to several streets that are part of the regional transportation network, including Railroad Avenue and the future Dockweiler Extension. These connect to other major streets such as Lyons Avenue and Newhall Avenue. Project trucks will be able to utilize these streets to access I-5 and SR 14 avoiding all residential neighborhoods.</p>
<p><u>Objective C 2.5</u> Consider the needs for emergency access in transportation planning.</p>	<p>Consistent. The Project will comply with all emergency access needs and standards including the provision of fire lanes and adequate turning radii and Project driveways and internal intersections. An analysis of emergency evacuation conditions is performed in Chapter 9.</p>
<p><u>Objective C 2.6</u> Ensure that funding and phasing of new transportation improvements is coordinated with growth.</p>	<p>This objective is not applicable to the Project because it is not the Project's responsibility for funding of all transportation improvements to accommodate traffic growth.</p>
<p><u>Objective C 2.7</u> Pursue the safety, efficiency and tranquility of existing and future residential streets by properly planning for local, collector and arterial roadways and limiting residential driveway access onto collector or arterial roadways.</p>	<p>This objective is not applicable to the Project because it is not the Project's responsibility to plan the street system.</p>
<p><i>Area 3 – Vehicle Trip Reduction</i></p>	
<p><u>Objective C 3.1</u> Promote the use of travel demand management strategies to reduce vehicle trips.</p>	<p>Consistent. The Project will provide a TDM plan aimed at reducing single-occupant commuting as well as bike parking and end-of-trip facilities.</p>

**TABLE 7 (CONTINUED)
PROJECT CONSISTENCY WITH CIRCULATION ELEMENT OF THE GENERAL PLAN**

Objective	Analysis of Project Consistency
<p><u>Objective C 3.2</u> Encourage reduction in airborne emissions from vehicles through use of clean vehicles and transportation system management.</p>	<p>Consistent. In addition to the TDM plan mentioned above, the Project would include electric vehicle charging stations to encourage the use of clean vehicles and carpool incentives to encourage reduced VMT.</p>
<p><u>Objective C 3.3</u> Make more efficient use of parking and maximize economic use of land, while decreasing impervious surfaces in urban areas, through parking management strategies.</p>	<p>Consistent. The Project will include up to 95.2 acres of undeveloped land to provide pervious surfaces. To achieve this approximately half of the parking will be provided in an efficient parking garage.</p>
<p align="center"><i>Area 4 – Rail Service</i></p>	
<p><u>Objective C 4.1</u> Maximize the effectiveness of Metrolink's commuter rail service through provision of support facilities and land planning.</p>	<p>Consistent. The Project will provide numerous employment opportunities within walking distance of the Newhall Metrolink Station.</p>
<p><u>Objective C 4.2</u> Access to a high speed rail system connecting the Santa Clarita Valley with other regions, and other regional rail service connections.</p>	<p>This objective is not applicable to the Project because it is not the Project's responsibility to plan the transportation system.</p>
<p align="center"><i>Area 5 – Bus Transit</i></p>	
<p><u>Objective C 5.1</u> Ensure that street patterns and design standards accommodate transit needs.</p>	<p>Consistent. The Project would improve public transit efficiency and convenience through provision of land dedications to allow for the improvement of the 13th Street railroad crossing.</p>
<p><u>Objective C 5.2</u> Maximize the accessibility, safety, convenience, and appeal of transit stops.</p>	<p>This objective is not applicable to the Project because it is not the Project's responsibility to improve transit stops.</p>
<p><u>Objective C 5.3</u> Explore opportunities to improve and expand bus transit service.</p>	<p>This objective is not applicable to the Project because it is not the Project's responsibility to optimize the transportation system.</p>

TABLE 7 (CONTINUED)
PROJECT CONSISTENCY WITH CIRCULATION ELEMENT OF THE GENERAL PLAN

Objective	Analysis of Project Consistency
<p><u>Objective C 5.4</u> Provide adequate funding to expand transit services to meet the needs of new development in the Valley.</p>	<p>This objective is not applicable to the Project because the Project is not responsible for transit funding.</p>
<p><i>Area 6 – Bikeways</i></p>	
<p><u>Objective C 6.1</u> Adopt and implement a coordinated master plan for bikeways for the Valley, including both City and County areas, to make bicycling an attractive and feasible mode of transportation.</p>	<p>This objective is not applicable to the Project because the Project is not responsible for bikeway planning.</p>
<p><u>Objective C 6.2</u> Encourage provision of equipment and facilities to support the use of bicycles as an alternative means of travel.</p>	<p>Consistent. The Project will provide a bike lane on 13th Street, bike parking, and end-of-trip facilities for bike commuters.</p>
<p><i>Area 7 – Pedestrian Circulation</i></p>	
<p><u>Objective C 7.1</u> A continuous, integrated system of safe and attractive pedestrian walkways, paseos and trails linking residents to parks, open space, schools, services, and transit.</p>	<p>Consistent. The Project would provide for sidewalks along the Project frontage as well as upgraded crosswalks and ADA facilities at the intersection of 13th Street & Arch Street. The Project would also provide a Tier I Bicycle lane adjacent to the Project Site along 13th Street, Arch Street, and 12th Street which connects to Railroad Avenue to the west and the future Dockweiler Drive extension to the south.</p>

**TABLE 8
PROJECT CONSISTENCY WITH NON-MOTORIZED TRANSPORTATION PLAN**

Objective [a]	Analysis of Project Consistency
<p>Goal 1. Safety & Health</p> <p>This NMTP will empower residents to live a more active lifestyle by providing a network of safe and comfortable walking routes and bikeways for everyone to enjoy.</p> <ul style="list-style-type: none"> A. Reduce bicycle and pedestrian collisions through safe and comfortable facilities B. Promote an active lifestyle that includes biking and walking C. Reduce air pollution, asthma rates, and greenhouse gas emissions 	<p>Consistent. The Project will develop an on-street bike lane along the Project frontage on 13th Street as well as provide and maintain bike parking and end-of-trip facilities. These facilities would be designed to improve safety for all road users and help promote active transportation within the City. Providing this access to the Project Site will help reduce vehicular trips, thus improving air quality and health outcomes.</p>
<p>Goal 2. Access & Comfort</p> <p>This NMTP will support increased access to neighborhood destinations such as parks, shopping and employment centers, libraries, schools, recreation centers, and transit stops. Pedestrian and bicycle facilities will be accessible and comfortable for people of all ages and abilities to use.</p> <ul style="list-style-type: none"> A. Increase access to jobs, education, retail, parks and libraries, schools, recreational centers, transit, and other neighborhood destinations B. Address barriers so that disadvantaged populations can take part in improvements C. Reduce air pollution, asthma rates, and greenhouse gas emissions D. Reduce travel times for disadvantaged households E. Prioritize the needs and trip patterns of disadvantaged populations F. Serve people with disabilities. 	<p>Consistent. The Project will develop an on-street bike lane along the Project frontage on 13th Street as well as provide and maintain bike parking and end-of-trip facilities. This will improve access to local and regional destinations such as jobs, transit, retail, and other activities. The Project will also improve mobility for disadvantaged households by providing safe alternatives to vehicular travel and reducing existing travel times adjacent to the Project Site with various pedestrian and bike improvements. All improvements would be compliant with the Americans with Disabilities Act (ADA).</p>
<p>Goal 3. Maintain & Expand the Network</p> <p>This NMTP will help out community identify, develop, and maintain a complete and convenient bicycle and pedestrian network.</p> <ul style="list-style-type: none"> A. Integrate bicycle and pedestrian network and facility needs into all city planning documents and capital improvement projects B. Leverage existing funding to maximize project delivery C. Maintain designated facilities to be comfortable and free of hazards to biking and walking D. Reduce long-term transportation costs by reducing the need for vehicle ownership or for parking in new developments. 	<p>This objective is not applicable to the Project because the Project is not responsible for planning and maintaining the transportation network.</p>

Notes:

[a] Objectives based on information provided in *2020 City of Santa Clarita Non-Motorized Transportation Plan* (Alta Planning + Design, September 2020).

**TABLE 9
PROJECT CONSISTENCY WITH COMMUNITY CHARACTER AND DESIGN GUIDELINES**

Objective [a]	Analysis of Project Consistency
<u>Controlled site access</u>	Consistent. The Project proposes to install a traffic signal the main driveways at the intersection of 13 th Street and Arch Street as well as provide guard booths at all entrances and exits.
<u>Service areas located at the sides and rear of buildings</u>	Consistent. The Project will locate all loading and receiving areas towards the rear of the property.
<u>Convenient access, visitor parking, and on-site circulation</u>	Consistent. The Project will provide adequate access lanes and driveways, ample visitor parking, and a network on internal circulation roads capable of handling all Project traffic and circulation
<u>Screening of outdoor storage, work areas, and equipment</u>	Consistent. The Project will screen all mechanical equipment to the extent feasible. Some outdoor work areas are vital to the studio operations but will be located away from any public ROW.
<u>Emphasis on the main building entry and landscaping</u>	Consistent. The Project has designed a main entrance at the 13 th Street & Arch Street intersection with full landscaping plan.
<u>Landscaped open space</u>	Consistent. The Project will provide both landscaped spaces including picnic areas as well as undeveloped space.

Notes:

[a] Objectives based on information provided in *City of Santa Citywide Clarita Community Character and Design Guidelines* (rrm Design Group, March 24, 2009).

Chapter 5

CEQA Analysis: VMT

This chapter presents an analysis of potential VMT impacts for the Project based on the TAU and *State of California Senate Bill No. 743* (Steinberg, 2013).

VMT GUIDELINES

The VMT guidelines are intended to promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. This encourages development that shortens the distance between housing, jobs, and services, increases the availability of affordable housing options proximal to public transit, offers attractive non-vehicular transportation options, provides strong TDM programs, and promotes walking and bicycling trips.

VMT Impact Thresholds

The TAU Guidelines identifies significance thresholds to apply to development projects when evaluating potential VMT impacts. Consistent with State CEQA guidance, the TAU states that an employment project would result in a significant VMT impact if it would generate home-based work VMT per employee more than 15% below the existing Citywide average.

The location and characteristics of residences and workplaces are often the main drivers of VMT, as detailed in Appendix 1 of *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research, December 2018).

VMT ANALYSIS METHODOLOGY

The analysis methodologies for the Project are contained in the technical memorandum *Blackhall Studios – City of Santa Clarita VMT Modeling Summary* (Iteris, August 24, 2021) (VMT Memo) provided in Appendix C. As stated in the VMT Memo, the analysis was done in conformance with the guidelines provided in the TAU.

PROJECT VMT ANALYSIS

The VMT Memo details the results of the VMT analysis for the Project and shows that the Project is not expected to result in a significant VMT impact. The VMT analysis are summarized in Table 10 and below.

Project TDM Measures


To provide for a conservative analysis, no TDM measures were included in the VMT analysis despite the Project's commitment to prepare and implement a TDM plan.

Full Project VMT, without TDM Measures

As shown in Table 10 and the VMT Memo, the Project is estimated to generate an average home-based work VMT per employee of 14.0, which is less than the Citywide impact threshold of 15.7 and, therefore, would not result in a significant VMT impact even without the proposed TDM measures.

CUMULATIVE VMT ANALYSIS

A development project would have a cumulative VMT impact if it were deemed inconsistent with *Connect SoCal - 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy* (Southern California Association of Governments, September 2020) (RTP/SCS), the regional plan



to reach State air quality and GHG reduction targets. However, based on the TAU, a project that does not result in a significant VMT impact using the City's methodology described above would be in alignment with the RTP/SCS and, therefore, would also have no cumulative VMT impact.

When considered with the Related Projects, many of which propose additional residential development near the Project Site, the Project would help to provide local employment options to the many existing and future residents in the Study Area.

Therefore, the Project would have not result in a cumulatively significant VMT impact.

**TABLE 10
VMT ANALYSIS SUMMARY**

<i>Project Information</i>	
<u>Land Use</u>	<u>Size</u>
Stage	476,000 sf
Support [a]	608,500 sf
Production Office	210,000 sf
<i>VMT Analysis</i> [b]	Proposed Project
Daily Vehicle Trips	7,293
Work VMT per Employee	14.0
Impact Threshold (2028 Estimate) [c]	14.0
Significant Impact	NO

Notes

[a] Includes 37,500 sf of catering space

[b] Based on *Blackhall Studios – City of Santa Clarita VMT Modeling Summary* (Iteris, August 24, 2021)(VMT Summary). Though the square footage of the proposed Project has been slightly modified since completion of the VMT Summary, the land uses for the Project are the same. Therefore, VMT per employee is assumed to be the same, despite the difference in daily trips.

[c] 2028 threshold extrapolated based on the 2020 regional VMT estimate of 15.7 and 2040 regional VMT estimate of 11.5.

Chapter 6

CEQA Analysis: Geometric Design and Land Use Hazards

This chapter presents an analysis of potential safety, operational, or capacity impacts that could be caused by the design or location of Project access points.

SIGNIFICANCE CRITERIA

The Geometric Design and Land Use Hazards Analysis determines if the project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment using a high-speed roadway). It seeks to identify potential safety conflicts between vehicles, pedestrians, and bicycles, as well as operational delays or capacity reductions resulting from the design or placement of a project's access points.

The determination of significance should be based on commonly accepted traffic engineering design standards, while considering the amount of pedestrian and bicycle activity crossing vehicular access points, sight distance, and physical conditions like curves or grade changes, and a project's proximity to streets identified in the Safe Routes to School (SRTS) program. Significance may be determined qualitatively or quantitatively as best suits the circumstances of a project.

If a significant impact is identified, mitigation measures may include installation of new traffic control devices, redesign or relocation of access points, turn restrictions, pavement markings, or vehicular demand management.

DRIVEWAY DESIGN

The following are generally accepted design guidelines regarding driveway placement, width, and type. The general recommendations that would apply to the Project's access points are:

- The driveway location should be planned to minimize conflicts between the parking facility and users of the adjacent street, including pedestrians, bicyclists, and drivers.
- Driveways should be located on streets with the least traffic volume when feasible and not along arterial streets.
- All commercial loading facilities should be located on Local Streets when feasible.
- The number of driveways should be minimized.
- Driveways should be spaced at least 50 feet apart when feasible.
- Driveway design should address all issues that could affect safety of driveway operation, including pedestrian traffic, sight distance, lane widths and turn radii, traffic volumes and speeds on the street, and driveway traffic volume.
- All vehicle maneuvering (such as commercial vehicles turning around) should occur on private property or an alley.

Each Project vehicular access point was designed to comply with these guidelines to the extent feasible. The final design of the access points would be reviewed by the City during site plan review to ensure a safe pedestrian, bicycle, and vehicular design.

PROJECT HAZARDS ANALYSIS

As shown in Figure 2, the Project Site would provide primary vehicular access via a new four-way intersection at Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2 that includes two Project driveways (Gate 1 Driveway and Gate 2 Driveway) on the north and east legs of the intersection. A secondary access point would be provided via a new driveway (Gate 3 Driveway) on 12th Street east of Arch Street.

The security control points at all three driveways would be set well into the facility to prevent any queues from extending into the adjacent public streets. A sufficient number of inbound and outbound lanes would be provided to avoid back-ups.

The pedestrian and bicycle traffic at Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2 is protected by the traffic signal phases and an off-street bicycle path and pedestrian sidewalks have been provided to facilitate the safe movement of pedestrian and bicycle in/out and past the facility.

Consistency with Driveway Design

Driveway Placement. Project access is concentrated at a signalized intersection and on a non-arterial street, and all passenger and commercial loading facilities are located on-site.

Driveway Spacing. As mentioned, the Project's primary driveways are located at a signalized intersection. The secondary driveway on 12th Street will be located at least 400 feet from adjacent intersections and will be the only driveway on the north side of 12th Street. All driveways will be designed to accommodate commercial vehicles and provide multiple lanes, based on a turning radius analysis and operational analysis.

Driveway Design. Driveway design will comply with all City requirements including width, curb return radii, and access control locations.

Driveway Obstacles. No unusual obstacles are presented in the design of the driveways that would be considered hazardous to motorized vehicles, non-motorized vehicles, or pedestrians. All roads are straight and flat, and driveways meet the roadways at right angles or include turn restrictions to prevent any visual obstructions.

Upon further refinement of plans during the building permit application process, the driveways would be designed according to building code and other City standards. They would be reviewed by the City Department of Building and Safety during site plan review to ensure code compliance and safe pedestrian and vehicular design.

Project Site Pedestrian Access

The Project's design also minimizes potential hazards to pedestrians by concentrating access for those users at a signalized intersection with pedestrian protection.

Pedestrian Access. The Project would provide dedicated pedestrian access to the Project Site via sidewalks along the Project frontage and internal to the Project Site. Pedestrian access is provided at all three driveways and will be concentrated at the signalized intersection.

Pedestrian Paths of Travel. Pedestrian paths of travel would be routed away from vehicle traffic to the extent possible. Most pedestrian trips would either be internal trips within the Project Site or trips between Project uses and Newhall Station or nearby commercial businesses. The vast majority of pedestrians traveling to or from the Project Site are not expected to walk across uncontrolled Project vehicular access points. Instead, pedestrian trips are concentrated at the signalized intersection and internal sidewalks.

Project Pedestrian Amenities. The Project proposes to install new sidewalks along the Project frontage as well as crosswalks across the new signalized intersection serving the Project access points. These amenities would serve to reduce hazardous conflicts between vehicles and pedestrians.

Project Site Bicycle Access

The Project's design also minimizes potential hazards to bicyclists by providing facilities for bicyclists (i.e., a Class I bicycle path along the Project frontage) and a bicycle crossing signal across the railroad tracks allowing for installation of a Class I bicycle path adjacent to Railroad Avenue. No existing bicycle facility would be affected by the Project.

Additionally, the Project would provide long-term and short-term bicycle parking directly accessible to the sidewalk rather than through its vehicular parking lots or structures.

SRTS

The Project Site does not front any SRTS paths. Therefore, the Project would not result in a significant safety hazard to students.

Project Hazards Analysis Summary

Based on the Project site plan review and design assumptions, the Project does not present any geometric design hazards related to traffic movement, mobility, or pedestrian accessibility, and no significant impact would occur. Therefore, no mitigation measures would be required.

CUMULATIVE ANALYSIS

Per CEQA, a project could contribute to a significant cumulative impact with respect to geometric design if the project, in combination with related projects with access points proposed along the same block(s), would result in significant impacts. However, as shown in Figure 7, there are no related projects on the same blocks as any Project access point. Further, as the Project would not result in a significant impact with respect to the above analysis, it would not contribute to a cumulatively significant impact.

Chapter 7

CEQA Analysis: Freeway Safety

The analysis in this chapter is based on the guidance contained in *Interim Land Development and Intergovernmental Review (LDIGR) Safety Review Practitioners Guidance* (Caltrans, July 2020) (Caltrans Safety Guidance).

OPERATIONAL ANALYSIS METHODOLOGY

The Caltrans Safety Guidance relates to the identification of potential safety impacts at freeway off-ramps as a result of increased traffic from development projects. It provides a methodology and significance criteria for assessing whether additional vehicle queueing at off-ramps could result in a safety impact due to speed differentials between the mainline freeway lanes and the queued vehicles at the off-ramp.

Based on the Caltrans Safety Guidance, a transportation assessment for a development project must include analysis of any freeway off-ramp where the project adds 25 or more peak hour trips. A project would result in a significant impact at such a ramp if each of the following three criteria were met:

1. Under a scenario analyzing future conditions upon project buildout, with project traffic included, the off-ramp queue would extend to the mainline freeway lanes based on the 95th percentile queue length using Synchro or a comparable Highway Capacity Manual analysis methodology.
2. The project would contribute at least two vehicle lengths (50 feet, assuming 25 feet per vehicle) to the queue.
3. The average speed of mainline freeway traffic adjacent to the off-ramp during the analyzed peak hour(s) is greater than 30 mph.

Should a significant impact be identified, mitigation measures to be considered include TDM measures to reduce a project's trip generation, investments in active transportation or transit

system infrastructure to reduce a project's trip generation, changes to the traffic signal timing / phasing or lane assignments at the ramp intersection, or physical changes to the off-ramp. Any physical change to the ramp would have to improve safety, not induce greater VMT, and not result in secondary environmental impacts.

OPERATIONAL FREEWAY SAFETY ANALYSIS

Based on the Project's trip generation estimates and the traffic distribution pattern detailed in Chapter 9, which was reviewed and approved by the City as part of the Project's Scoping Memo, the Project would only add 25 or more peak hour trips to the SR 14 Southbound Off-Ramp to Newhall Avenue (Intersection #10) under the DDEP condition. Table 11 provides an overview of the traffic volumes assigned to each off ramp.

The 95th percentile ramp queue was calculated using the *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016) (HCM) methodology used in the operating conditions analysis in Chapter 9. Conditions were analyzed with and without Project traffic in 2028 with and without the DDEP based on the traffic volumes developed Chapter 9. The queue lengths and off-ramp storage length at this intersection is shown in Table 12 for Future with the DDEP conditions. Traffic counts are provided in Appendix D and HCM worksheets are provided in Appendix E. As shown in Table 12, none of the off-ramps exceed the available queuing space. Therefore, no significant impacts would occur, and no further analysis is required.

CALTRANS SAFETY REVIEW

The Caltrans Safety Guidance recommends that the lead CEQA agency (i.e., the City) overseeing a project's entitlement conduct a review of local traffic safety plans and the Project's potential adverse effect on safety or the implementation of those plans. Under the federal Highway Safety Improvement Program (HSIP), Caltrans developed *Local Roadway Safety: A Manual for California's Local Road Owners* (Caltrans, April 2020), the Local Roadway Safety Plan (LRSP), and the Systemic Safety Analysis Report Program (SSARP).

Each of the three Caltrans documents and programs are similar in purpose, each providing a framework for local agencies (i.e., the City) to identify safety problems and develop projects designed to improve safety. The LRSP and SSARP identify funded improvement projects and plans. A review of a list of funded improvement plans under the LRSP showed that no infrastructure improvements are located in the City as of October 1, 2020³. Under the SSARP, no improvement projects were identified for funding in the City⁴. There are no identified and/or funded improvement projects in the City.

The HSIP itself allocates federal funding for safety programs. A review of the programs and projects selected for funding in HSIP cycles 7, 8, 9, and 10⁵ identified a number of programs in the City, but none that would affect the transportation network in the vicinity of the Study Area.

The City has a number of programs in place to proactively identify and manage traffic safety, such as the SRTS program. As discussed in Chapter 4, the Project would not interfere with the implementation of any City plans or policies in the Study Area. Additionally, as discussed in Chapter 6, the Project would not introduce new traffic hazards nor significantly increase existing hazards. All Project access points are located on non-arterial streets or at signalized intersections and are designed in accordance with driveway design guidelines. Therefore, the Project would not have an adverse safety impact nor impede implementation of any safety improvement projects.

³ <https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/hsip/2020/lrspprojects20201001-a11y.pdf>

⁴ <https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/hsip/2018/selectedapplications20160715.pdf>

⁵ <https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/highway-safety-improvement-program/approved-project-lists>

**TABLE 11
FREEWAY OFF-RAMP SCREENING ANALYSIS - YEAR 2028**

Off-ramp	Peak Hour	Without DDEP		with DDEP	
		Project Trips Added	Meets Screening?	Project Trips Added	Meets Screening?
SR 14 Southbound Off-Ramp to Newhall Avenue	AM	19	No	38	YES
	PM	15	No	30	YES
SR 14 Northbound Off-Ramp to Newhall Avenue	AM	0	No	0	No
	PM	0	No	0	No
I-5 Northbound Off-Ramp to Lyons Avenue	AM	19	No	19	No
	PM	15	No	15	No
SR 14 Southbound Off-Ramp to Sierra Highway	AM	0	No	0	No
	PM	0	No	0	No
SR 14 Northbound Off-Ramp to Placerita Canyon Road	AM	19	No	8	No
	PM	15	No	6	No

Notes:

- [a] Includes ramp length to gore point, in feet, as well as half the length of any auxiliary lane, if provided.
- [b] Queue length provided in feet, based on 25 feet per vehicle.
- [c] Based on Future with Project Conditions queue.

**TABLE 12
 FREEWAY OFF-RAMP QUEUING SAFETY ANALYSIS - YEAR 2028
 WITH DOCKWEILER DRIVE EXTENSION PROJECT**

Off-ramp	Ramp Storage Length [a]	Peak Hour	95th Percentile Queue [b]		Exceeds Ramp Storage [c]
			Future without Project Conditions	Future with Project Conditions	
SR 14 Southbound Off-Ramp to Newhall Avenue	1,125	AM	8	10	NO
		PM	40	43	NO

Notes:

- [a] Includes ramp length to gore point, in feet, as well as half the length of any auxiliary lane, if provided.
- [b] Queue length provided in feet, based on 25 feet per vehicle.
- [c] Based on Future with Project Conditions queue.

Chapter 8

Non-CEQA Analysis: Pedestrian, Bicycle, and Transit Access

This chapter presents an assessment of the Project's effects on pedestrian, bicycle, and transit circulation in the vicinity of the Project Site. The choice to make a trip by a mode other than automobile is directly influenced by the perceived convenience and safety of the alternative mode and, therefore, the Project's improvements or deterioration of facilities serving pedestrians, bicyclists, or transit users is of critical importance.

EXISTING INFRASTRUCTURE

The Study Area is served by existing dedicated pedestrian, bicycle, and transit infrastructure, as discussed in Chapter 2, however some of these elements are lacking in the immediate vicinity of the Project Site.

Pedestrian Infrastructure

Currently no sidewalks or marked pedestrian crossings exist along the Project frontage or in the vicinity of the Project east of the railroad tracks. West of the railroad tracks, sidewalks are provided along Railroad Avenue and in the residential neighborhoods west of Railroad Avenue.

Figure 4 provides a map of potential pedestrian destinations in the vicinity of the Project Site.

Bicycle Infrastructure

No existing bicycle facilities are installed adjacent to the Project Site, but nearby, Class III bicycle routes are located on Orchard Village Road, Wiley Canyon Road between Orchard Village Road

and Newhall Avenue, and Newhall Avenue between Railroad Avenue and Sierra Highway. Class II bicycle lanes are also on Wiley Canyon Road west of Orchard Village Road, Dockweiler Drive east of Valle Del Oro to Sierra Highway, and 16th Street between Orchard Village Road and Newhall Avenue. Class I bicycle paths are provided adjacent to Wiley Canyon Road / Via Princessa, starting east of Orchard Village Road, and along the South Fork River Trail. Multi-Use paths are located along the South Fork River Trail and adjacent to Newhall Station connecting to Placerita Canyon Road.

Transit Infrastructure

As shown in Table 3, Newhall Station is located within 0.5 miles of the Project Site. Additionally, bus stops for Santa Clarita Transit Route 12 are also located along Railroad Avenue. Transit routes serving the Project Site are summarized in Tables 3 and 4 and mapped in Figure 6.

On-Street Parking

On-street parking is generally not provided on most streets adjacent to the Project Site, with the exception of the east side of Arch Street and the north side of 12th Street.

PROJECT EFFECTS ON INFRASTRUCTURE

The Project would generally improve the surrounding infrastructure for pedestrians, bicyclists, and transit users. The following series of evaluation criteria was used to assess the Project's effects on infrastructure and summarized below.

- **Pedestrian Infrastructure**: The Project would install sidewalks along the entire Project frontage that would meet standard widths according to City standards, and would comply with City requirements regarding ADA accessibility at crossing points. The Project would provide crosswalks at key locations and would not remove or degrade any existing pedestrian facilities. The additional pedestrian infrastructure would better facilitate local trips and trips to Newhall Station to the south of the Project.
- **Bicycle Infrastructure**: The Project would install a Class I bicycle path along the Project frontage to connect the Project Site to the future Class I bicycle path proposed adjacent

to Railroad Avenue. The Project would also install a bicycle crossing signal across the railroad tracks and provide the required bicycle parking and amenities on site. The path would improve access to Newhall Station to the south of the Project.

- Transit Infrastructure: The Project would not alter any existing transit infrastructure and would support the transit infrastructure by constructing the off-street bicycle path connecting Railroad Avenue and the Project Site to Newhall Station, which is served by Metrolink.

On-Street Parking

The Project would have a minimal direct effect on the total number of on-street parking spaces.

Proximity to Schools

While the Project Site is not located adjacent to any schools, two schools are located within 0.25 miles of the Project Site. As both schools are located to the west of the railroad tracks, the Project would not affect pedestrian access for students walking to school. Therefore, the Project would not negatively affect pedestrian access to any local school.

PROJECT EFFECTS ON VOLUME

The Project would result in additional pedestrian, bicycle, and transit activity at and around the Project Site. In summary, while the Project would increase pedestrian traffic to and from the Project Site, virtually all major pedestrian crossing points would be provided using crosswalks at signalized intersections.

Existing pedestrian activity in the vicinity of the Project Site is limited and will only increase minimally with the on-site employees. This activity would not substantially change as a result of the Project, though more pedestrian trips to and from public transit would travel to Newhall Station. The Project accommodates new pedestrian traffic with various sidewalks and crosswalks proposed for installation.

Pedestrian activity generated by the Project is anticipated to be heaviest between Newhall Station and the Project Site. Secondly, pedestrian activity would be heaviest between the Project Site and nearby commercial centers as the mix of uses would generate pedestrian activity to/from the Project Site.

Bicycle activity would be very similar to the pedestrian activity described above.

The Project would not generate substantial amounts of transit trips. Given the high capacity of the primary transit routes (i.e., Metrolink Antelope Valley Line), transit activity generated by the Project would not strain the capacity of the public transit system.

PROJECT FEATURES AND RECOMMENDED ACTIONS

In summary, the Project would provide the following features that would directly benefit pedestrian, bicycle, or transit access at and around the Project Site:

- Construction of sidewalks along the Project frontage and within the Project Site
- Dedicated pedestrian access to all Project development
- Proposed implementation of new crosswalks and signalized intersections
- Construction of a Class I bicycle path along the Project frontage
- Provision of long-term and short-term bicycle parking
- Improved connectivity between the Project and Newhall Station

Based on the analysis above, the Project would not result in substantial negative effects on pedestrian, bicycle, or transit access and, therefore, no improvements are necessary beyond those already proposed as features of the Project.

Chapter 9

Non-CEQA Analysis: Project Access, Safety, and Circulation

This chapter presents an assessment of the Project's effects on access and circulation, both adjacent to the Project Site and in the surrounding area, once the Project is operational.⁶ Negative effects of a project may consist of operational delays on surrounding streets or conflicts between vehicles and other vehicles, bicycles, or pedestrians. Such effects are not considered significant under CEQA but could require Project modifications or off-site improvements to ensure safe and efficient circulation around the Project Site.

VEHICLE OPERATIONS OVERVIEW

The vehicle operations evaluation is a quantitative analysis of the effects of Project traffic at Project driveways and surrounding intersections where the Project would be expected to add at least 50 trips during the morning or afternoon peak hours. Potential negative effects to be identified include increases in average vehicular delay, worsening of intersection level of service (LOS), or vehicular queuing that would exceed turn pocket lengths and extend into through lanes, block cross streets, or contribute to congestion.

The operational evaluation includes the following steps, which are described in detail in the following sections.:

- Develop Project traffic estimates
- Obtain existing traffic volumes and future model-run baseline traffic volumes
- Conduct operational analysis of study intersections and Project driveways

⁶ Effects of Project construction are analyzed in Chapter 10.

Based on thresholds determined using criteria established by the City, an intersection would be considered affected by Project-generated traffic if the Project would do any of the following:

- Worsen an intersection maintained by the City from LOS D or better to LOS E or F
- Cause the following increase in delay at an intersection maintained by the City that operated (with the Project) at LOS D or worse:
 - LOS D with the Project: more than four-second increase in delay
 - LOS E or F with the Project: more than two-second increase in delay

PROJECT TRAFFIC

This section details the development of Project traffic estimates for the morning and afternoon commuter peak hours. The assumptions used in developing the Project traffic estimates were reviewed and approved by City staff as part of the Scoping Memo.

Project Trip Generation

The number of vehicle trips expected to be generated by the Project's land uses was estimated using rates derived from empirical counts at existing studios in Los Angeles County and are provided as daily and peak hour rates. The trip generation rates relate the number of vehicle trips traveling to and from the Project Site to the size of development of each land use. The rates applied to the Project are summarized in Table 6.

To be conservative, no trip reductions were applied to account for public transit usage, pedestrian trips, TDM strategies, or pass-by trips.

The Project trip generation estimates are shown in Table 6. As shown, the Project is estimated to generate a total of 7,293 daily trips, including 605 trips during the morning peak hour (387 inbound, 218 outbound) and 684 trips during the afternoon peak hour (297 inbound, 387 outbound).

Project Trip Distribution

The distribution of Project traffic throughout the surrounding streets and highways is dependent on the location of residential and industrial centers from which employees and services of the Project would be drawn, characteristics of the street and freeway system serving the Project Site, the location of the proposed driveways, and existing/proposed traffic conditions.

The general distribution patterns for Project traffic are shown in Figure 10 for without DDEP conditions and in Figure 11 for with DDEP conditions and are based on distribution patterns developed in the City's travel demand forecasting model.

Intersection Selection

Per the TAU, a detailed analysis shall be conducted for intersections that meet any of the following conditions:

- Major signalized and unsignalized intersections that are likely to be affected by the project
- Intersections where the proposed project would add 50 or more net new trips during the morning and afternoon peak hours
- Site access points

When considering Project trip generation estimates and trip distribution patterns described above, a total of 23 intersections, including 17 signalized intersections, five unsignalized intersections, and one proposed future intersection, were selected for detailed analysis. They are listed in Table 13 and shown in Figure 12. Gate 3 Driveway is not located at an existing or future intersection and, therefore, was not included in the selection of study intersections. Project driveways are separately discussed in this chapter.

Project Traffic Assignment

The trip distribution pattern shown in Figures 10 and 11 were used to assign the Project-generated traffic through the Study Area based on the trip generation estimates summarized in Table 6.

Figures 13 and 14 illustrate the Project traffic volumes at the study intersections during typical weekday morning and afternoon peak hours without DDEP conditions and with DDEP conditions, respectively.

EXISTING AND FUTURE TRAFFIC VOLUMES

Existing Traffic Volumes

Intersection turning movement counts were provided by the City from a variety of sources including *Lyons Avenue/Dockweiler Drive Extension Project Final Environmental Impact Report* and counts collected by the City. All traffic counts were collected between 2017 and 2019, prior to the COVID-19 pandemic.

The traffic counts were increased by 1% per year to account for general growth in regional traffic between the year they were conducted and 2021. With these adjustments incorporated, the Existing Conditions (2021) peak hour traffic volumes are shown in Figure 15.

Future Traffic Volumes

Estimates of future traffic conditions were also provided by the City and were obtained using a traffic model that predicts future traffic volumes Citywide. Refinements to these volumes were made based on potential land uses and transportation network changes not reflected in the model. These factors are each described below.

Roadway System Alterations. The model produced turning movement results for some movements that are no longer allowed, such as the westbound left turn at Intersection #22. Therefore, minor adjustments to the future traffic flow patterns through the Study Intersections were made to reflect the changes in the intersection operations.

Ambient Traffic Growth and Related Project Traffic. Both of these sources of traffic growth are already accounted for in the traffic model prepared by the City and, therefore, no further

adjustments were required to reflect the background traffic growth patterns or the traffic generated by Related Projects.

Future without Project Conditions. The Future without Project Conditions peak hour traffic volumes are shown in in Figure 16 for without DDEP conditions and Figure 17 for with DDEP conditions. These volumes represent the Future Base Conditions to which the addition of Project traffic will be compared.

OPERATING CONDITIONS

The analysis of traffic operating conditions was conducted using the HCM methodology,⁷ which calculates delay, in seconds, experienced by a vehicle passing through an intersection. For signalized intersections and stop-controlled intersections, the average delay of all traffic passing through the intersection is reported. For both signalized and unsignalized intersections, vehicular delay is converted to LOS, a metric ranging from A to F, as shown in Table 14. Intersections operating at LOS A allow all vehicles to pass through with minimal delay, never having to wait through multiple signal cycles. Intersections operating at LOS F experience heavy congestion and long vehicle queues and delay. The HCM analysis also provides estimates of vehicle queuing lengths at various movements through each intersection based on the 95th percentile queue length. The HCM analysis of signalized intersections accounted for the existing traffic signal cycle lengths and timing plans in place according to City records. Intersection lane configurations used in the analysis are shown in Appendix F and the HCM output is provided in Appendix E.

Intersection LOS

Existing Conditions. Table 15 summarizes the LOS analysis for Existing Conditions for each of the study intersections. As shown, under Existing Conditions, 20 of the 23 study intersections operate at LOS D or better during both the morning and afternoon peak hours. The following intersections operate at LOS E or F during one or both peak hours:

⁷ Intersection #22 under the mitigation scenarios is a non-standard unsignalized intersection with more than one left-turn lane in one direction. Because the HCM methodology is not applicable to two turn lanes, the analysis assumed one left-turn lane with 55% of the total left-turning traffic and assumed the remaining left-turning traffic would be in the second turn lane.

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- Intersection #9, Sierra Highway & Newhall Avenue
 - Intersection #11, SR 14 Northbound Ramp & Newhall Avenue
 - Intersection #20, Sierra Highway & Dockweiler Drive

Existing with Project without Railroad Crossing Upgrade Conditions. There is a potential for the Project to be opened prior to the construction of the DDEP, in which case the Railroad crossing upgrade and 13th Street improvements would be accelerated and installed with the Project. This scenario was analyzed without the DDEP and associated shifts in traffic volumes, but with the DDEP improvements along the Project frontage and at the railroad crossing.

The Existing peak hour traffic volumes, shown in Figure 15, combined with the Project traffic volumes without DDEP from Figure 13 result in Existing with Project Traffic without DDEP traffic volumes shown in Figure 18.

Table 16 summarizes the LOS analysis for Existing with Project without Railroad Crossing Upgrade Conditions for each of the study intersections. As shown, under Existing with Project without DDEP Conditions, 20 of the 23 study intersections operate at LOS D or better during both the morning and afternoon peak hours. Project traffic does not substantially affect operations at the three study intersections operating at unacceptable LOS E or F. Project traffic, per the TAU, does affect the operations at Intersection #5, Railroad Avenue & 13th Street during the afternoon peak hour:

However, Intersection #5 still operates at LOS D during the afternoon peak hour, an acceptable LOS per the Circulation Element. Further, as shown in the next section, with implementation of the Railroad Crossing Upgrade, this intersection would operate at LOS C during both the morning and afternoon peak hours. As such, this affect would be temporary and resolved with the construction of the Railroad Crossing Upgrade. As the Project does not affect any intersection operating at an unacceptable LOS per the TAU or cause any intersection to degrade to an unacceptable LOS, and since an improvement has been identified that will reduce the Project impacts and improve the existing LOS, the Project can operate at full occupancy prior to implementation of the Railroad Crossing Upgrade without any operational affects.

Existing with Project with Railroad Crossing Upgrade Conditions. This analysis used the same traffic volumes described above under Existing with Project without Railroad Crossing Upgrade Conditions and shown in Figure 18.

Table 17 summarizes the LOS analysis for Existing with Project with Railroad Crossing Upgrade Conditions for each of the study intersections. As shown, under these conditions, 20 of the 23 study intersections operate at LOS D or better during both the morning and afternoon peak hours. Project traffic does not substantially affect operations at the three study intersections operating at unacceptable LOS E or F. Project traffic does not affect the operations of any study intersection under this condition per the TAU. Therefore, no improvements would be required.

Future Conditions without DDEP (2028). The Future without Project without DDEP peak hour traffic volumes, shown in Figure 16, combined with the Project traffic volumes from Figure 13, result in Future with Project without DDEP peak hour traffic volumes shown in Figure 19.

Table 18 summarizes the LOS analysis for Future without Project DDEP conditions and Future with Project conditions for each of the study intersections assuming the DDEP is not constructed. As shown, under Future without Project Conditions, 13 of the 23 study intersections are forecast to operate at LOS D or better during both the morning and afternoon peak hours. The following intersections are forecast to operate at LOS E or F during one or both peak hours:

- Intersection #1, Bouquet Canyon Road & Newhall Ranch Road
- Intersection #2, Bouquet Canyon Road & Valencia Boulevard / Soledad Canyon Road
- Intersection #3, Railroad Avenue / Bouquet Canyon Road & Magic Mountain Parkway
- Intersection #5, Railroad Avenue & 13th Street
- Intersection #9, Sierra Highway & Newhall Avenue
- Intersection #13, Wiley Canyon Road & Lyons Avenue
- Intersection #15, Newhall Avenue & Lyons Avenue
- Intersection #20, Sierra Highway & Dockweiler Drive
- Intersection #21, Sierra Highway & Placerita Canyon Road
- Intersection #22, Sierra Highway & SR 14 Southbound Ramps

With construction of the Project, two additional intersections would operate at LOS E or F:

- Intersection #14, Valley Street / Orchard Village Road & Lyons Avenue
- Intersection #23, SR 14 Northbound Ramps & Placerita Canyon Road

Project traffic does affect the operations of the following eight intersections during one or both peak hours per the TAU:

- Intersection #1, Bouquet Canyon Road & Newhall Ranch Road
- Intersection #2, Bouquet Canyon Road & Valencia Boulevard / Soledad Canyon Road
- Intersection #3, Railroad Avenue / Bouquet Canyon Road & Magic Mountain Parkway
- Intersection #9, Sierra Highway & Newhall Avenue
- Intersection #13, Wiley Canyon Road & Lyons Avenue
- Intersection #14, Valley Street / Orchard Village Road & Lyons Avenue
- Intersection #22, Sierra Highway & SR 14 Southbound Ramps
- Intersection #23, SR 14 Northbound Ramps & Placerita Canyon Road

Table 18 also contains the LOS results that would occur if a series of operational improvements were included at affected study intersections. As shown, all Project affects can be reduced to non-affects with the implementation of the improvements. The improvements are discussed in further detail later in this chapter.

Future Conditions with DDEP and Roundabout (2028). The Future without Project with DDEP peak hour traffic volumes, shown in Figure 17, combined with the Project traffic volumes from Figure 14, result in Future with Project with DDEP peak hour traffic volumes shown in Figure 20.

Table 19 summarizes the LOS analysis for Future without Project conditions and Future with Project conditions for each of the study intersections assuming construction of the DDEP occurs and a roundabout is provided at Arch Street & 12th Steet. As shown, under Future without Project Conditions, 14 of the 23 study intersections are forecast to operate at LOS D or better during both the morning and afternoon peak hours.

The following intersections are forecast to operate at LOS E or F during one or both peak hours:

- Intersection #1, Bouquet Canyon Road & Newhall Ranch Road
- Intersection #2, Bouquet Canyon Road & Valencia Boulevard / Soledad Canyon Road
- Intersection #3, Railroad Avenue / Bouquet Canyon Road & Magic Mountain Parkway
- Intersection #9, Sierra Highway & Newhall Avenue
- Intersection #13, Wiley Canyon Road & Lyons Avenue
- Intersection #14, Valley Street / Orchard Village Road & Lyons Avenue
- Intersection #15, Newhall Avenue & Lyons Avenue
- Intersection #21, Sierra Highway & Placerita Canyon Road
- Intersection #22, Sierra Highway & SR 14 Southbound Ramps

With construction of the Project, under Future with DDEP with roundabout conditions, one additional intersection would operate at LOS E or F.

- Intersection #23, SR 14 Northbound Ramps & Placerita Canyon Road

Project traffic does affect the operations of the following eight intersections during the one or both peak hours per the TAU:

- Intersection #1, Bouquet Canyon Road & Newhall Ranch Road
- Intersection #2, Bouquet Canyon Road & Valencia Boulevard / Soledad Canyon Road
- Intersection #3, Railroad Avenue / Bouquet Canyon Road & Magic Mountain Parkway
- Intersection #9, Sierra Highway & Newhall Avenue
- Intersection #13, Wiley Canyon Road & Lyons Avenue
- Intersection #14, Valley Street / Orchard Village Road & Lyons Avenue
- Intersection #22, Sierra Highway & SR 14 Southbound Ramps
- Intersection #23, SR 14 Northbound Ramps & Placerita Canyon Road

Table 19 also contains the LOS results that would occur if a series of operational improvements were included at affected study intersections. As shown, all Project affects can be reduced to non-affects with the implementation of the improvements. The improvements are discussed in further detail later in this chapter.

Future Conditions with DDEP and Traffic Signal (2028). The Future without Project with DDEP peak hour traffic volumes, shown in Figure 17, combined with the Project traffic volumes from Figure 14, result in Future with Project with DDEP peak hour traffic volumes shown in Figure 20.

Table 20 summarizes the LOS analysis for Future without Project conditions and Future with Project conditions for each of the study intersections assuming construction of the DDEP occurs and a traffic signal is provided at Arch Street & 12th Steet. As shown, under Future without Project Conditions, 14 of the 23 study intersections are forecast to operate at LOS D or better during both the morning and afternoon peak hours. The following intersections are forecast to operate at LOS E or F during one or both peak hours:

- Intersection #1, Bouquet Canyon Road & Newhall Ranch Road
- Intersection #2, Bouquet Canyon Road & Valencia Boulevard / Soledad Canyon Road
- Intersection #3, Railroad Avenue / Bouquet Canyon Road & Magic Mountain Parkway
- Intersection #9, Sierra Highway & Newhall Avenue
- Intersection #13, Wiley Canyon Road & Lyons Avenue
- Intersection #14, Valley Street / Orchard Village Road & Lyons Avenue
- Intersection #15, Newhall Avenue & Lyons Avenue
- Intersection #21, Sierra Highway & Placerita Canyon Road
- Intersection #22, Sierra Highway & SR 14 Southbound Ramps

With construction of the Project, under Future with DDEP with traffic signal conditions, one additional intersection would operate at LOS E or F.

- Intersection #23, SR 14 Northbound Ramps & Placerita Canyon Road

Project traffic does affect the operations of the following eight intersections during the one or both peak hours per the TAU:

- Intersection #1, Bouquet Canyon Road & Newhall Ranch Road
- Intersection #2, Bouquet Canyon Road & Valencia Boulevard / Soledad Canyon Road
- Intersection #3, Railroad Avenue / Bouquet Canyon Road & Magic Mountain Parkway
- Intersection #9, Sierra Highway & Newhall Avenue

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- Intersection #13, Wiley Canyon Road & Lyons Avenue
 - Intersection #14, Valley Street / Orchard Village Road & Lyons Avenue
 - Intersection #19, Valle Del Oro & Dockweiler Drive
 - Intersection #22, Sierra Highway & SR 14 Southbound Ramps
 - Intersection #23, SR 14 Northbound Ramps & Placerita Canyon Road

Table 20 also contains the LOS results that would occur if a series of operational improvements were included at affected study intersections. As shown all Project affects can be reduced to non-affected with the implementation of the improvements. The improvements are discussed in further detail later in this chapter.

Intersection Queuing

In addition to providing delay and LOS, the HCM analysis provides estimates of vehicle queuing lengths at various movements through each intersection based on the 95th percentile queue length. As no threshold for queuing length is established in the TAU, a summary of the results is provided in Table 21 for Future Conditions without DDEP and in Table 22 for Future Conditions with DDEP with the roundabout and traffic signal alternatives. Most intersections would not experience an increase in queue length of over 50 feet, which is assumed to be two car lengths.

Access Points

The Project vehicular access points are illustrated in Figure 2. As shown, the primary access point is provided at the intersection of Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2, with a secondary access along 12th Street. All vehicular access is from non-arterial streets. All access control systems to the parking lot would be located far enough into the development to meet City requirements and prevent queuing onto the adjacent public streets.

The effects of Project traffic on City intersections, including changes in delay, LOS, and queuing, were documented above. The main Project access point (Intersection #16) is expected to operate at acceptable conditions during each peak hour based on the trip generation and HCM analysis. The secondary access point on 12th Street would only support a nominal amount of Project traffic.

Thus, the locations and operations of the Project access points would not contribute to additional queuing or congestion on surrounding streets.

PROPOSED IMPROVEMENTS AND RECOMMENDED ACTIONS

The Project Applicant proposes a series of operational measures, design features, and public benefits that would improve accessibility and traffic circulation for all modes within and around the Project Site and reduce the effects of Project traffic.

New Pedestrian Infrastructure

The Project would install or upgrade pedestrian infrastructure along the Project frontage. Public sidewalks would be constructed adjacent to the Project Site to meet or exceed City standards. The Project would also provide pedestrian crosswalks at the new intersection of Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2.

New Bicycle Infrastructure

The Project proposes to install a new two-way bicycle path along the Project frontage connecting to a bicycle path along Railroad Avenue to the north and along Dockweiler Drive to the south.

TDM Program

The Project would incorporate various TDM measures to encourage the use of alternative transportation modes and reduce VMT and vehicle trips. These measures include:

- Flexible Work Schedules and Telecommuting Programs
- Bicycle Amenities (Bicycle Racks, Lockers, Showers, etc.)
- Carpool Matching Programs and Support
- Transportation Information Center

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- Tenant-based GRH program
 - Preferential Parking Locations for HOV

The TDM measures are not required to mitigate significant transportation impacts, and the potential reduction in Project trip generation resulting from these measures was conservatively excluded from the operational analysis described in this chapter.

Additional Transportation Infrastructure Improvements

In order to improve study intersections where Project traffic affects intersection operations, the Applicant proposes to implement additional improvements at various locations within the Study Area:

- At Intersection #1, Bouquet Canyon Road & Newhall Ranch Road, the Project would adjust signal timing to accommodate changes in demand patterns from existing to future travel patterns. This would include the installation of a northbound right-turn overlap and a “No U-Turn” sign in the westbound direction.
- At Intersection #2, Bouquet Canyon Road & Valencia Boulevard / Soledad Canyon Road, the Project would modify the median to install a new eastbound through lane. With the addition of the lane, a total of four eastbound through lanes would be provided.
- At Intersection #3, Railroad Avenue / Bouquet Canyon Road & Magic Mountain Parkway, the Project would modify the southbound alignment to add a new through lane. With the addition of the lane, a total of three southbound through lanes would be provided.
- At Intersection #9, Sierra Highway & Newhall Avenue, the Project would modify the northbound alignment to add a new through lane. With the addition of the lane, a total of three northbound through lanes would be provided.
- At Intersection #13, Wiley Canyon Road & Lyons Avenue, the Project would restripe the southbound approach to provide an additional left-turn lane. With the addition of the lane, a total of two southbound left-turn lanes would be provided.
- At Intersection #14, Valley Street / Orchard Village Road & Lyons Avenue, the Project would modify the existing eastbound right-turn lane to a through/right-turn lane. With the modification, the approach would provide two through lanes and one through/right-turn lane.
- At Intersection #19, Valle Del Oro & Dockweiler Drive, the Project proposes to signalize the intersection.

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- At Intersection #22, Sierra Highway & SR 14 Southbound Ramps, the Project would eliminate the median to provide an additional southbound left-turn lane. With the modification, a total of two southbound left-turn lanes would be provided.
 - At Intersection #23, SR 14 Northbound Ramps & Placerita Canyon Road, the Project proposes to change this intersection to an all-way stop and add a northbound left-turn lane. With the addition of the lane, a total of two northbound left-turn lanes would be provided.

Roundabout vs. Traffic Signal at Arch Street & 12th Street & Dockweiler Drive

The current plans for the Dockweiler Extension include the provision of a roundabout at the intersection of Arch Street & 12th Street & Dockweiler Drive. The differences in the design and performance of two alternate treatments of the intersection, detailed in *Memorandum: Arch Street & 12th Street Design Roundabout vs. Traffic Signal Summary* (GTC, March 23, 2022) (Arch Street & 12th Street Memo), provided in Appendix G, are summarized below.

Arch Street & 12th Street & Dockweiler Drive would be redesigned as part of the DDEP. The intent is to develop Dockweiler Drive as a two- to four-lane street from Railroad Avenue & 13th Street on the north to Sierra Highway on the south. The DDEP would be constructed parallel to Railroad Avenue and Newhall Avenue corridors, with the intent of providing an alternate route to those busy streets.

The City is currently completing final design and the Dockweiler Drive corridor was analyzed assuming the DDEP would be completed and open to traffic in 2025-26, subject to funding availability.

Potential Designs. The City's current design calls for a roundabout at the intersection of Arch Street & 12th Street & Dockweiler Drive, but an alternate design to create a more typical four-leg intersection controlled by a traffic signal has been discussed. The basic structure of the two roadway design alternates is presented below.

Roundabout Design. Figure 21 presents the current City roundabout design. The intersection would be designed as a one-lane roundabout with four legs entering the roundabout – northbound and southbound Arch Street/Dockweiler Drive and eastbound and westbound 12th Street. Each

approach leg would narrow to one lane entering the roundabout and the traffic flow entering the roundabout would be controlled by “Yield” signs.

Pedestrian crosswalks would cross each leg of the intersection in front of the “Yield” signs.

The circular interior portion of the roundabout would provide one wide lane for vehicular travel, allowing vehicles to exit onto any of the three other roadway directions or to travel all the way around the circle and make a U-turn.

Traffic Signal Design. The other choice for the design of this intersection is to construct a standard four-legged intersection controlled by a traffic signal. The traffic signal would be interconnected and coordinated with the Dockweiler Drive & Placerita Canyon Road signal to the south and the Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2 signal to the north. Figure 22 shows the layout of the intersection.

As specified in the Arch Street & 12th Street Memo, the intersection cross section would be as follows:

- Arch Street from the north would provide two southbound approach lanes that widen to provide four lanes at the intersection: two through lanes, one lane to serve traffic destined for Placerita Canyon Road, and one left-turn lane for traffic turning onto eastbound 12th Street.
- Dockweiler Drive from the south would provide one left-turn lane and two northbound through lanes. A large corner radius would be provided on the southeast corner to accommodate trucks destined for the proposed studio entrance on 12th Street and vehicles with horse trailers entering Placerita Canyon.
- 12th Street would provide a left-turn/through lane and a right-turn lane in both the eastbound and westbound directions.

Pedestrian crosswalks across all four legs of the intersection would be controlled by the traffic signal, with pedestrian push buttons and “Walk/Don’t Walk” signals.

The traffic signal would provide a protected left-turn phase for southbound turns headed onto eastbound 12th Street to handle the heavy left-turn demand in the evening when residents of the canyon are headed home.

Intersection LOS

The roundabout operates with “Yield” sign control, so the theory is that vehicles inside the roundabout and those entering the roundabout would alternate and there would be fewer vehicles coming to a complete stop than occurs at a traffic signal.

The difficulty with this, in our professional experience, is that the merge and weave created by the conflict between the vehicles inside a roundabout and those entering the roundabout limits the capacity of the roundabout design. While the volumes projected to use the Arch Street & 12th Street & Dockweiler Drive roundabout would be well within the capacity of the facility during most hours of the day, during the afternoon peak hour, when the intersection is at its busiest, it is likely to experience some operational constraints in the form of congestion. This is due to the large number of southbound resident vehicles wanting to turn left onto eastbound 12th Street toward the canyon. During this hour of the day, the intersection will likely operate similar to an all-way stop rather than a yield control intersection, which will affect the operations of the roundabout.

The City’s target LOS threshold for intersections is LOS C or better during the peak hours of operation. Table 14 describes the operating conditions at the various LOS.

The operating conditions tests show that both Arch Street & 12th Street & Dockweiler Drive designs operate within the City’s LOS targets during the afternoon peak hours of a weekday (the busiest times of the week).

Both the roundabout and the traffic signal will work within the City’s target LOS threshold if the roundabout operates as intended with the “Yield” sign control. If congestion within the roundabout causes the intersection to operate as if under “Stop” sign control, the LOS during peak hours would degrade beyond the City’s target thresholds, operating at LOS D or LOS F during the weekday morning and afternoon peak hours, respectively.

The traffic signal would operate at LOS C even under the worst-case conditions during the morning and afternoon peak hours.

Evacuation Considerations

One of the key considerations in the Placerita Canyon Area is the ability to evacuate homes, schools, and businesses in the event of a fire or natural disaster. The LOS evaluation described above shows that the limited capacity of the roundabout design could cause operational problems if traffic increases to the point that the roundabout operates as if it were under all-way stop control. In the event of an evacuation of the canyon, the traffic increases would push the roundabout operations into stop sign performance conditions. Thus, under evacuation conditions, the capacity limitations of the roundabout would result in failure of the roundabout design, increasing the time needed to maneuver through the roundabout and extending the line of cars queuing back toward the canyon, both of which are detrimental to the evacuation process.

The evaluation of evacuation conditions for the Placerita Canyon Area measured the anticipated performance along Dockweiler Drive, Arch Street, and 13th Street (the Dockweiler Corridor). The assessment includes the determination of the approximate vehicular delays that would be experienced during an evacuation at each intersection within the Dockweiler Corridor under Existing Conditions, Future with Project with Dockweiler (Roundabout) Conditions, and Future with Project with Dockweiler (Traffic Signal) Conditions.

For the purposes of this assessment, the Dockweiler Corridor includes the following intersections:

- Railroad Avenue & 13th Street (Intersection 5)
- Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2 (Intersection 16)
- EXISTING: Arch Street & 12th Street & Placerita Canyon Road (Intersection 17)
- FUTURE: Arch Street & 12th Street & Dockweiler Drive (Intersection 17)⁸

⁸ In this analysis, Railroad Avenue and Dockweiler Drive are considered north-south roadways and 12th Street and 13th Street are considered east-west roadways.

Evacuation Shed. The Evacuation Analysis prepared for the Placerita Meadows residential project assumed that the area to be evacuated was the Placerita Canyon Area, which was defined as the existing developments to the east of Railroad Avenue. This includes the single-family residential neighborhoods and industrial and commercial areas, as well as The Master's University. Currently, the primary access point to the Placerita Canyon Area is at Railroad Avenue & 13th Street.

In general, the Evacuation Shed is bounded by the area south of Parvin Drive on the north, Quigley Canyon Road and Melody Movie Ranch on the east, The Master's University campus and Placerita Canyon Road on the south, and Railroad Avenue on the west.

Previous evacuation analyses for this evacuation shed estimated that the evacuation would require a total of 1,340 cars to evacuate the area, based on one vehicle per dwelling unit plus vehicles associated with students and faculty/staff at The Master's University.

Methodology. The evacuation analysis is based on a worst-case assumption that the emergency (fire, earthquake, etc.) occurs to the east and south of the Evacuation Shed and that all evacuations must exit the area through the intersection of Railroad Ave & 13th Street to the west. To the extent that evacuation routes to the east and/or access from 12th Street to southbound Dockweiler Drive were available, the evacuation times in this analysis would be lessened.

The following assumptions govern this analysis:

- Baseline traffic volumes were derived from the afternoon peak hour (i.e., the busiest hour of the day).
- A travel demand increase of 1,340 vehicles for the existing residential, commercial, and university uses in the Placerita Canyon Area during an evacuation.
- A travel demand increase of 75 vehicles for the commercial and industrial uses south of 13th Street in the Placerita Canyon Area during an evacuation.
- A vehicular flow rate of 600 vehicles per lane per hour through an intersection, representing the conditions that could occur if power to the traffic signals was lost during the emergency and all traffic had to treat the traffic control devices effectively as stop signs. It also assumes that emergency personnel were not available to control evacuating traffic and create free-flow situations. If emergency personnel were available to direct traffic, the effective lane capacities would increase and the evacuation times could lessen.

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- All vehicular traffic from the Placerita Canyon Area would evacuate via 13th Street at Railroad Avenue, making either left turns onto southbound Railroad Avenue or right turns onto northbound Railroad Avenue.
 - The Existing Conditions volumes utilize the existing afternoon peak hour volumes for north-south traffic on Railroad Avenue, but assume that under emergency evacuation conditions, the traffic on Railroad Avenue and Dockweiler Drive would be prohibited from entering the area. The volumes leaving the Evacuation Shed are the evacuation demand volumes described above.
 - The Future Conditions volumes include the Evacuation Shed demand volumes described above plus the exiting volumes from Shadowbox Studios and the north-south volumes along Railroad Avenue generated by the Related Projects.
 - The roadway lane configurations are shown in Figure 21 for the roundabout alternative and in Figure 22 for the traffic signal alternative.

The total time for evacuation was calculated by dividing the total number of vehicles by the flow rate of 600 vehicles per lane per hour. The critical point of congestion was presumed to be the movement that would take the longest for traffic to clear.

Under true evacuation conditions, there are many variables the City may utilize that would change the assumptions in this assessment. These include, but are not limited to, traffic control officers stationed at intersections, signal timing changes, turning movement restrictions, and strategically rerouting traffic away from the area. The time of day, whether school is in session, and the location of the evacuation areas may also affect this analysis. However, this assessment presumes the worst-case, peak traffic scenario during an evacuation.

The average vehicle travel time results are shown in Table 23. The total evacuation times for vehicles leaving the Placerita Canyon Area under Existing Conditions, Future with Project (Traffic Signal) Conditions, and Future with Project (Roundabout) Conditions are displayed in Tables 24A, 24B, and 24C, respectively.

Existing Conditions. Based on the Existing Conditions for the afternoon peak hour, travel time through the Dockweiler Corridor would be approximately 27 minutes for vehicles traveling northbound or southbound from the Placerita Canyon Area to Railroad Avenue under the evacuation scenario.

Table 24A shows that the current evacuation conditions are controlled by the signalized intersection of Railroad Avenue & 13th Street. The capacity constraints of the existing intersection configuration would result in severe congestion for traffic exiting the Placerita Canyon Area, with a total duration of 154 minutes (2.6 hours). This congestion is the result of having only one westbound lane serving exiting Placerita Canyon Area traffic at the intersection. The current design of the Arch Street & 12th Street & Placerita Canyon Road intersection is also a chokepoint for exiting traffic, with a severe congestion duration of 134 minutes (2.2 hours).⁹

Future with Project (Traffic Signal) Conditions. Based on the Future with Project (Traffic Signal) Conditions for the afternoon peak hour, travel time through the Dockweiler Corridor would be approximately seven minutes for vehicles traveling from the Placerita Canyon Area to northbound Railroad Avenue and approximately 16 minutes for vehicles traveling to southbound Railroad Avenue. This is a reduction in travel time of 20 minutes for northbound vehicles and 11 minutes for southbound vehicles compared to Existing Conditions.

Table 24B shows that even with the additional traffic generated by the Project, the widening of 13th Street and the improvement of the Railroad Avenue & 13th Street intersection will reduce that congested condition by more than half, from 154 minutes (2.6 hours) to 67 minutes (1.1 hours). Under Future with Project (Traffic Signal) Conditions, the congestion point for exiting Placerita Canyon Area traffic will be the northbound Arch Street turn onto westbound 13th Street, which will experience 87 minutes (1.5 hours) of congestion. With the intersection of Arch Street and & 12th Street & Dockweiler Drive operating under the lane design provided for the traffic signal control, the evacuation could be completed with 67 minutes (1.1 hours) of congestion.

Future with Project (Roundabout) Conditions. Based on Future with Project (Roundabout) Conditions for the afternoon peak hour, travel time through the Dockweiler Corridor would be approximately 9.5 minutes for vehicles traveling from the Placerita Canyon Area to northbound Railroad Avenue and approximately 18 minutes for vehicles traveling to southbound Railroad Avenue. This is a reduction in travel time of 17.5 minutes for northbound vehicles and nine

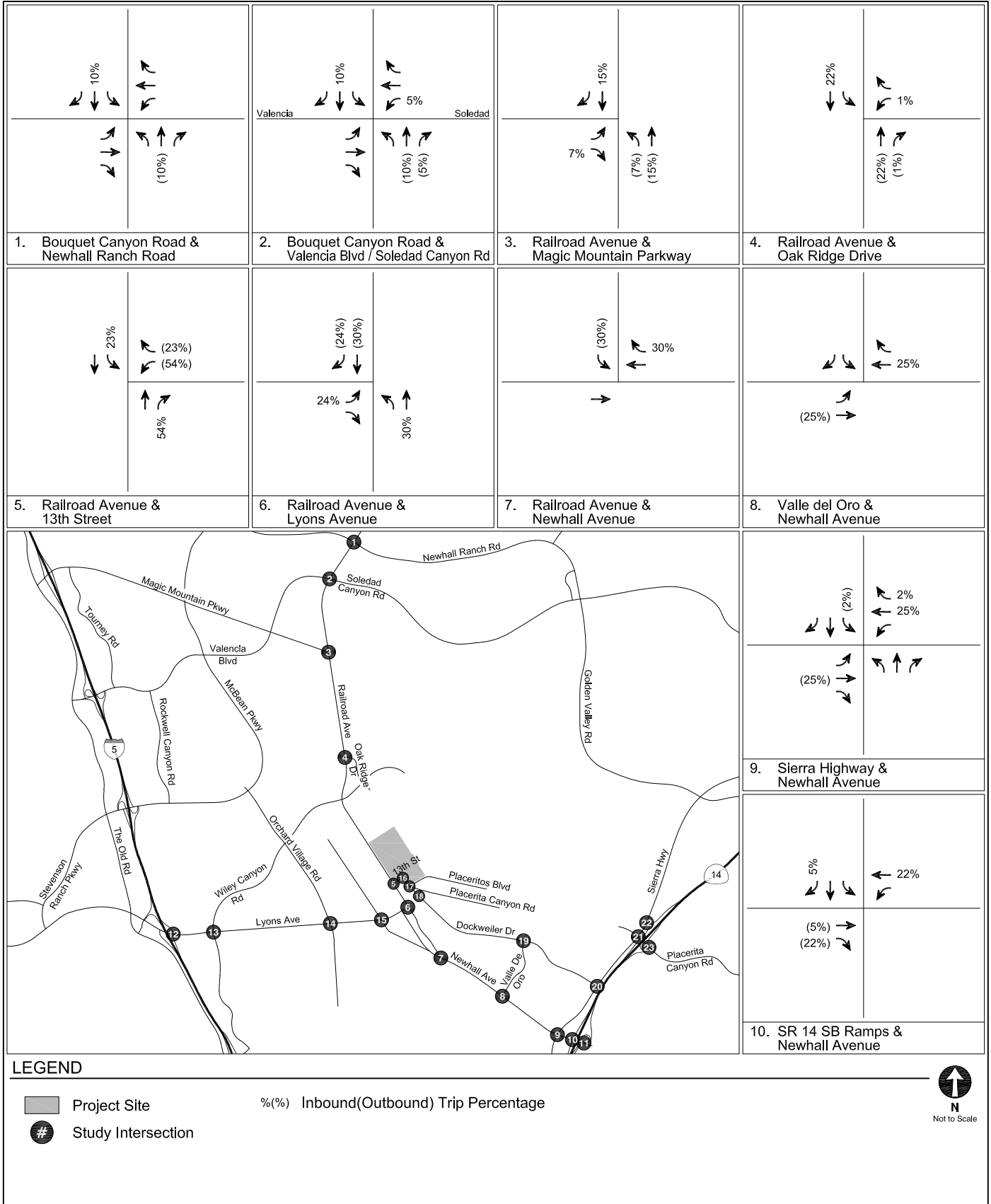
⁹ Tables 24A-24C show both the Approach Delay for each intersection movement through the Dockweiler Corridor and the Minutes of Congestion for each movement. The Approach Delay is calculated using the HCM methodology, assuming that the traffic signals or stop/yield signs in place are operating under normal operations. These are the calculations used to determine the overall LOS for the intersection. The Approach Delays shown in Tables 24A-24C are for comparative informational purposes only. The actual Evacuation Delay is based on the overall Evacuation Demand constrained by a lane capacity of 600 vehicles per hour as described in the Methodology Assumptions.

minutes for southbound vehicles compared to Existing Conditions, but an increase in travel time from the Future with Project with Traffic Signal Conditions.

Table 24C shows that if Arch Street & 12th Street & Dockweiler Drive operated as a roundabout, the intersection would still reduce the congestion from Existing Conditions. However, the reduction would not be as great as under the traffic signal intersection design condition. Under Future with Project (Roundabout) Conditions, the congestion point for exiting Placerita Canyon Area traffic will shift from Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2 to Arch Street & 12th Street & Dockweiler Drive, due to the lane reduction with the roundabout. Exiting traffic under the roundabout conditions would experience congestion related to evacuation for 134 minutes (2.2 hours).

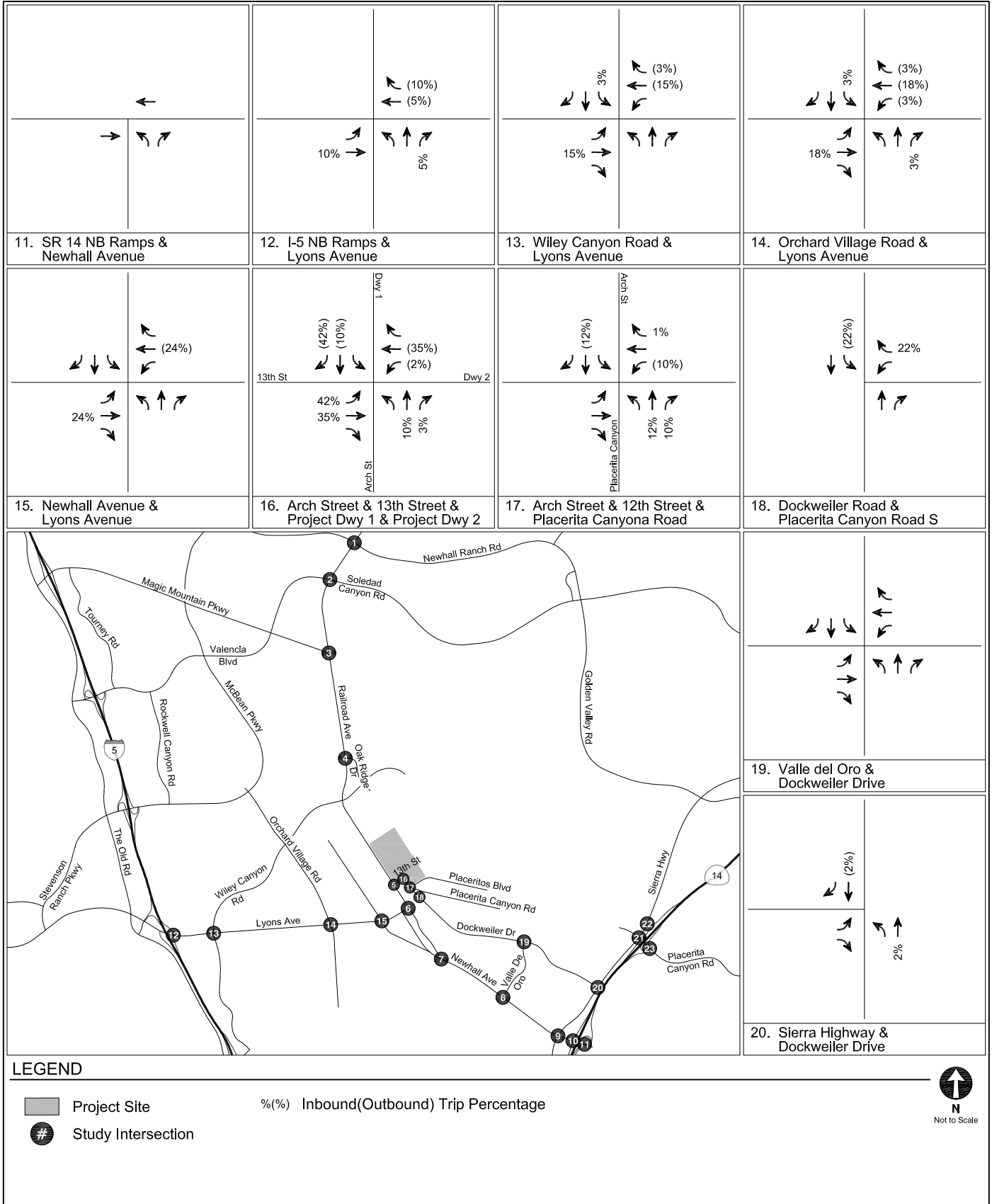
Evacuation Conclusion. The improved Dockweiler Corridor would facilitate the evacuation of the Placerita Canyon Area by reducing the evacuation congestion period at Arch Street & 12th Street & Dockweiler Drive from 2.6 hours during the Existing Conditions to 2.2 hours under Future with Project (Roundabout) Conditions and 1.5 hours under Future with Project (Traffic Signal) Conditions. Further, average travel times through the Dockweiler Corridor would be greatly reduced for vehicles evacuating the Placerita Canyon Area, from 27 minutes under Existing Conditions to under 18 minutes in the Future with Project (Roundabout) Conditions and under 16 minutes in the Future with Project (Traffic Signal) Conditions. Thus, the traffic signal intersection design would provide for the most efficient traffic operations under an evacuation scenario.

Traffic Evacuation Assessment for Shadowbox Studios Evacuation Shed, Santa Clarita, California (GTC, January 24, 2023), which includes the LOS worksheets, is provided in Appendix H.



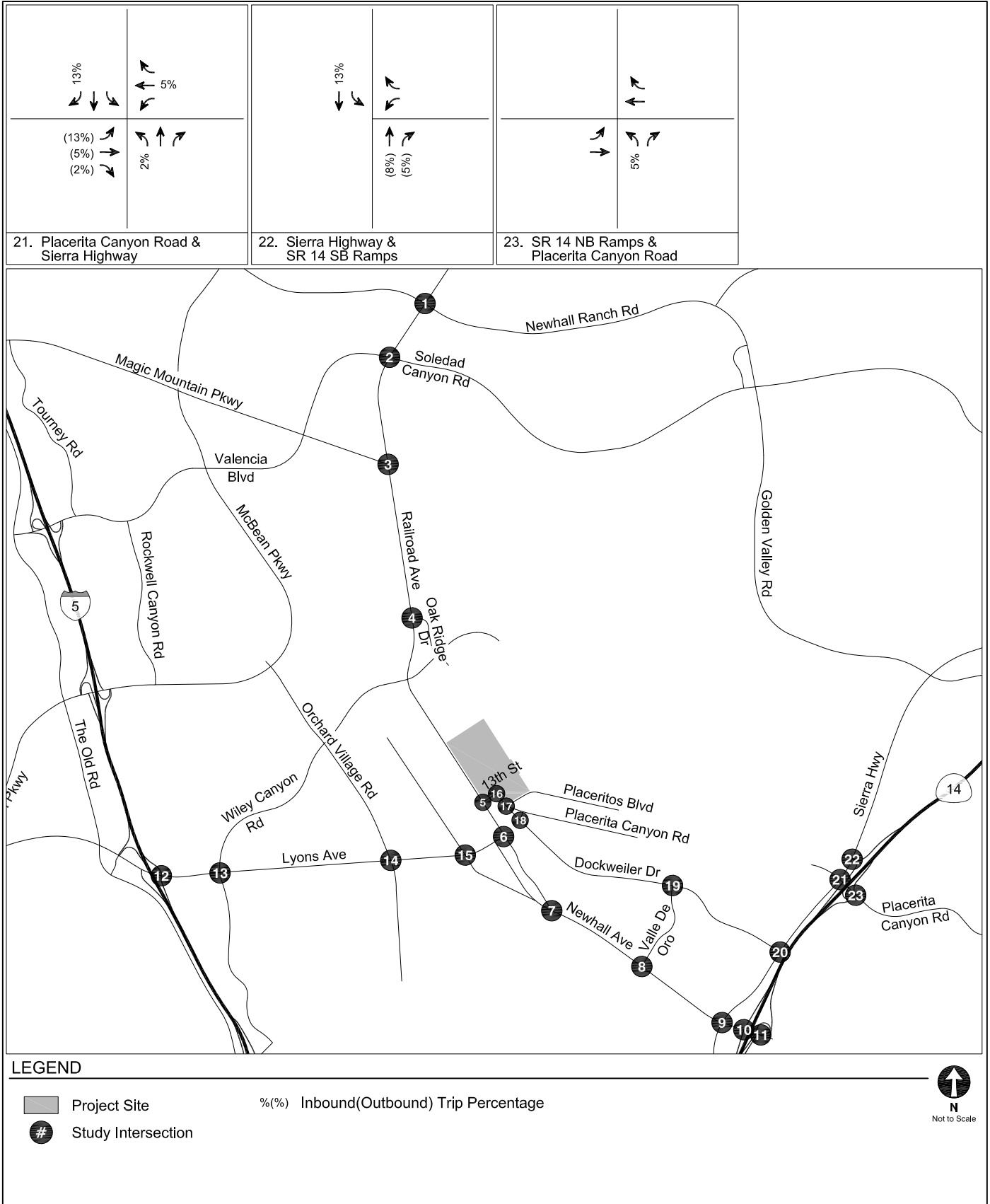
PROJECT TRIP DISTRIBUTION
WITHOUT DDEP CONDITIONS

FIGURE
10



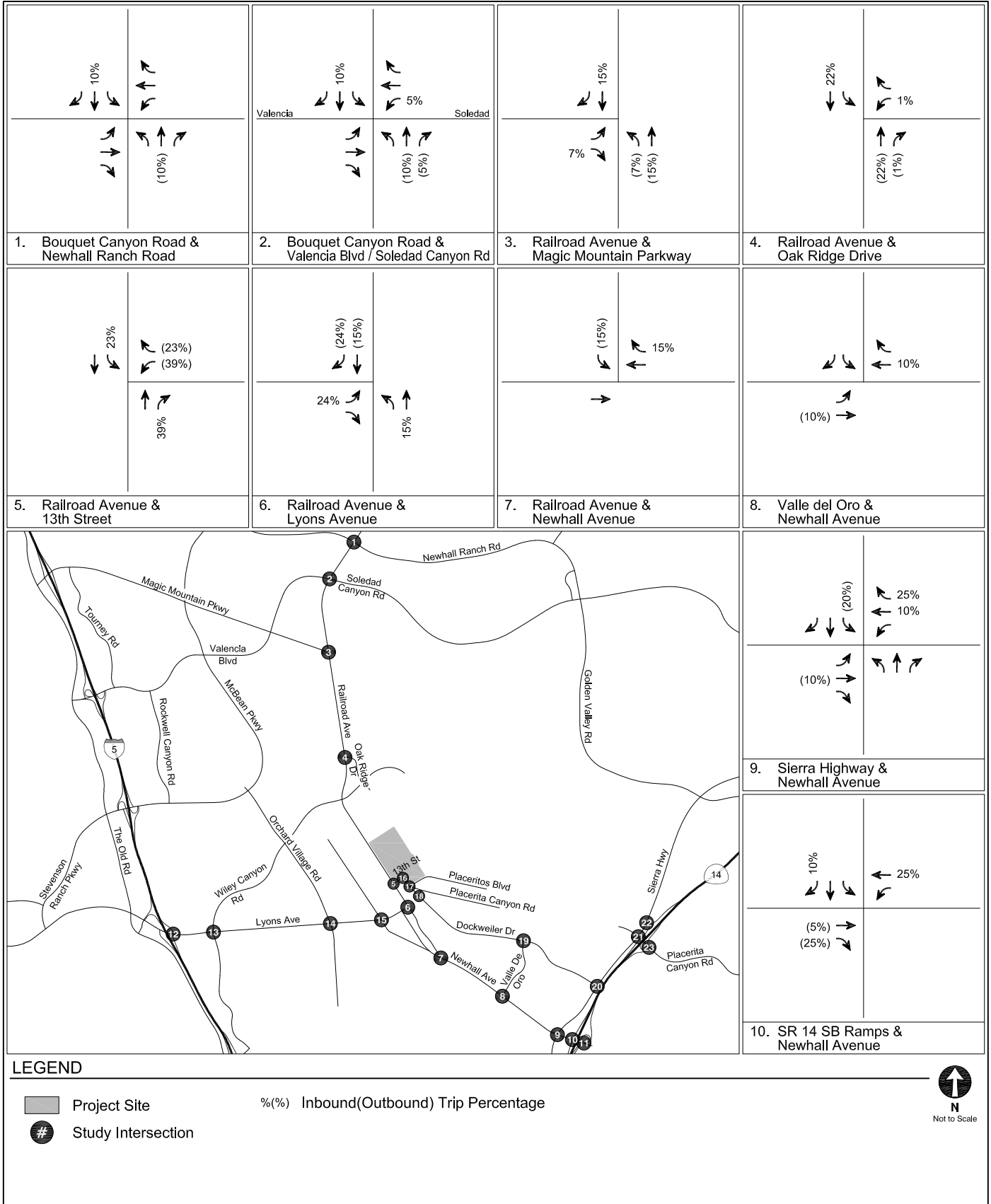
PROJECT TRIP DISTRIBUTION
WITHOUT DDEP CONDITIONS

FIGURE
10 (CONT.)



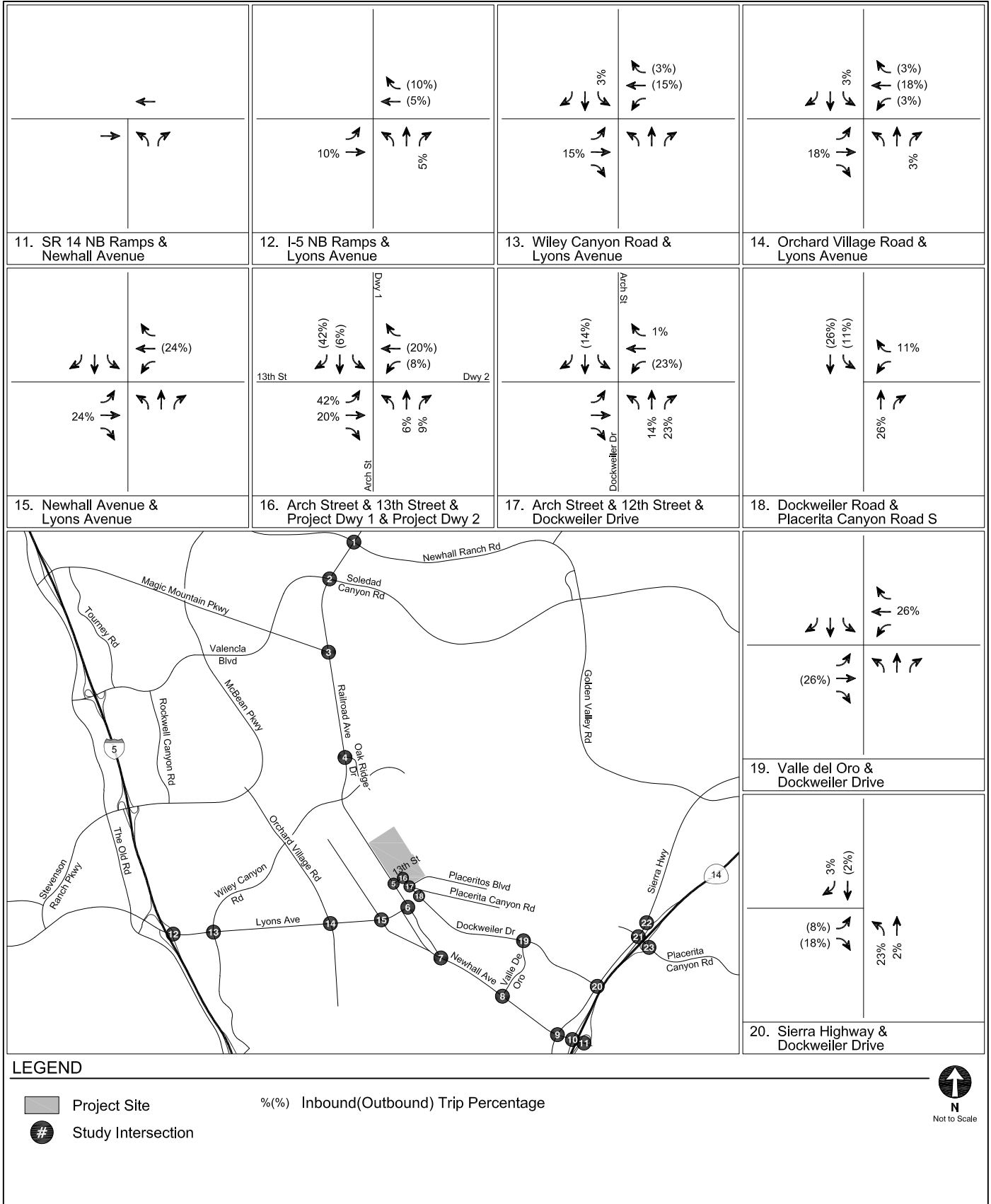
PROJECT TRIP DISTRIBUTION
WITHOUT DDEP CONDITIONS

FIGURE
10 (CONT.)



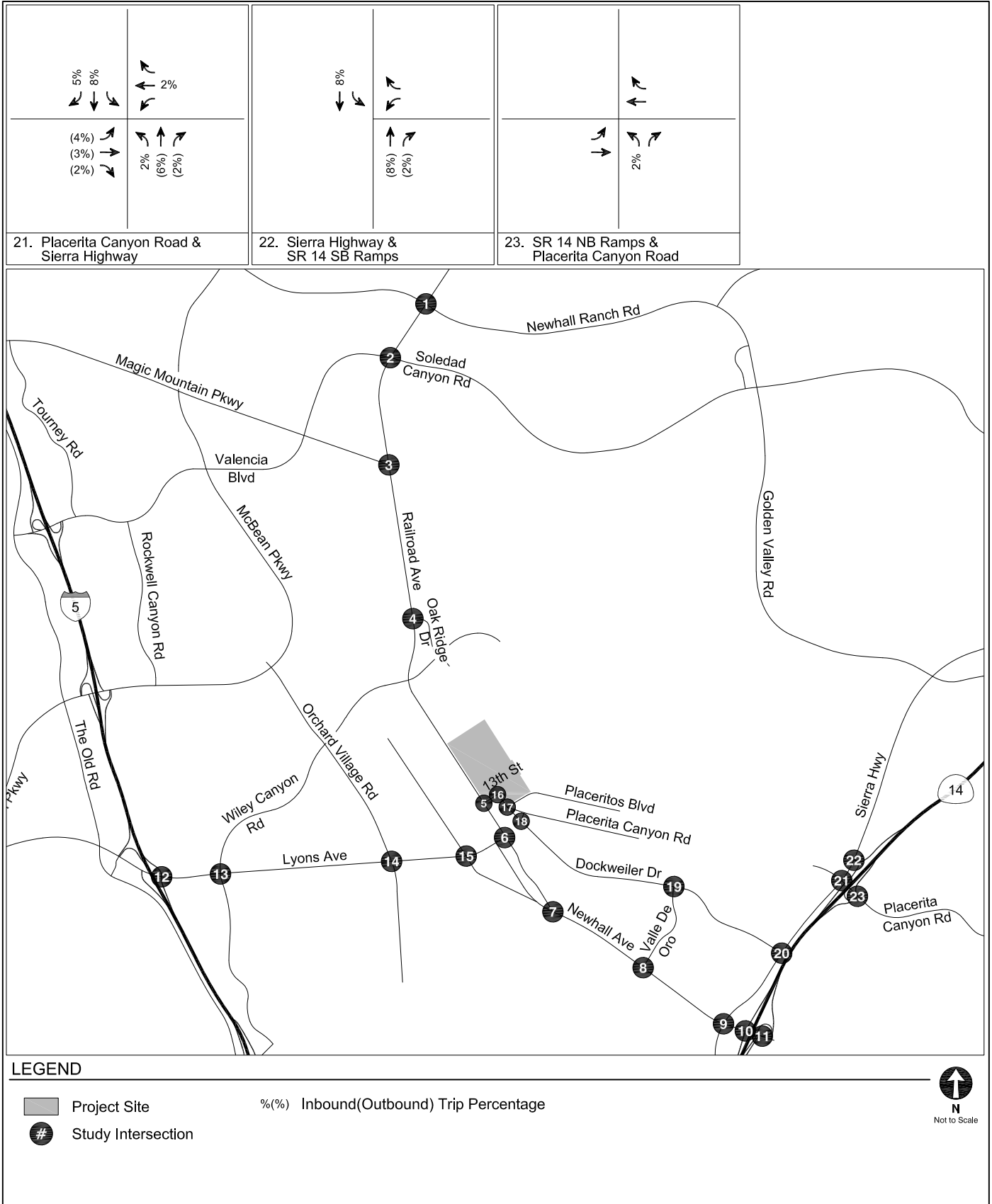
PROJECT TRIP DISTRIBUTION WITH DDEP CONDITIONS

FIGURE 11



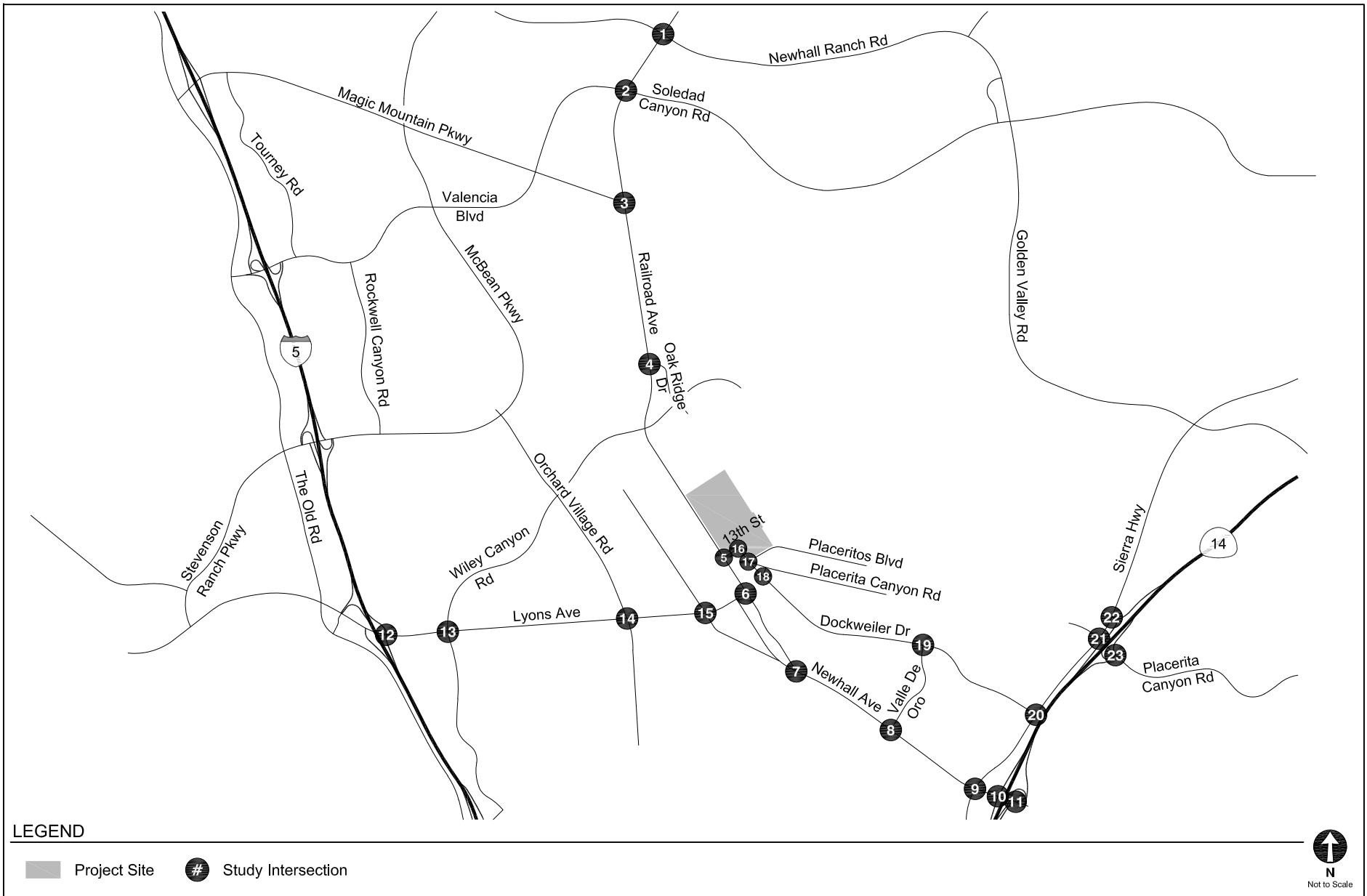
PROJECT TRIP DISTRIBUTION WITH DDEP CONDITIONS

FIGURE 11 (CONT.)



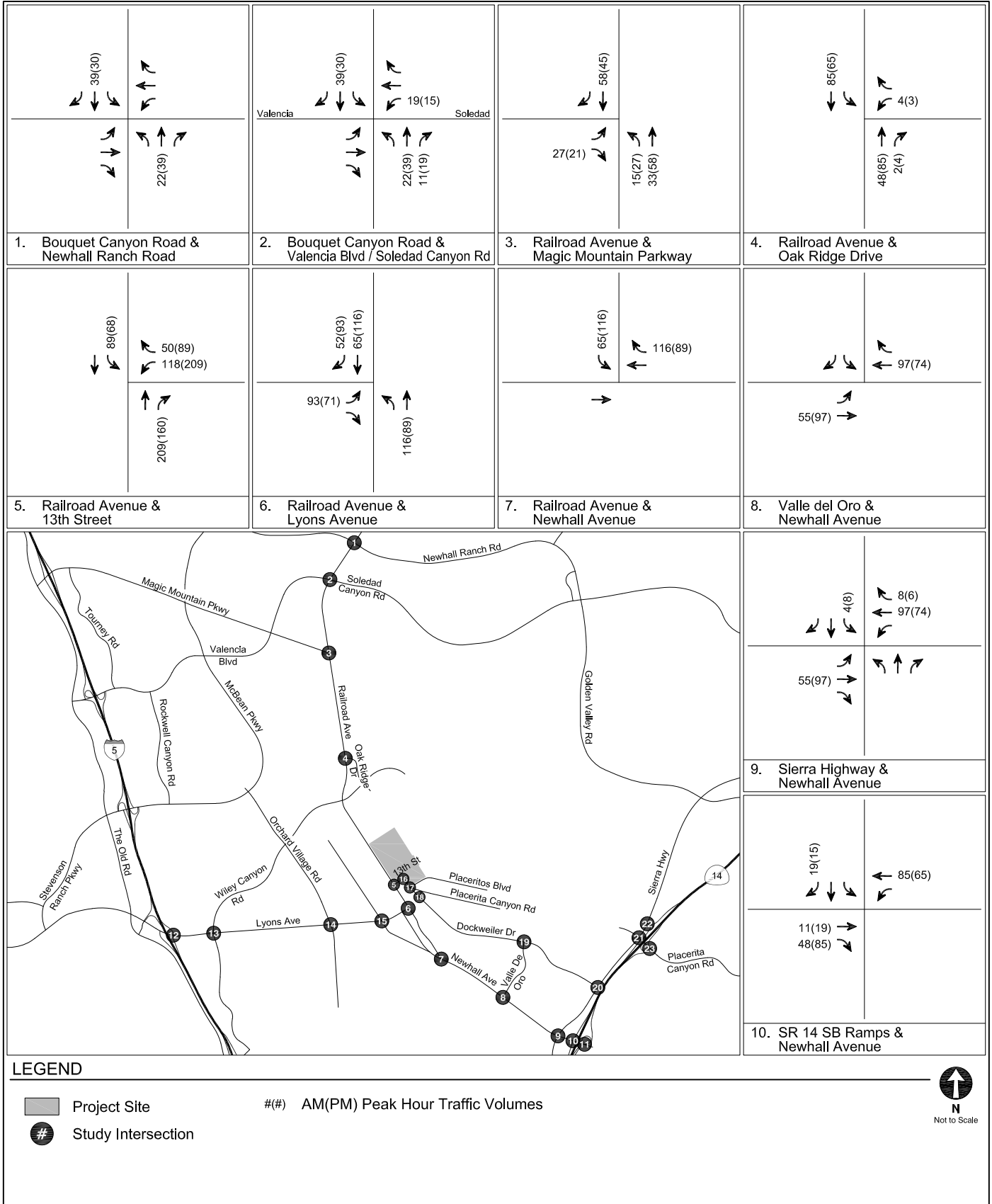
**PROJECT TRIP DISTRIBUTION
WITH DDEP CONDITIONS**

**FIGURE
11 (CONT.)**



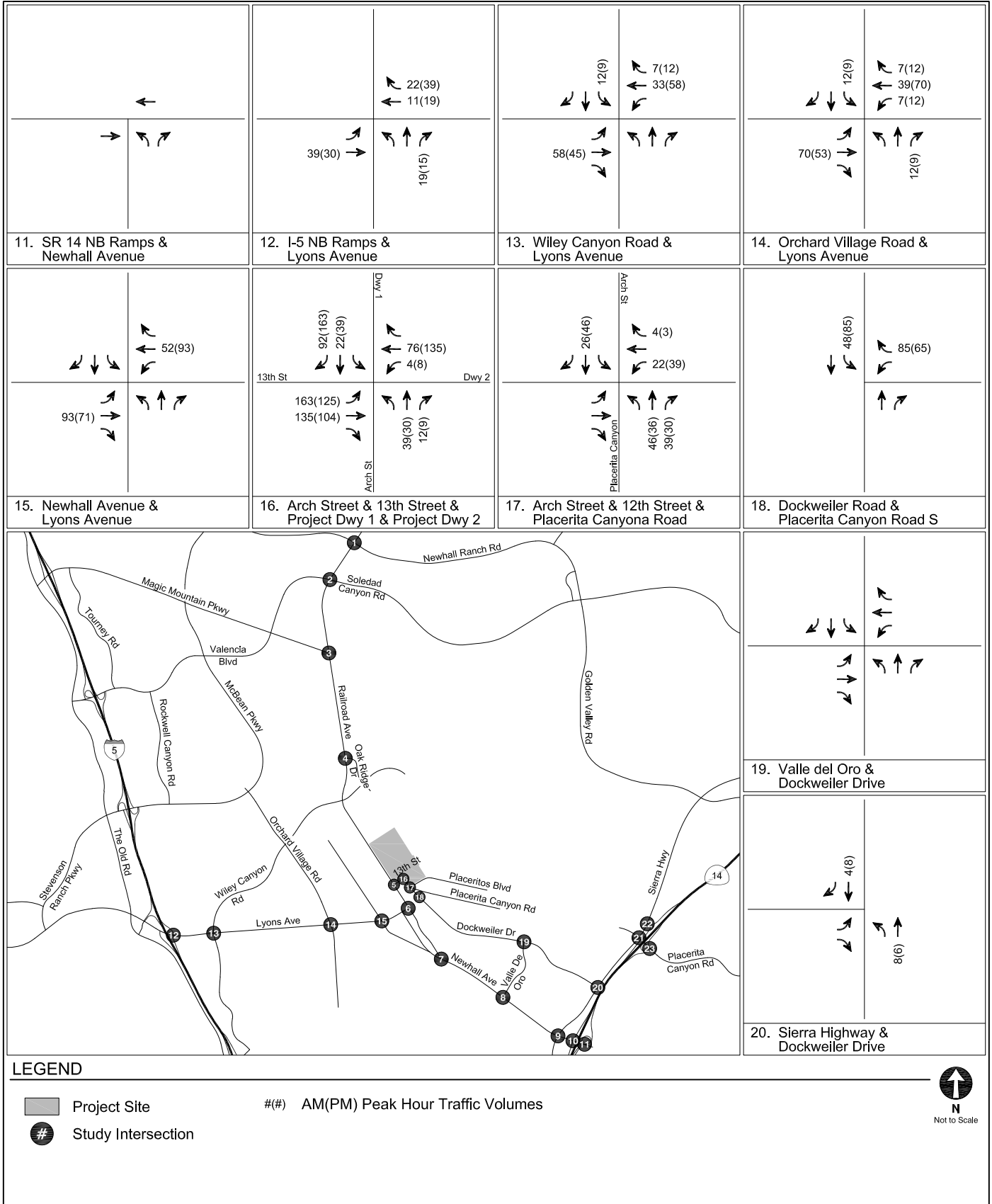
STUDY INTERSECTIONS

FIGURE 12



PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES
WITHOUT DDEP CONDITIONS

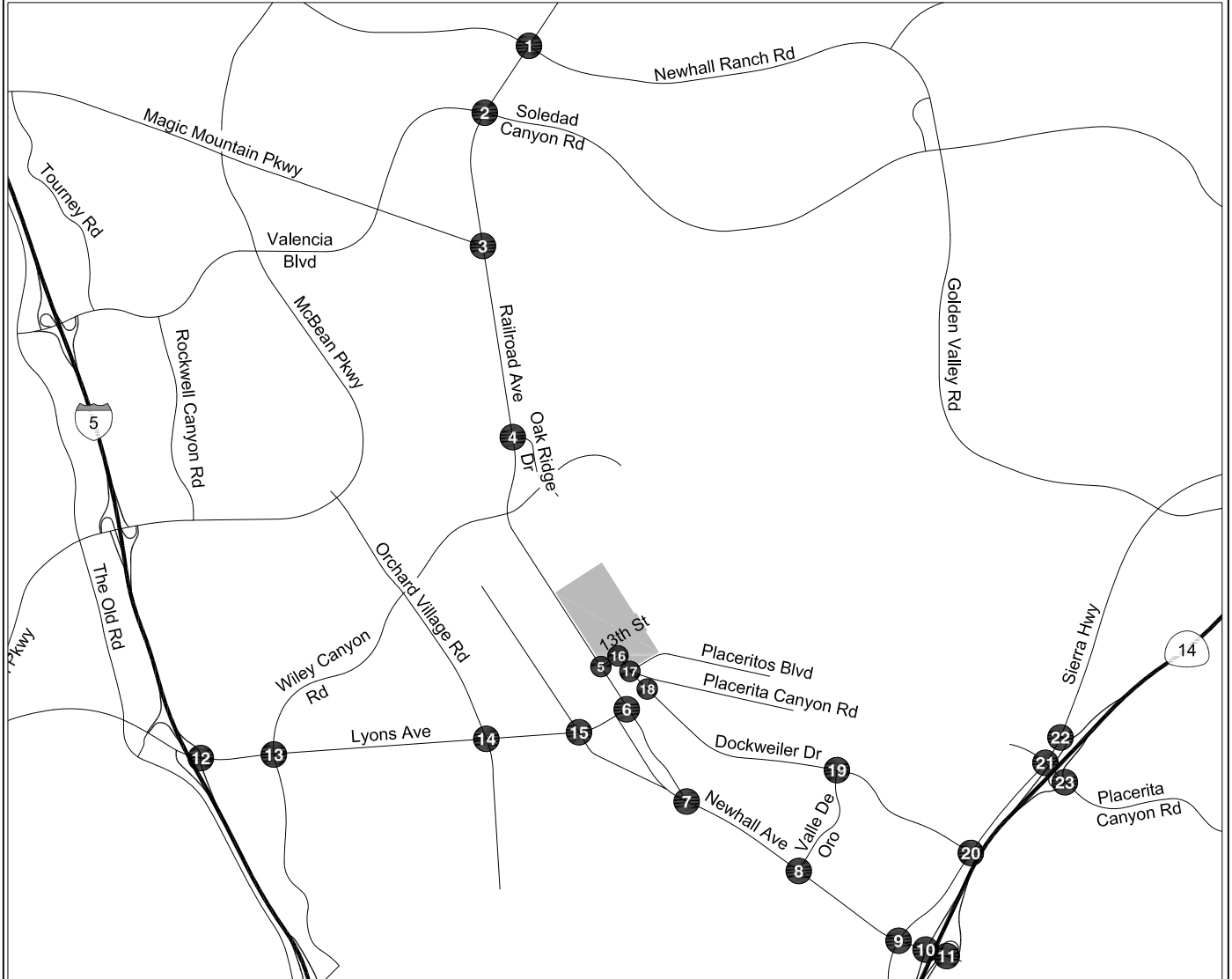
FIGURE
13



PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES
WITHOUT DDEP CONDITIONS

FIGURE
13 (CONT.)

21. Placerita Canyon Road & Sierra Highway	22. Sierra Highway & SR 14 SB Ramps	23. SR 14 NB Ramps & Placerita Canyon Road



LEGEND

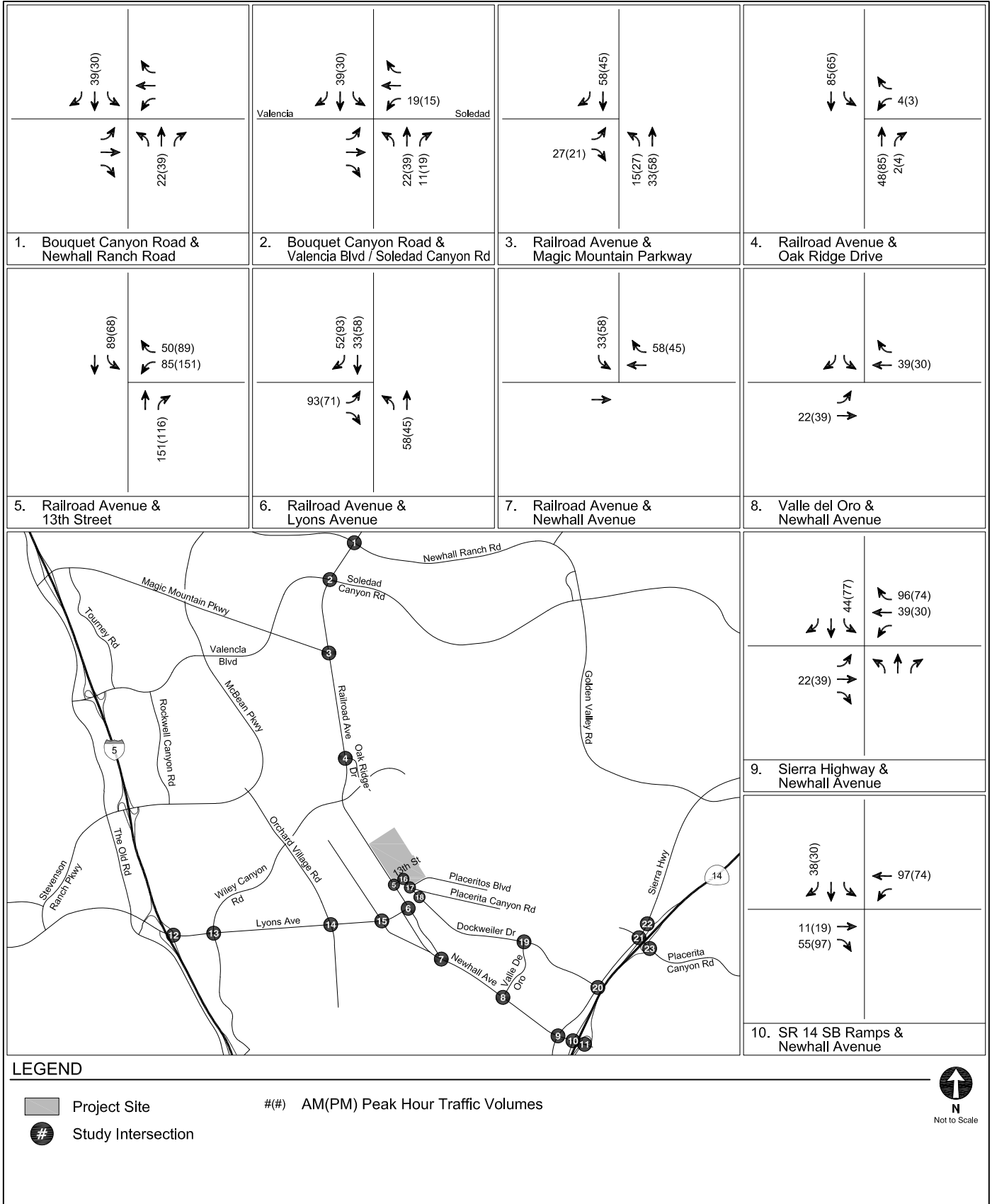
- Project Site
- Study Intersection

#(#) AM(PM) Peak Hour Traffic Volumes



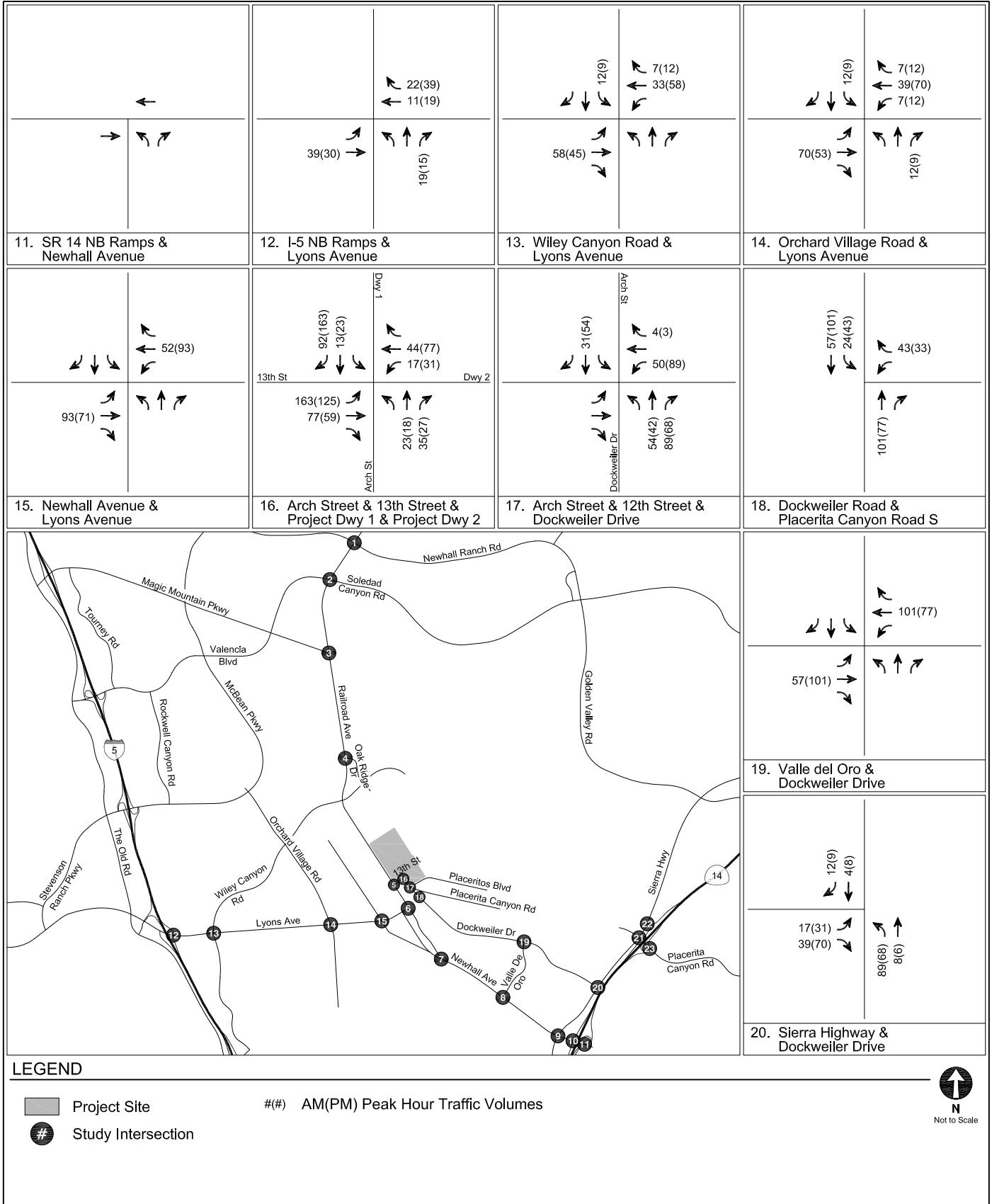
**PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES
WITHOUT DDEP CONDITIONS**

**FIGURE
13 (CONT.)**



PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES WITH DDEP CONDITIONS

FIGURE 14



LEGEND

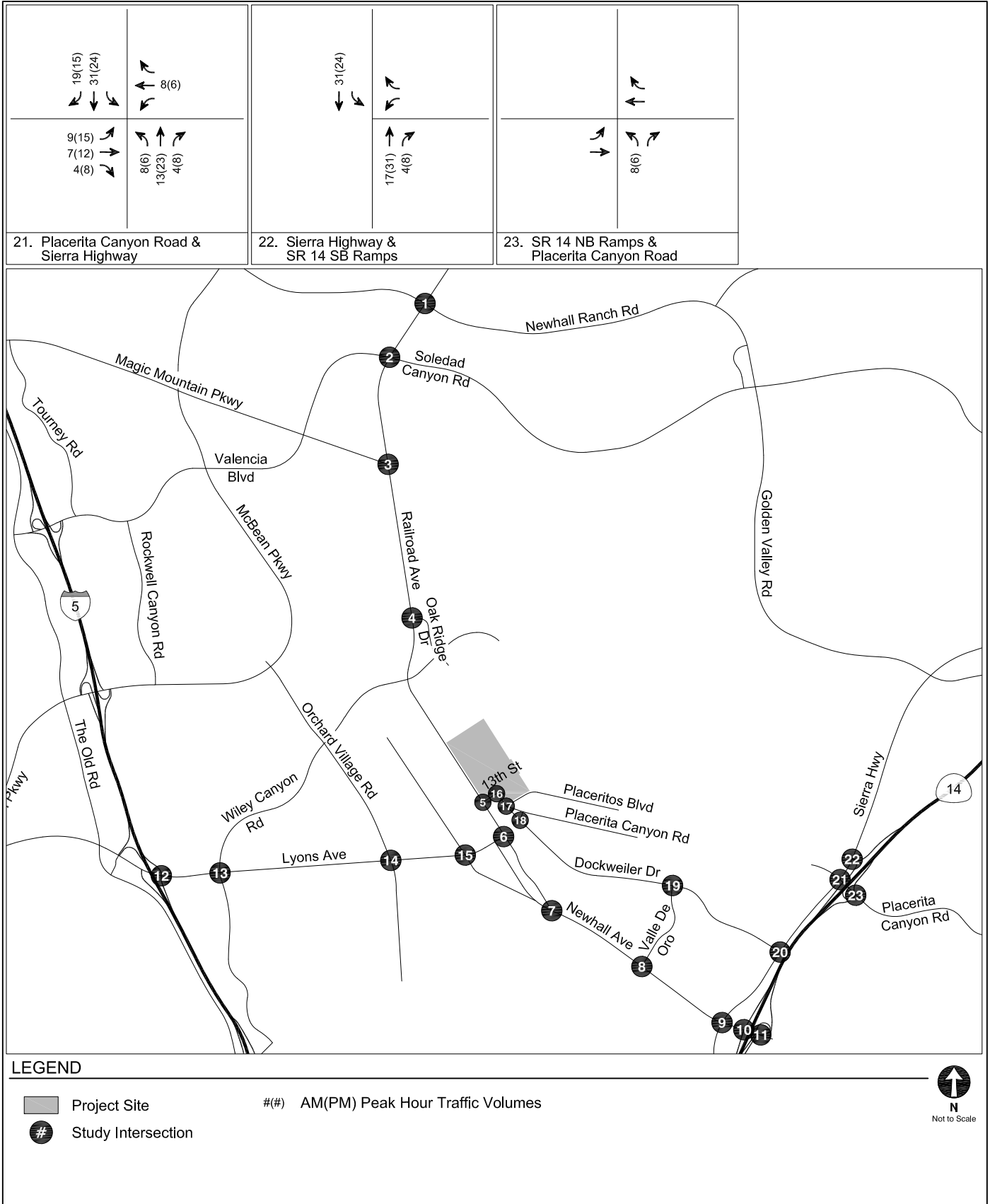
- Project Site
- Study Intersection

#(##) AM(PM) Peak Hour Traffic Volumes



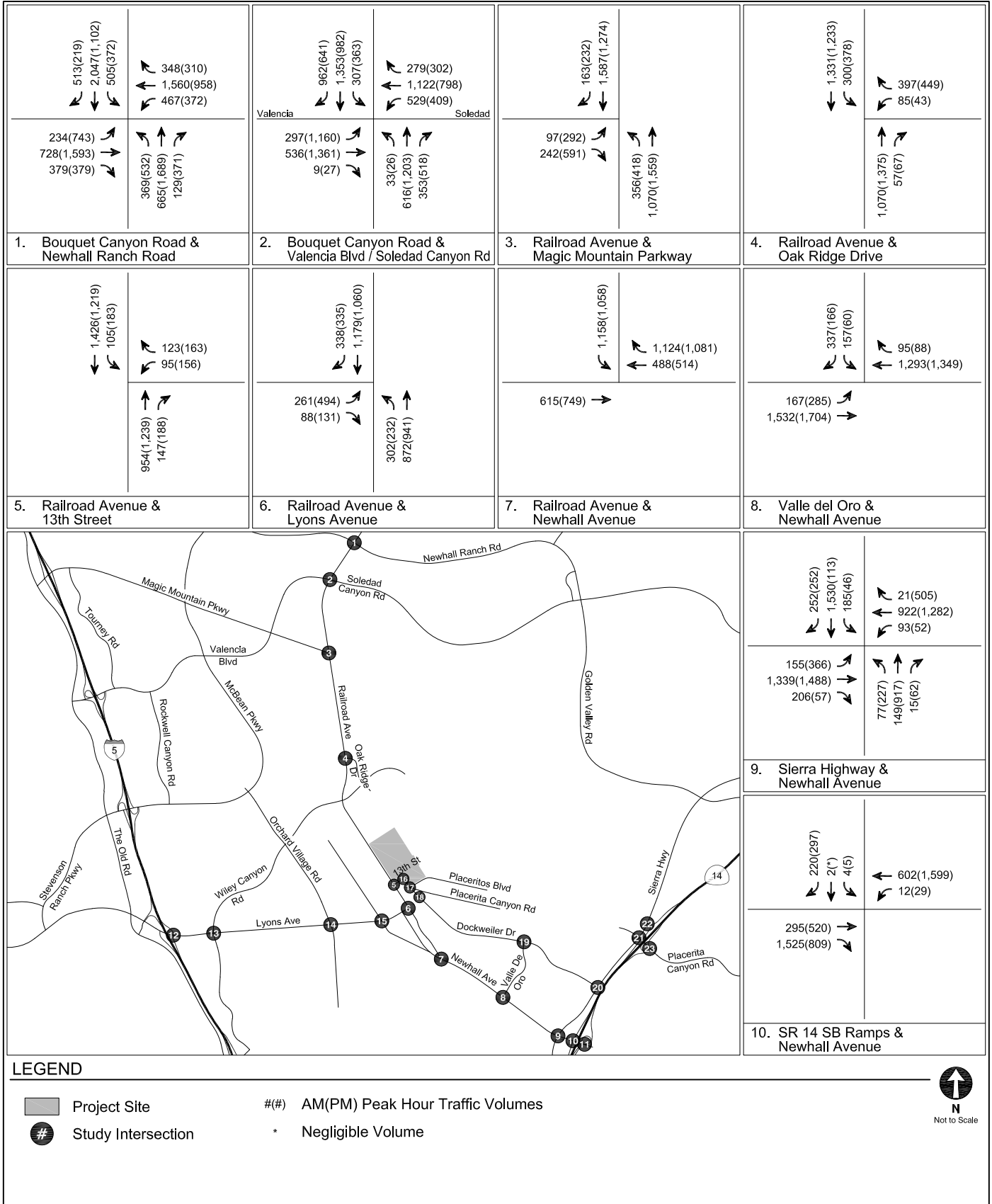
PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES WITH DDEP CONDITIONS

FIGURE 14 (CONT.)



**PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES
WITH DDEP CONDITIONS**

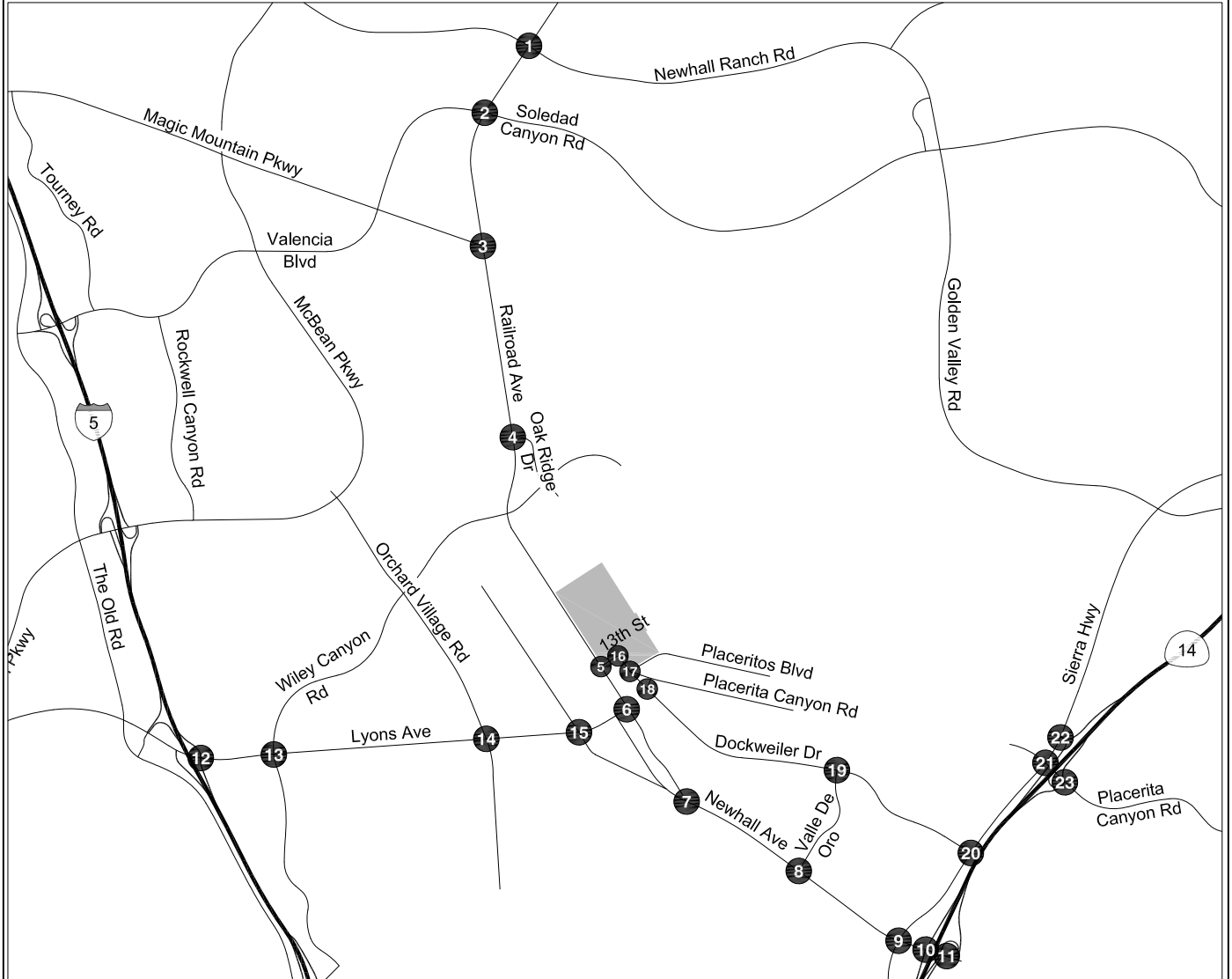
**FIGURE
14 (CONT.)**



EXISTING CONDITIONS (YEAR 2021)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
15

<table border="1"> <tr> <td> </td> <td> </td> </tr> <tr> <td colspan="2">21. Placerita Canyon Road & Sierra Highway</td> </tr> </table>			21. Placerita Canyon Road & Sierra Highway		<table border="1"> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td colspan="3">22. Sierra Highway & SR 14 SB Ramps</td> </tr> <tr> <td colspan="3">23. SR 14 NB Ramps & Placerita Canyon Road</td> </tr> </table>				22. Sierra Highway & SR 14 SB Ramps			23. SR 14 NB Ramps & Placerita Canyon Road		
21. Placerita Canyon Road & Sierra Highway														
22. Sierra Highway & SR 14 SB Ramps														
23. SR 14 NB Ramps & Placerita Canyon Road														



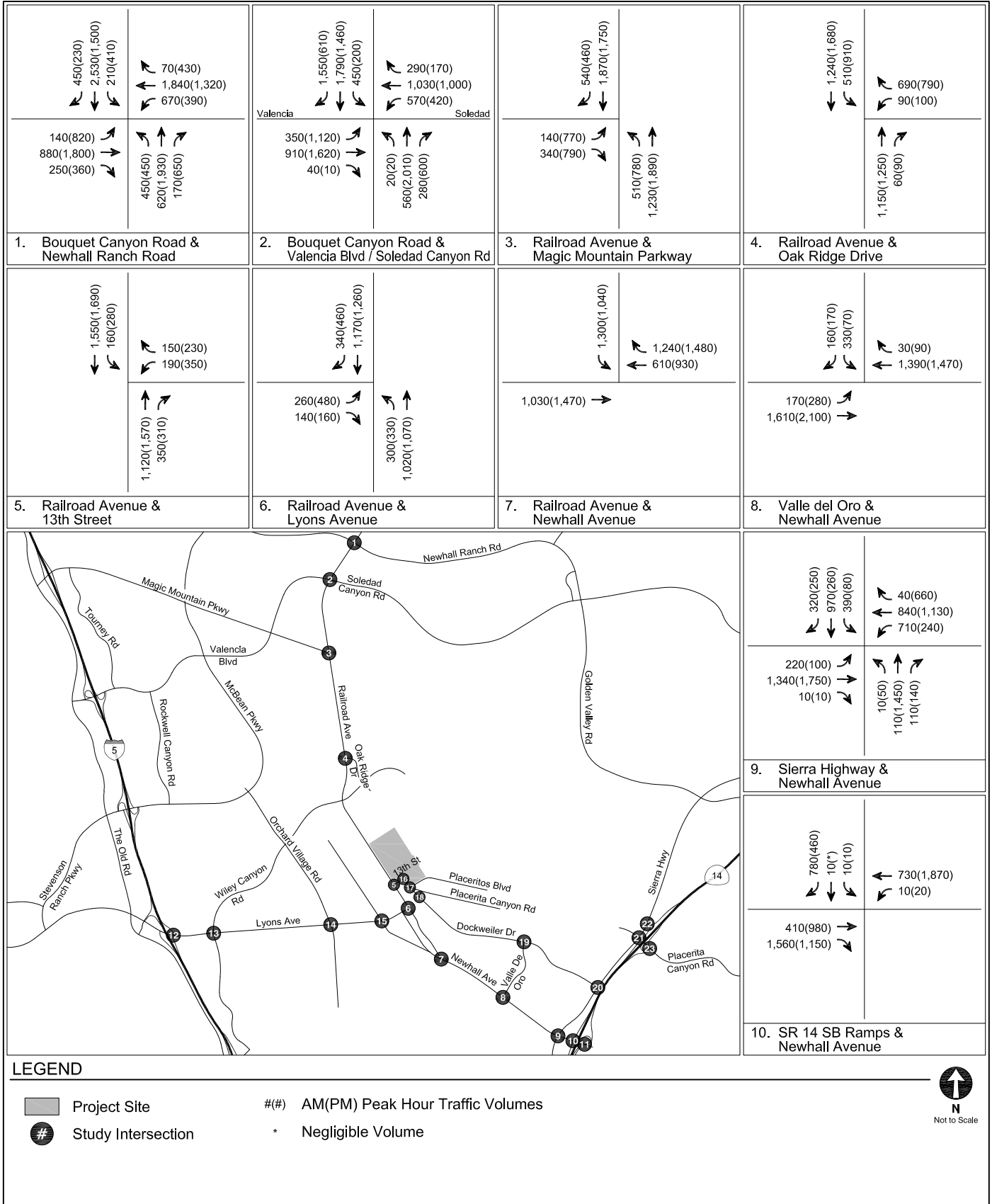
LEGEND

	Project Site		#(##) AM(PM) Peak Hour Traffic Volumes
	Study Intersection	*	Negligible Volume

N
 Not to Scale

EXISTING CONDITIONS (YEAR 2021)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
15 (CONT.)



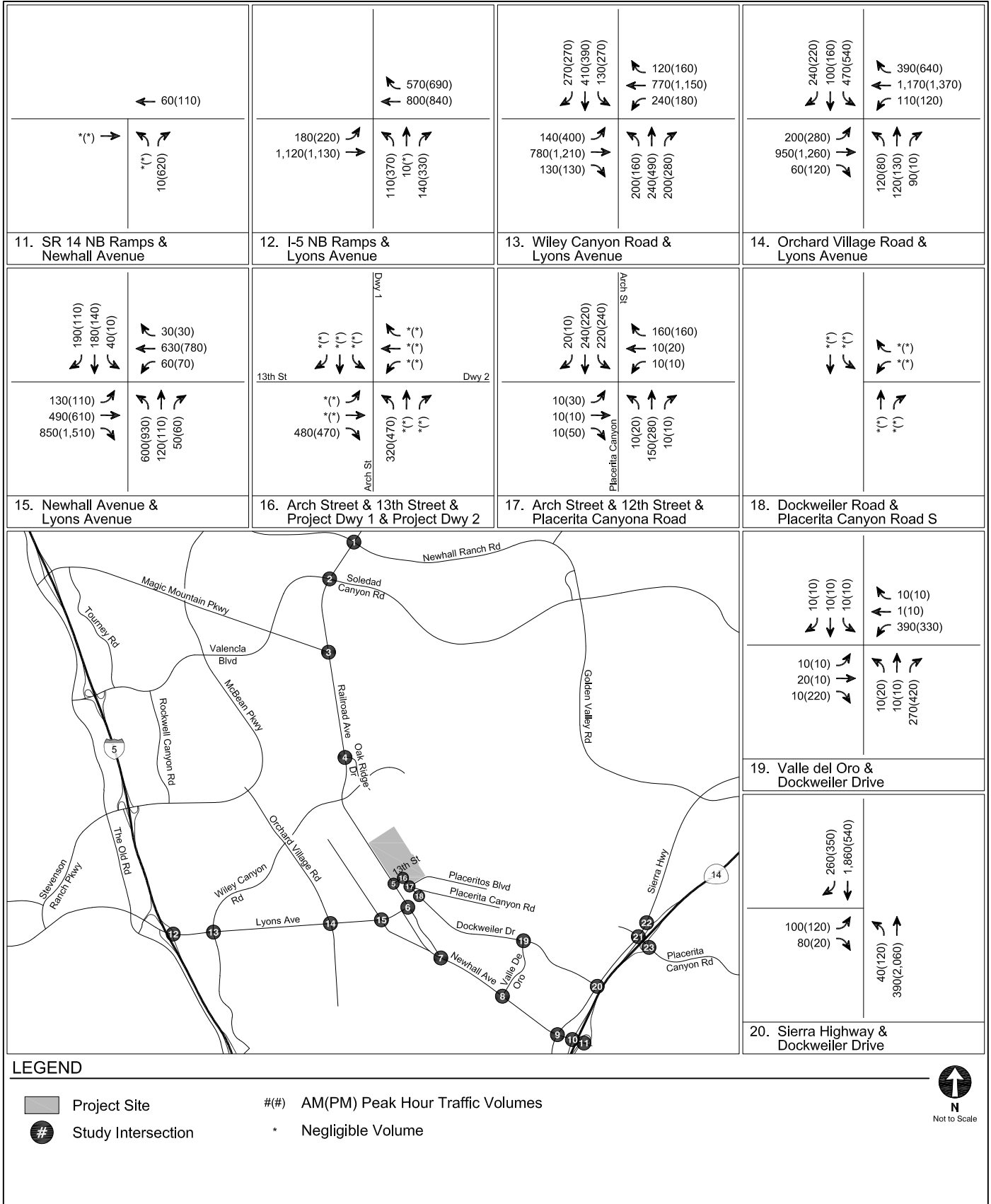
LEGEND

- Project Site
- Study Intersection
- #(#)** AM(PM) Peak Hour Traffic Volumes
- *** Negligible Volume



**FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2028) WITHOUT DDEP CONDITIONS
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE
16**



LEGEND

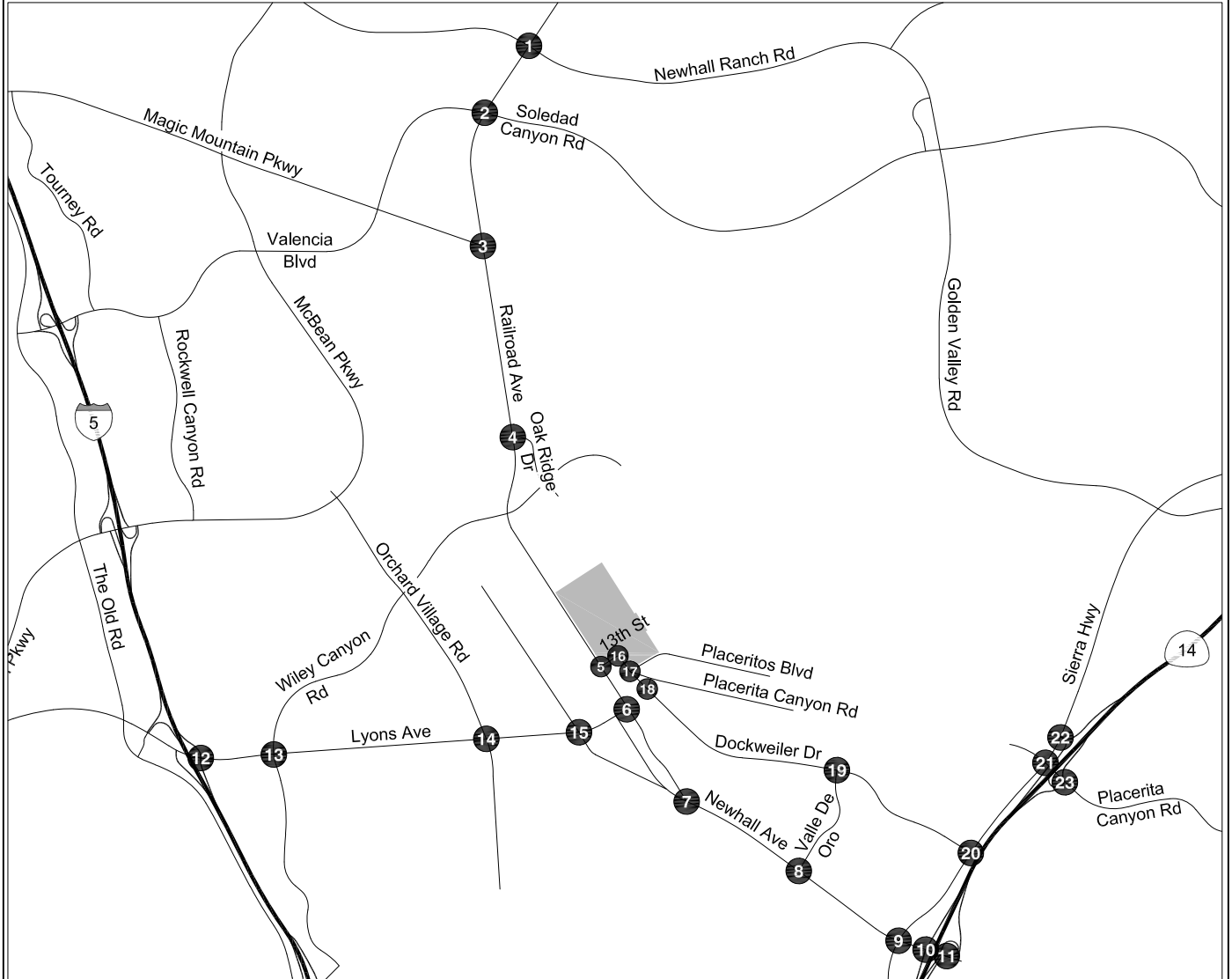
- Project Site
- Study Intersection
- #(#) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2028) WITHOUT DDEP CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

FIGURE
16 (CONT.)

21. Placerita Canyon Road & Sierra Highway	22. Sierra Highway & SR 14 SB Ramps	23. SR 14 NB Ramps & Placerita Canyon Road



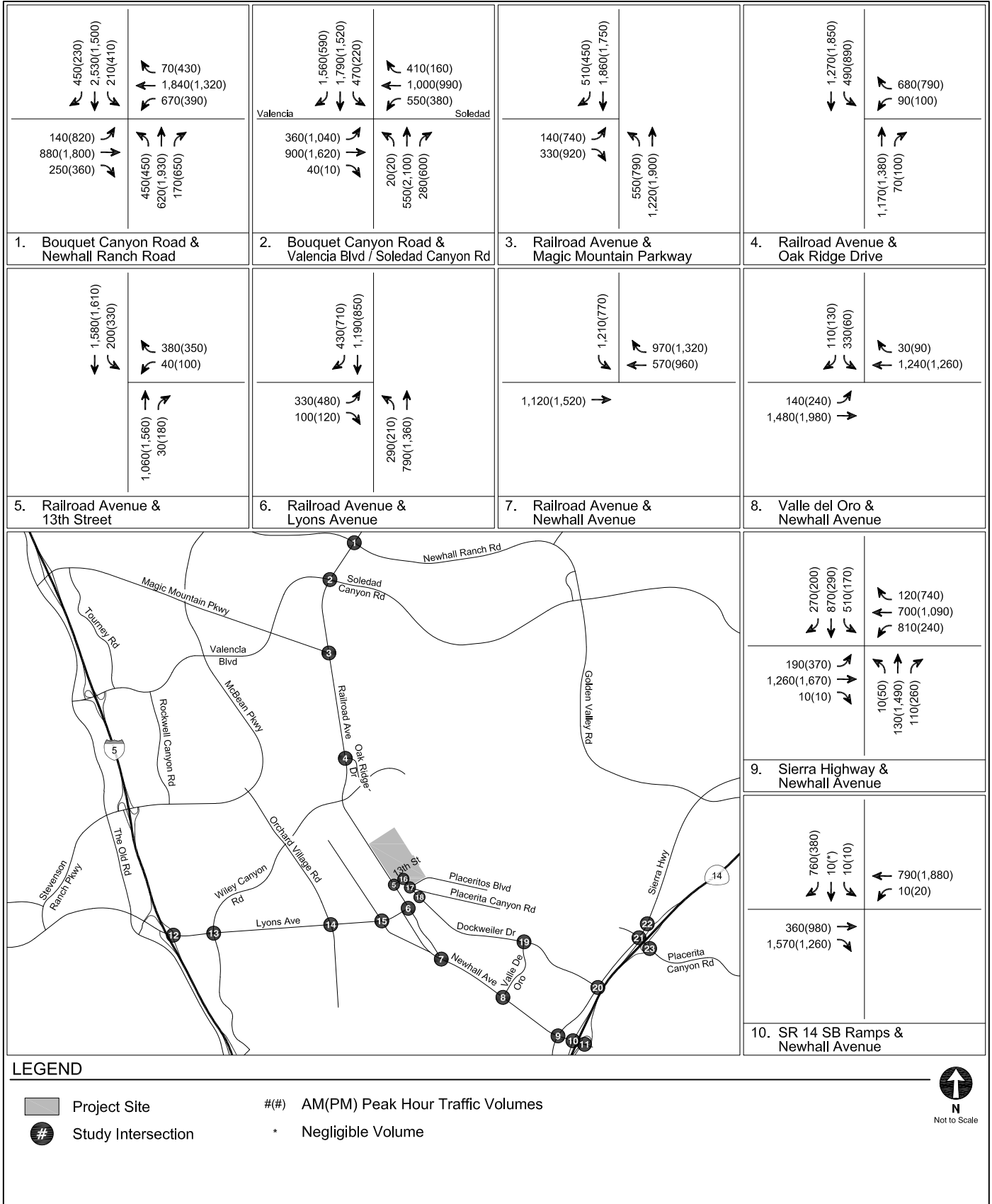
LEGEND

- Project Site
- Study Intersection
- #(##)** AM(PM) Peak Hour Traffic Volumes
- *** Negligible Volume



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2028) WITHOUT DDEP CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

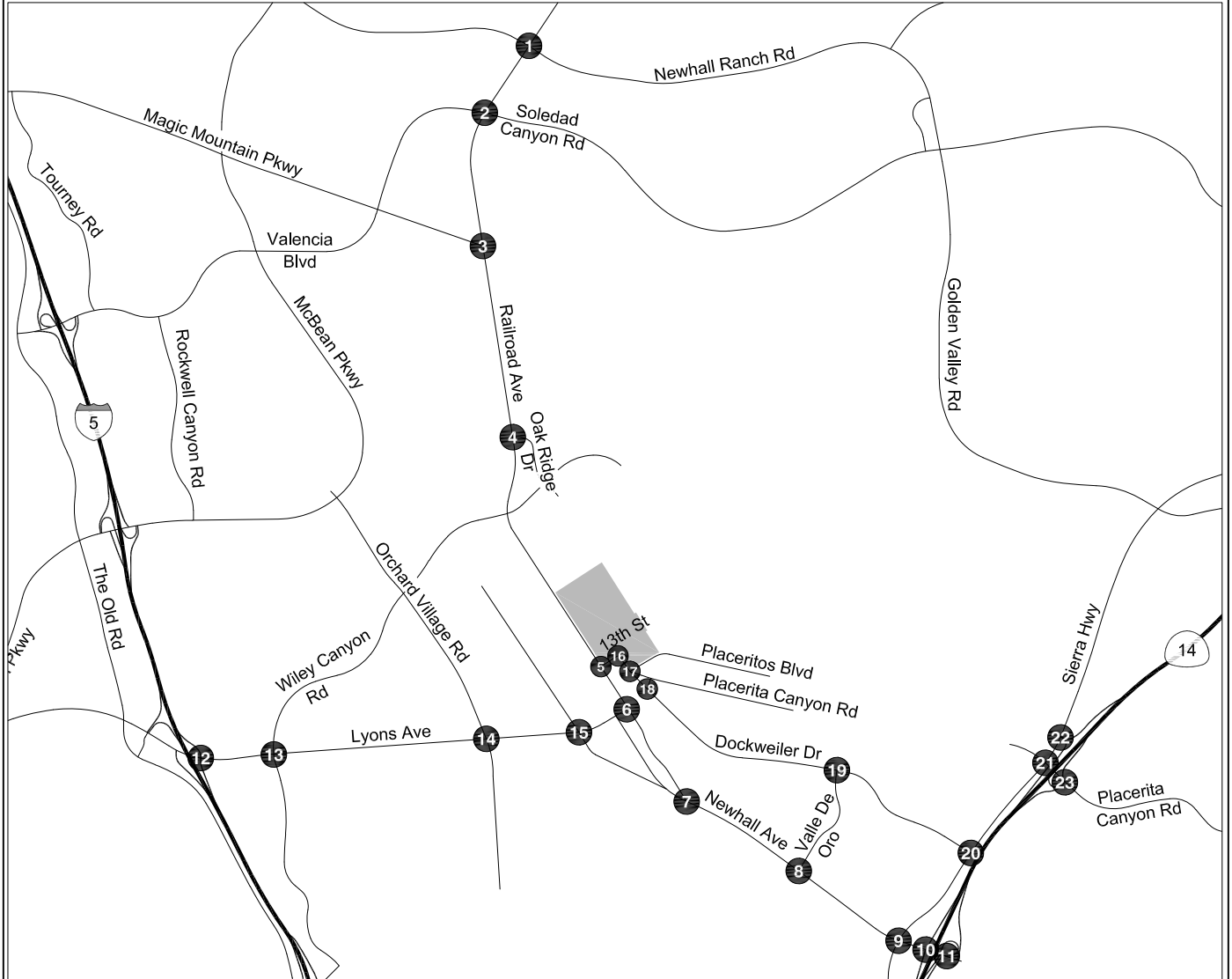
FIGURE
16 (CONT.)



FUTURE WITH PROJECT CONDITIONS (YEAR 2028) WITH DDEP CONDITIONS
PEAK HOUR TRAFFIC VOLUMES


FIGURE
17

<table border="1"> <tr> <td> 50(20) 1,560(940) 550(280) </td> <td> 680(560) 30(30) 380(90) </td> </tr> <tr> <td> 10(30) 40(50) 10(10) </td> <td> 20(10) 400(2,180) 210(890) </td> </tr> </table> <p>21. Placerita Canyon Road & Sierra Highway</p>	50(20) 1,560(940) 550(280)	680(560) 30(30) 380(90)	10(30) 40(50) 10(10)	20(10) 400(2,180) 210(890)	<table border="1"> <tr> <td> 2,200(1,010) 1,210(790) </td> <td> 40(40) 20(90) </td> </tr> <tr> <td> 890(2,830) 320(70) </td> <td> *(*) 790(330) </td> </tr> </table> <p>22. Sierra Highway & SR 14 SB Ramps</p>	2,200(1,010) 1,210(790)	40(40) 20(90)	890(2,830) 320(70)	*(*) 790(330)	<table border="1"> <tr> <td> *(*) 220(290) </td> <td> 440(230) 100(190) </td> </tr> </table> <p>23. SR 14 NB Ramps & Placerita Canyon Road</p>	*(*) 220(290)	440(230) 100(190)
50(20) 1,560(940) 550(280)	680(560) 30(30) 380(90)											
10(30) 40(50) 10(10)	20(10) 400(2,180) 210(890)											
2,200(1,010) 1,210(790)	40(40) 20(90)											
890(2,830) 320(70)	*(*) 790(330)											
() 220(290)	440(230) 100(190)											



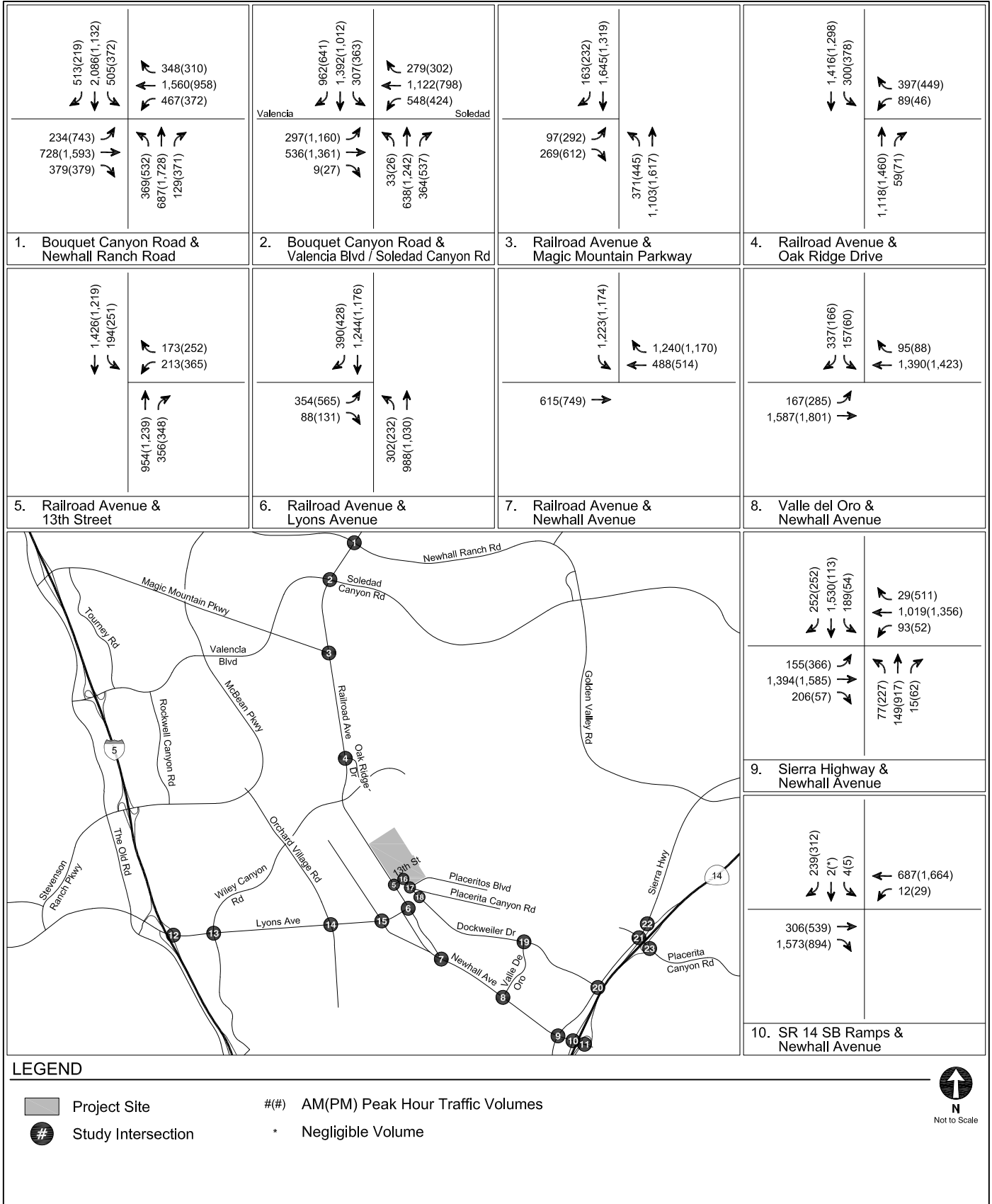
LEGEND

- Project Site
- Study Intersection
- #(#) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume


 N
 Not to Scale

FUTURE WITH PROJECT CONDITIONS (YEAR 2028) WITH DDEP CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

FIGURE 17 (CONT.)



LEGEND

Project Site

#(##) AM(PM) Peak Hour Traffic Volumes

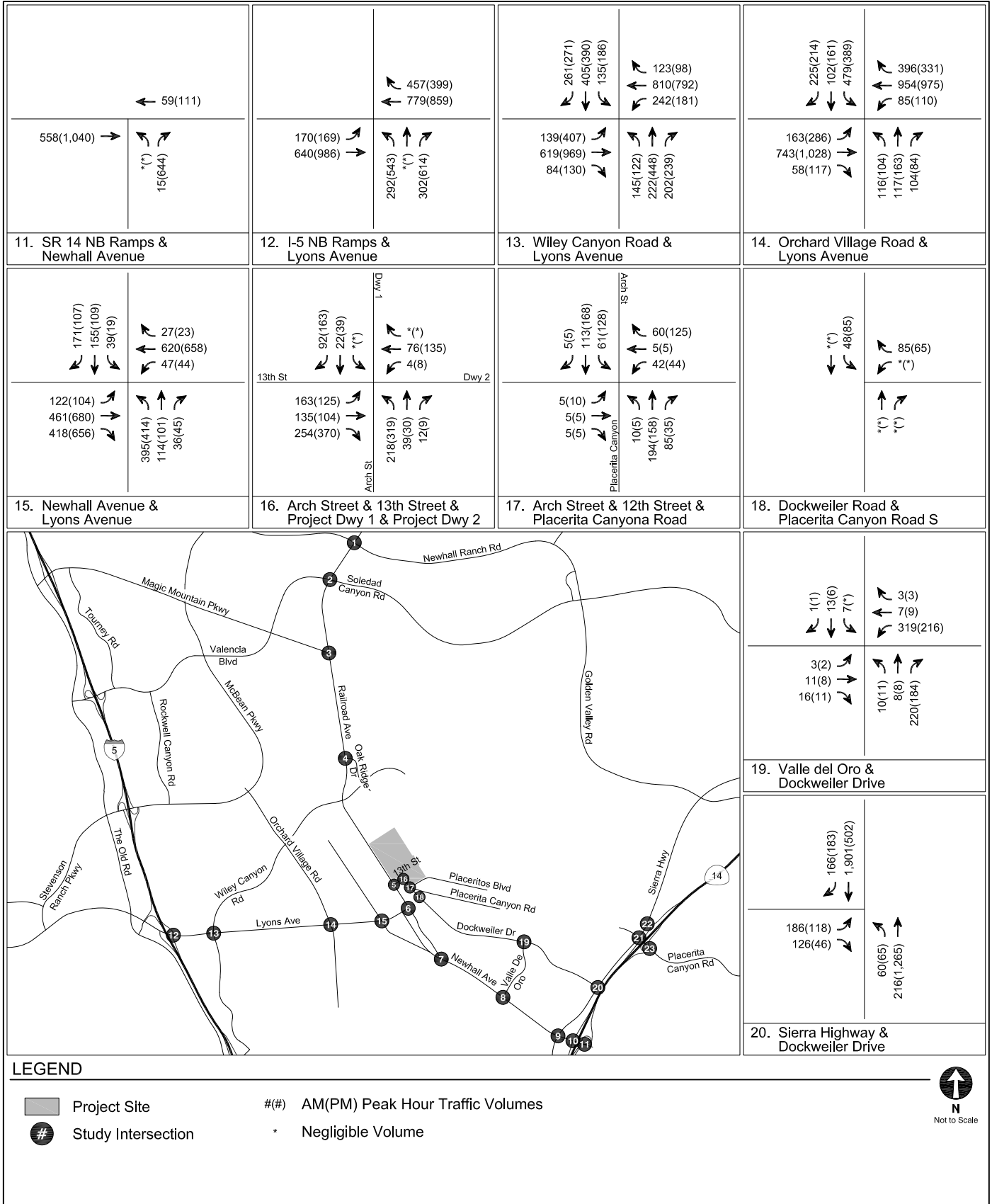
Study Intersection

* Negligible Volume



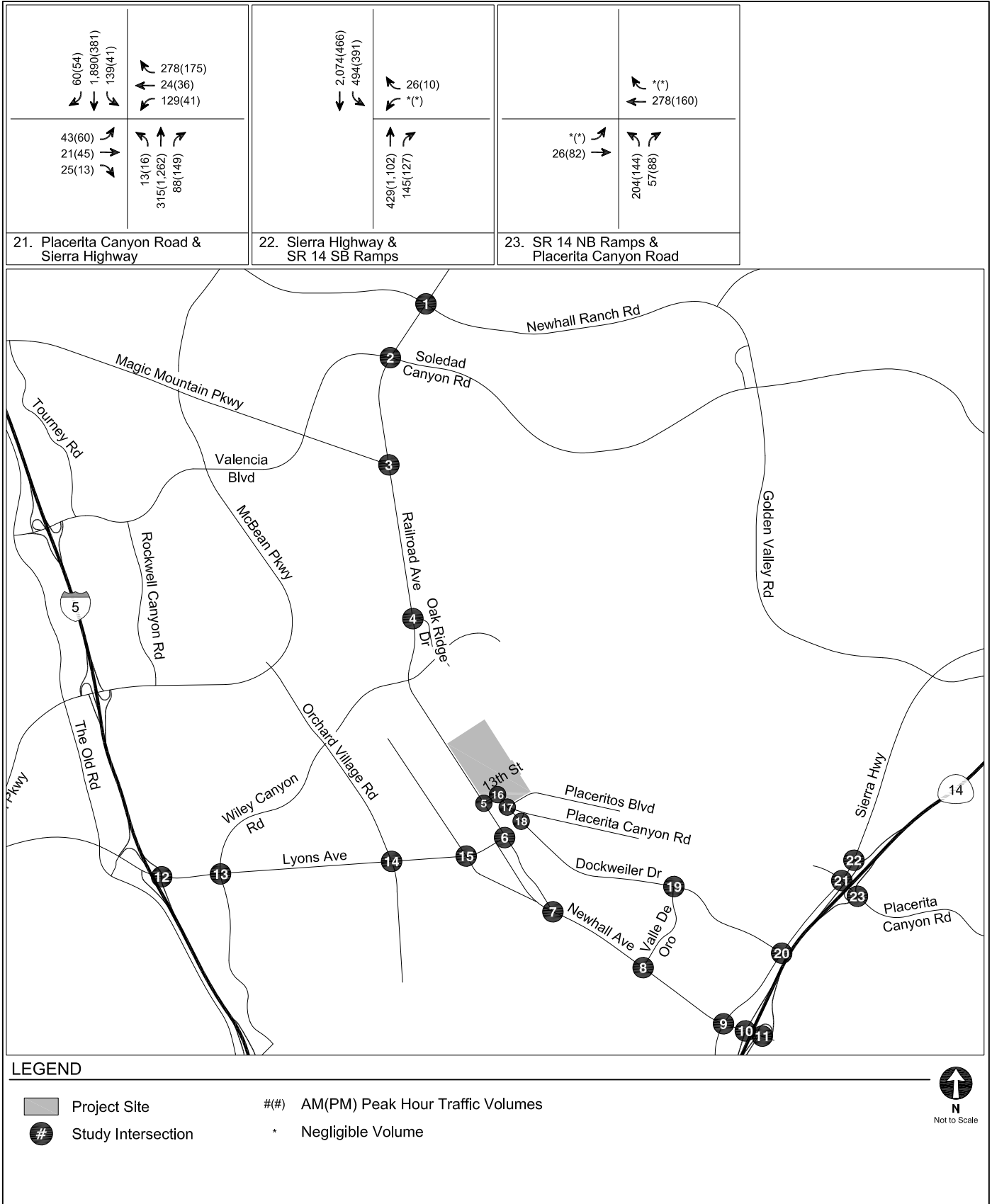
**EXISTING WITH PROJECT CONDITIONS (YEAR 2021)
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE
18**



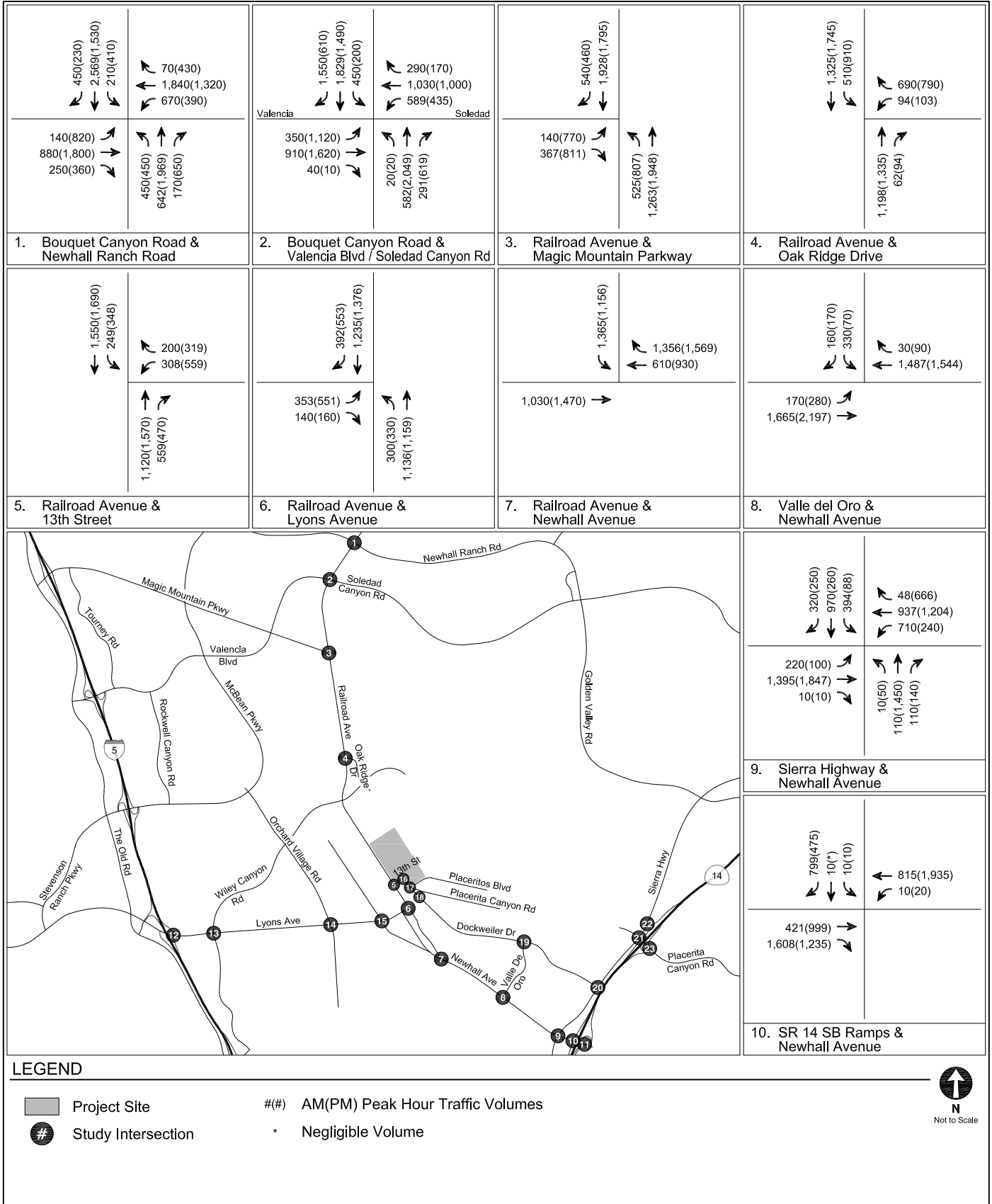
EXISTING WITH PROJECT CONDITIONS (YEAR 2021)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
18 (CONT.)



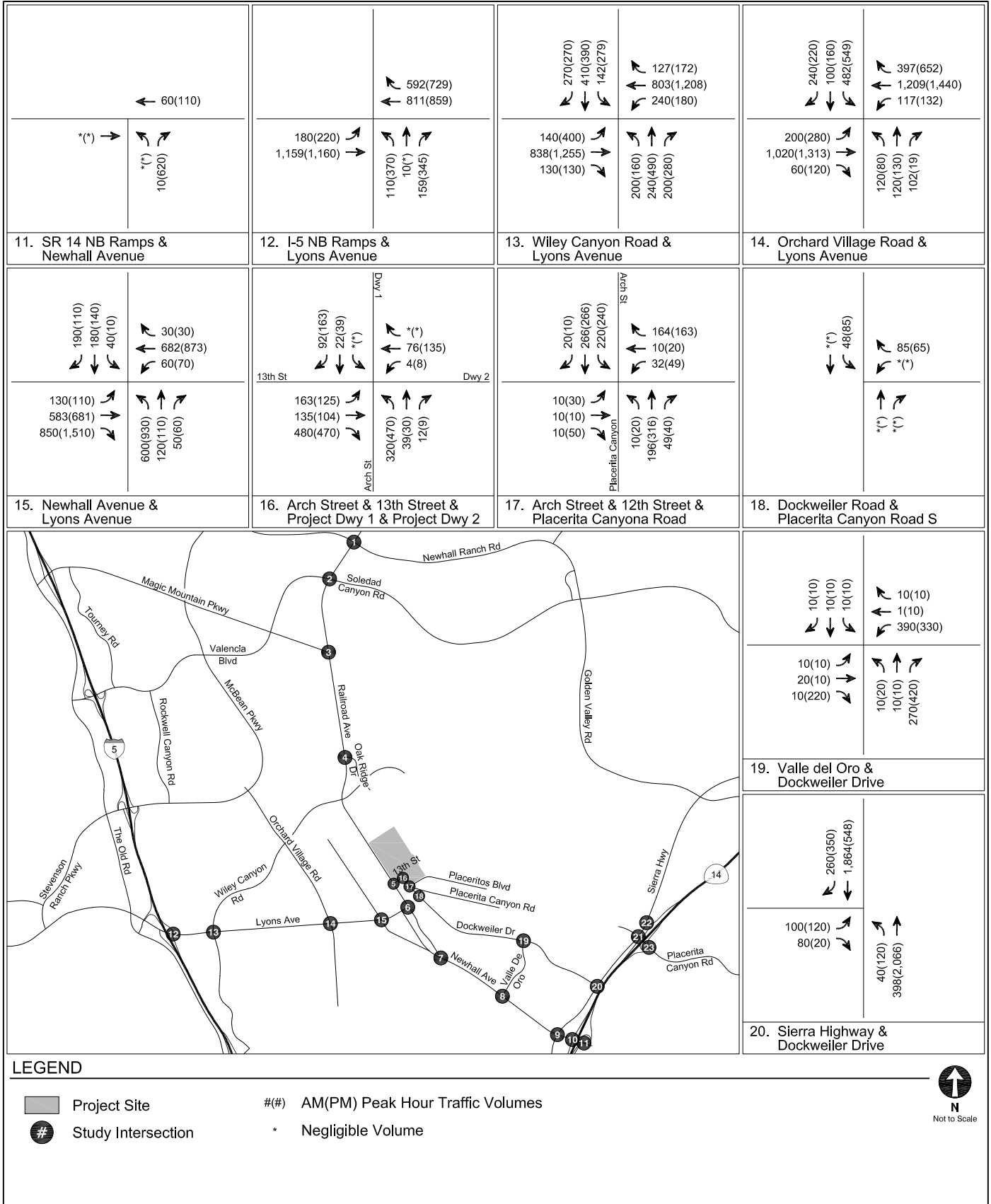
**EXISTING WITH PROJECT CONDITIONS (YEAR 2021)
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE
18 (CONT.)**



FUTURE WITH PROJECT CONDITIONS (YEAR 2028) WITHOUT DDEP CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

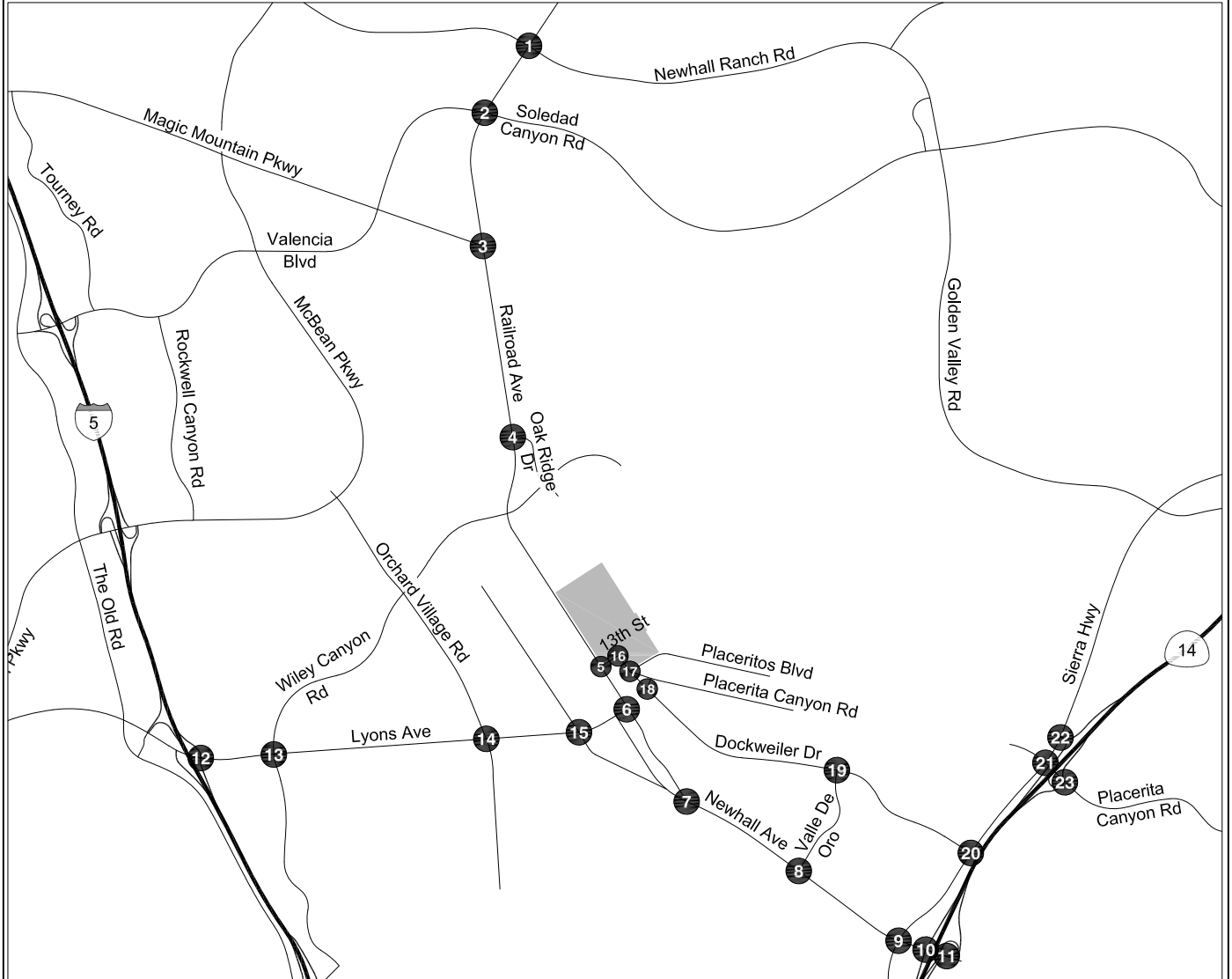
FIGURE
19



FUTURE WITH PROJECT CONDITIONS (YEAR 2028) WITHOUT DDEP CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

FIGURE
19 (CONT.)

<table border="1"> <tr> <td> <p>90(68) 1,440(790) 550(290)</p> <p>680(650) 49(45) 360(80)</p> </td> <td> <p>2,131(924) 1,250(800)</p> <p>30(40) 29(55)</p> </td> <td> <p>*(*) 790(330)</p> </td> </tr> <tr> <td> <p>38(80) 51(69) 14(18)</p> <p>18(16) 380(2,200) 130(400)</p> </td> <td> <p>907(2,971) 291(79)</p> </td> <td> <p>220(290)</p> <p>459(245) 100(190)</p> </td> </tr> </table>	<p>90(68) 1,440(790) 550(290)</p> <p>680(650) 49(45) 360(80)</p>	<p>2,131(924) 1,250(800)</p> <p>30(40) 29(55)</p>	<p>*(*) 790(330)</p>	<p>38(80) 51(69) 14(18)</p> <p>18(16) 380(2,200) 130(400)</p>	<p>907(2,971) 291(79)</p>	<p>220(290)</p> <p>459(245) 100(190)</p>	<p>21. Placerita Canyon Road & Sierra Highway</p>	<p>22. Sierra Highway & SR 14 SB Ramps</p>	<p>23. SR 14 NB Ramps & Placerita Canyon Road</p>
<p>90(68) 1,440(790) 550(290)</p> <p>680(650) 49(45) 360(80)</p>	<p>2,131(924) 1,250(800)</p> <p>30(40) 29(55)</p>	<p>*(*) 790(330)</p>							
<p>38(80) 51(69) 14(18)</p> <p>18(16) 380(2,200) 130(400)</p>	<p>907(2,971) 291(79)</p>	<p>220(290)</p> <p>459(245) 100(190)</p>							



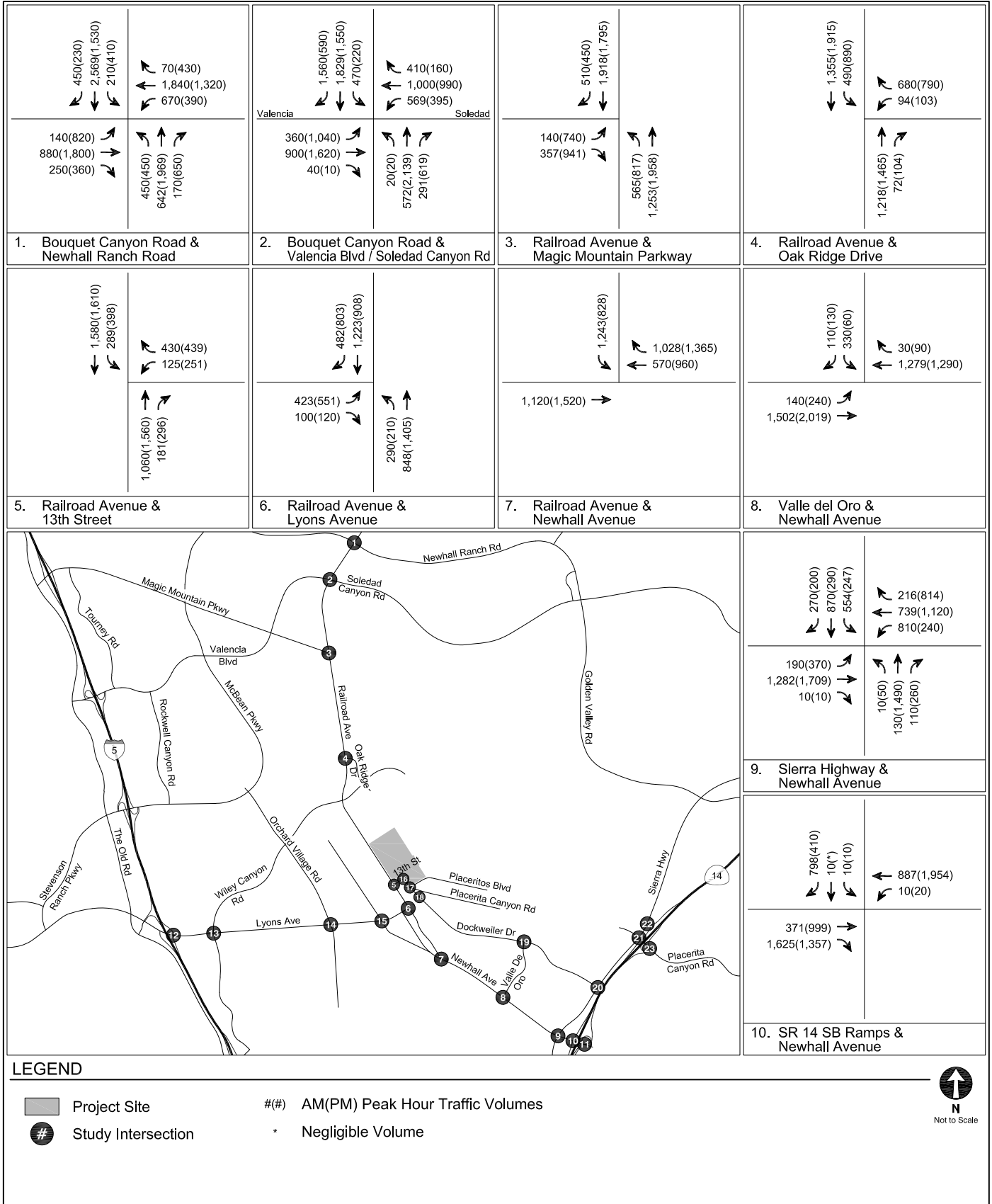
LEGEND

	Project Site	#(##)	AM(PM) Peak Hour Traffic Volumes
	Study Intersection	*	Negligible Volume

N
 Not to Scale

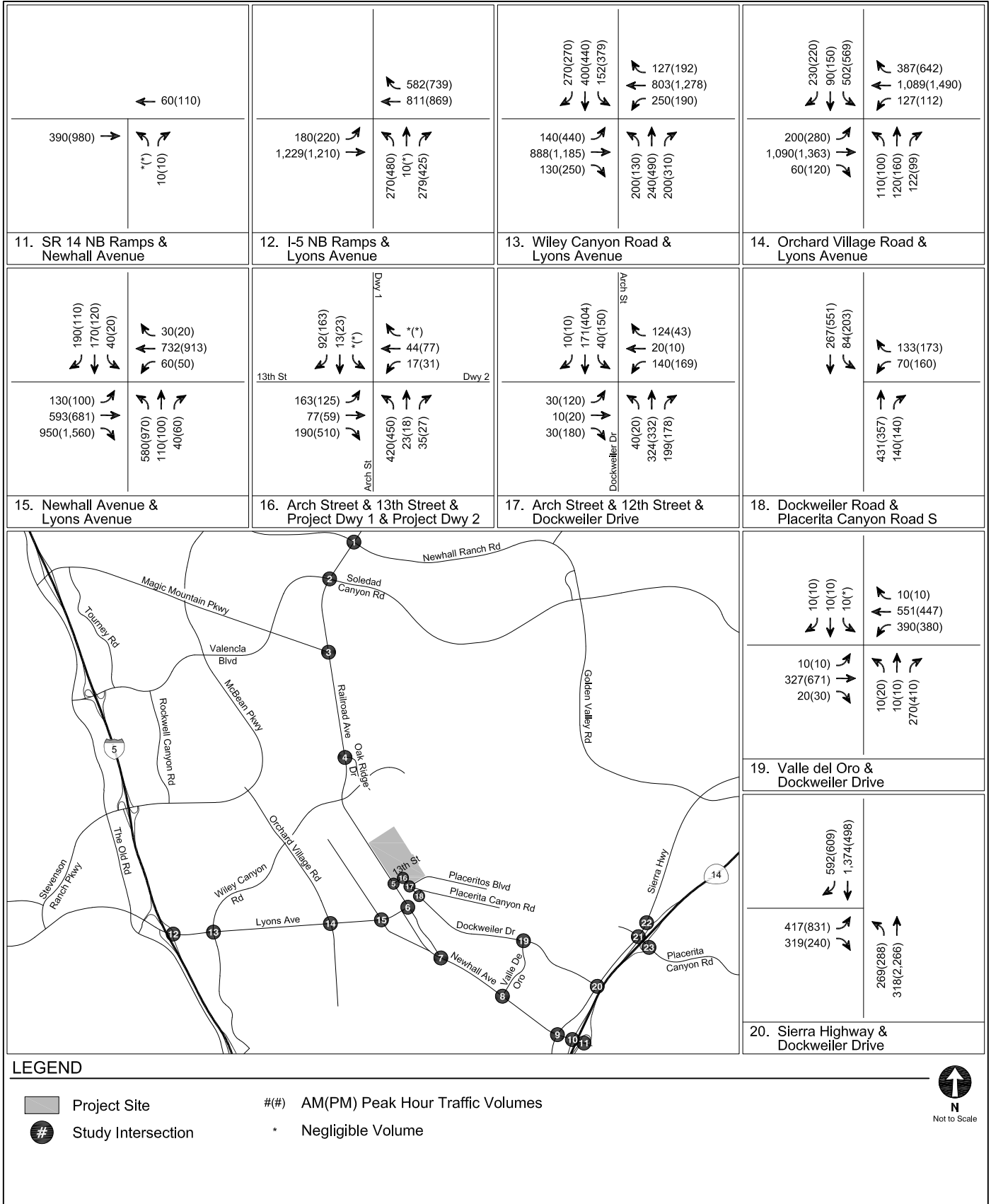
FUTURE WITH PROJECT CONDITIONS (YEAR 2028) WITHOUT DDEP CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

FIGURE 19 (CONT.)



FUTURE WITH PROJECT CONDITIONS (YEAR 2028) WITH DDEP CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

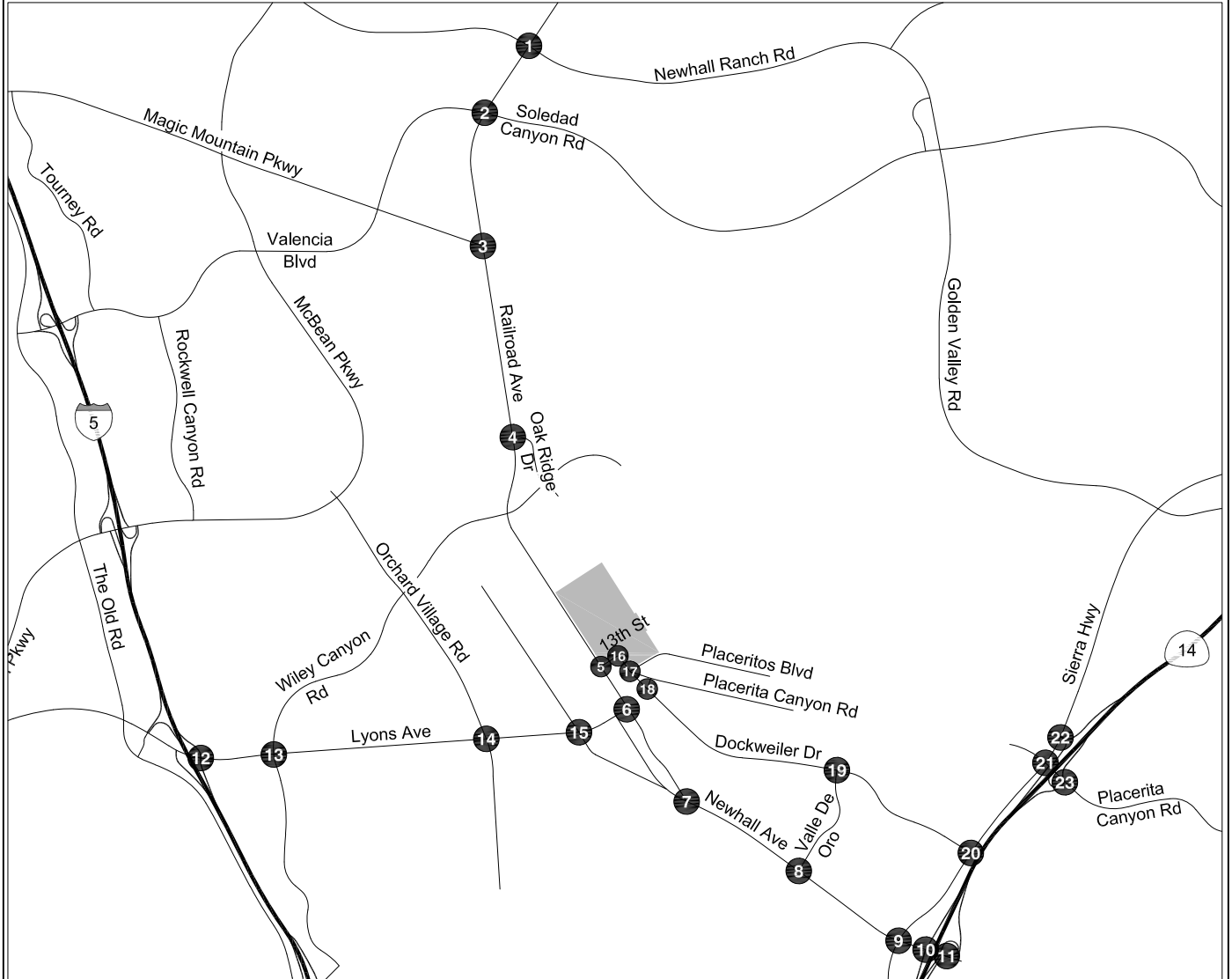
FIGURE
20



FUTURE WITH PROJECT CONDITIONS (YEAR 2028) WITH DDEP CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

FIGURE
20 (CONT.)

21. Placerita Canyon Road & Sierra Highway	22. Sierra Highway & SR 14 SB Ramps	23. SR 14 NB Ramps & Placerita Canyon Road



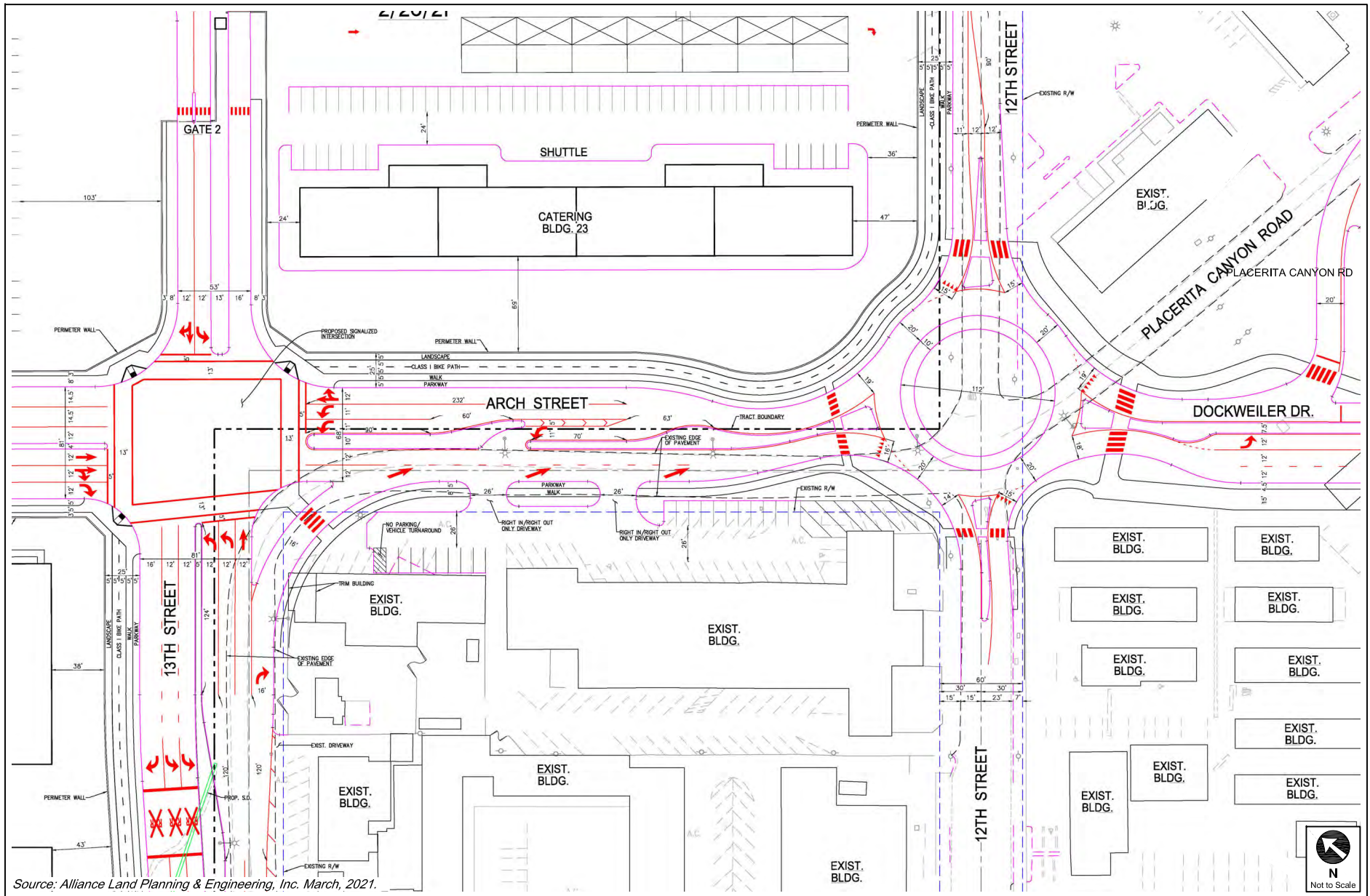
LEGEND

- Project Site
- Study Intersection
- #(##)** AM(PM) Peak Hour Traffic Volumes
- *** Negligible Volume



FUTURE WITH PROJECT CONDITIONS (YEAR 2028) WITH DDEP CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

FIGURE
20 (CONT.)



ROADWAY CONFIGURATION CONCEPT
ROUNDBOUT ALTERNATIVE

FIGURE
21

**TABLE 13
INTERSECTIONS PROPOSED FOR ANALYSIS**

No.	N/S Street	E/W Street	Type
1	Bouquet Canyon Road	Newhal Ranch Road	Signalized
2	Bouquet Canyon Road	Valencia Boulevard/Soledad Canyon Road	Signalized
3	Railroad Avenue / Bouquet Canyon Road	Magic Mountain Parkway	Signalized
4	Railroad Avenue	Oak Ridge Drive	Signalized
5	Railroad Avenue	13th Street	Signalized
6	Railroad Avenue	Lyons Avenue	Signalized
7	Railroad Avenue	Newhall Avenue	Signalized
8	Valle Del Oro	Newhall Avenue	Signalized
9	Sierra Highway	Newhall Avenue	Signalized
10	SR 14 Southbound Ramp	Newhall Avenue	2-way Stop
11	SR 14 Northbound Ramp	Newhall Avenue	2-way Stop
12	I-5 Northbound Ramps	Lyons Avenue	Signalized
13	Wiley Canyon Road	Lyons Avenue	Signalized
14	Valley Street/Orchard Village Road	Lyons Avenue	Signalized
15	Newhall Avenue	Lyons Avenue	Signalized
16	Arch Street/13th Street Driveway 2	13th Street/13th Street Driveway 1	Signalized
17	Placerita Canyon Road/Arch Street	12th Street	2-way Stop
18	Dockweiler Drive	Placerita Canyon Road	Proposed [a]
19	Valle Del Oro	Dockweiler Drive	Signalized
20	Sierra Highway	Dockweiler Drive	Signalized
21	Sierra Highway	Placerita Canyon Road	Signalized
22	Sierra Highway	SR 14 Southbound Ramps	2-way Stop
23	SR 14 Northbound Ramps	Placerita Canyon Road	2-way Stop

Notes:

[a] A signalized intersection is proposed as part of the Dockweiler Extension.

**TABLE 14
INTERSECTION LEVEL OF SERVICE DEFINITIONS**

Level of Service	Description	Seconds of Delay	
		Signalized Intersections	Unsignalized Intersections
A	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.	≤ 10	≤ 10
B	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.	> 10 and ≤ 20	> 10 and ≤ 15
C	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	> 20 and ≤ 35	> 15 and ≤ 25
D	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.	> 35 and ≤ 55	> 25 and ≤ 35
E	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	> 55 and ≤ 80	> 35 and ≤ 50
F	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.	> 80	> 50

Notes:

Source: *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016).

**TABLE 15
EXISTING CONDITIONS (YEAR 2021)
INTERSECTION LEVELS OF SERVICE**

No.	Intersection	Peak Hour	Existing Conditions	
			Delay	LOS
1.	Bouquet Canyon Road & Newhall Ranch Road	A.M.	48.2	D
		P.M.	50.7	D
2.	Bouquet Canyon Road & Valencia Boulevard/Soledad Canyon Road	A.M.	30.0	C
		P.M.	46.4	D
3.	Railroad Avenue/Bouquet Canyon Road & Magic Mountain Parkway	A.M.	28.7	C
		P.M.	25.9	C
4.	Railroad Avenue & Oak Ridge Drive	A.M.	13.0	B
		P.M.	12.6	B
5.	Railroad Avenue & 13th Street	A.M.	21.9	C
		P.M.	23.9	C
6.	Railroad Avenue & Lyons Avenue	A.M.	21.2	C
		P.M.	28.5	C
7.	Railroad Avenue & Newhall Avenue	A.M.	10.5	B
		P.M.	15.4	B
8.	Valle Del Oro & Newhall Avenue	A.M.	12.6	B
		P.M.	9.8	A
9.	Sierra Highway & Newhall Avenue	A.M.	57.7	E
		P.M.	40.3	D
10. [a]	SR 14 Southbound Ramp & Newhall Avenue	A.M.	0.1	A
		P.M.	0.3	A
11. [a]	SR 14 Northbound Ramp & Newhall Avenue	A.M.	0.2	A
		P.M.	91.7	F
12.	I-5 Northbound Ramps & Lyons Avenue	A.M.	23.2	C
		P.M.	33.9	C

Notes:

Intersections are signalized except as otherwise noted.

[a] Intersection is 2-way stop-controlled

[b] Future intersection to be constructed by the Project.

[c] Intersection would be constructed as part of the Dockweiler Extension

TABLE 15 (CONTINUED)
EXISTING CONDITIONS (YEAR 2021)
INTERSECTION LEVELS OF SERVICE

No.	Intersection	Peak Hour	Existing Conditions	
			Delay	LOS
13.	Wiley Canyon Road & Lyons Avenue	A.M. P.M.	35.5 42.4	D D
14.	Valley Street/Orchard Village Road & Lyons Avenue	A.M. P.M.	36.3 39.3	D D
15.	Newhall Avenue & Lyons Avenue	A.M. P.M.	36.1 33.1	D C
16. [b]	Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2	A.M. P.M.	New Intersection	
17. [a]	Arch Street & 12th Street & Placerita Canyon Road	A.M. P.M.	3.4 4.9	A A
18. [c]	Dockweiler Drive & Placerita Canyon Road	A.M. P.M.	New Intersection	
19. [a]	Valle Del Oro & Dockweiler Drive	A.M. P.M.	9.1 8.3	A A
20.	Sierra Highway & Dockweiler Drive	A.M. P.M.	58.6 8.1	E A
21.	Sierra Highway & Placerita Canyon Road	A.M. P.M.	17.9 16.0	B B
22. [a]	Sierra Highway & SR 14 Southbound Ramps	A.M. P.M.	2.2 6.4	A A
23. [a]	SR 14 Northbound Ramps & Placerita Canyon Road	A.M. P.M.	4.7 4.7	A A

Notes:

- Intersections are signalized except as otherwise noted.
- [a] Intersection is 2-way stop-controlled
- [b] Future intersection to be constructed by the Project.
- [c] Intersection would be constructed as part of the Dockweiler Extension

TABLE 16
EXISTING CONDITIONS WITHOUT RAILROAD CROSSING UPGRADE (YEAR 2021)
INTERSECTION LEVELS OF SERVICE

No.	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions			
			Delay	LOS	Delay	LOS	Δ Delay	Impact
1.	Bouquet Canyon Road & Newhall Ranch Road	A.M.	48.2	D	48.8	D	0.6	No
		P.M.	50.7	D	50.6	D	-0.1	No
2.	Bouquet Canyon Road & Valencia Boulevard/Soledad Canyon Road	A.M.	30.0	C	29.9	C	-0.1	No
		P.M.	46.4	D	46.7	D	0.3	No
3.	Railroad Avenue/Bouquet Canyon Road & Magic Mountain Parkway	A.M.	28.7	C	31.8	C	3.1	No
		P.M.	25.9	C	25.4	C	-0.5	No
4.	Railroad Avenue & Oak Ridge Drive	A.M.	13.0	B	12.9	B	-0.1	No
		P.M.	12.6	B	13.7	B	1.1	No
5.	Railroad Avenue & 13th Street	A.M.	21.9	C	28.0	C	6.1	No
		P.M.	23.9	C	52.3	D	28.4	Yes
6.	Railroad Avenue & Lyons Avenue	A.M.	21.2	C	24.9	C	3.7	No
		P.M.	28.5	C	30.2	C	1.7	No
7.	Railroad Avenue & Newhall Avenue	A.M.	10.5	B	10.5	B	0.0	No
		P.M.	15.4	B	25.0	C	9.6	No
8.	Valle Del Oro & Newhall Avenue	A.M.	12.6	B	12.2	B	-0.4	No
		P.M.	9.8	A	9.6	A	-0.2	No
9.	Sierra Highway & Newhall Avenue	A.M.	57.7	E	57.2	E	-0.5	No
		P.M.	40.3	D	41.0	D	0.7	No
10. [a]	SR 14 Southbound Ramp & Newhall Avenue	A.M.	0.1	A	0.1	A	0.0	No
		P.M.	0.3	A	0.3	A	0.0	No
11. [a]	SR 14 Northbound Ramp & Newhall Avenue	A.M.	0.2	A	0.2	A	0.0	No
		P.M.	91.7	F	91.7	F	0.0	No
12.	I-5 Northbound Ramps & Lyons Avenue	A.M.	23.2	C	23.4	C	0.2	No
		P.M.	33.9	C	34.8	C	0.9	No

Notes:

Intersections are signalized except as otherwise noted.

[a] Intersection is 2-way stop-controlled

[b] Future intersection to be constructed by the Project.

[c] Intersection would be constructed as part of the Dockweiler Extension

TABLE 16 (CONTINUED)
EXISTING CONDITIONS WITHOUT RAILROAD CROSSING UPGRADE (YEAR 2021)
INTERSECTION LEVELS OF SERVICE

No.	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions			
			Delay	LOS	Delay	LOS	Δ Delay	Impact
13.	Wiley Canyon Road & Lyons Avenue	A.M.	35.5	D	35.4	D	-0.1	No
		P.M.	42.4	D	43.0	D	0.6	No
14.	Valley Street/Orchard Village Road & Lyons Avenue	A.M.	36.3	D	36.9	D	0.6	No
		P.M.	39.3	D	40.0	D	0.7	No
15.	Newhall Avenue & Lyons Avenue	A.M.	36.1	D	37.4	D	1.3	No
		P.M.	33.1	C	33.8	C	0.7	No
16. [b]	Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2	A.M.	New Intersection		39.9	D	N/A	No
		P.M.			50.7	D	N/A	No
17. [a]	Arch Street & 12th Street & Placerita Canyon Road	A.M.	3.4	A	3.2	A	-0.2	No
		P.M.	4.9	A	4.6	A	-0.3	No
18. [c]	Dockweiler Drive & Placerita Canyon Road	A.M. P.M.	New Intersection					
19. [a]	Valle Del Oro & Dockweiler Drive	A.M.	9.1	A	9.1	A	0.0	No
		P.M.	8.3	A	8.3	A	0.0	No
20.	Sierra Highway & Dockweiler Drive	A.M.	58.6	E	59.7	E	1.1	No
		P.M.	8.1	A	8.0	A	-0.1	No
21.	Sierra Highway & Placerita Canyon Road	A.M.	17.9	B	20.4	C	2.5	No
		P.M.	16.0	B	18.0	B	2.0	No
22. [a]	Sierra Highway & SR 14 Southbound Ramps	A.M.	2.2	A	2.2	A	0.0	No
		P.M.	6.4	A	7.1	A	0.7	No
23. [a]	SR 14 Northbound Ramps & Placerita Canyon Road	A.M.	4.7	A	4.9	A	0.2	No
		P.M.	4.7	A	4.9	A	0.2	No

Notes:

Intersections are signalized except as otherwise noted.

[a] Intersection is 2-way stop-controlled

[b] Future intersection to be constructed by the Project.

[c] Intersection would be constructed as part of the Dockweiler Extension

**TABLE 17
EXISTING CONDITIONS WITH RAILROAD CROSSING UPGRADE (YEAR 2021)
INTERSECTION LEVELS OF SERVICE**

No.	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions		
			Delay	LOS	Delay	LOS	Δ Delay
1.	Bouquet Canyon Road & Newhall Ranch Road	A.M.	48.2	D	48.8	D	0.6
		P.M.	50.7	D	50.6	D	-0.1
2.	Bouquet Canyon Road & Valencia Boulevard/Soledad Canyon Road	A.M.	30.0	C	30.3	C	0.3
		P.M.	46.4	D	46.1	D	-0.3
3.	Railroad Avenue/Bouquet Canyon Road & Magic Mountain Parkway	A.M.	28.7	C	32.3	C	3.6
		P.M.	25.9	C	25.4	C	-0.5
4.	Railroad Avenue & Oak Ridge Drive	A.M.	13.0	B	12.4	B	-0.6
		P.M.	12.6	B	22.2	C	9.6
5.	Railroad Avenue & 13th Street	A.M.	21.9	C	23.2	C	1.3
		P.M.	23.9	C	25.0	C	1.1
6.	Railroad Avenue & Lyons Avenue	A.M.	21.2	C	31.9	C	10.7
		P.M.	28.5	C	28.8	C	0.3
7.	Railroad Avenue & Newhall Avenue	A.M.	10.5	B	11.3	B	0.8
		P.M.	15.4	B	25.2	C	9.8
8.	Valle Del Oro & Newhall Avenue	A.M.	12.6	B	12.2	B	-0.4
		P.M.	9.8	A	9.6	A	-0.2
9.	Sierra Highway & Newhall Avenue	A.M.	57.7	E	57.1	E	-0.6
		P.M.	40.3	D	41.0	D	0.7
10. [a]	SR 14 Southbound Ramp & Newhall Avenue	A.M.	0.1	A	0.1	A	0.0
		P.M.	0.3	A	0.3	A	0.0
11. [a]	SR 14 Northbound Ramp & Newhall Avenue	A.M.	0.2	A	0.2	A	0.0
		P.M.	91.7	F	91.7	F	0.0
12.	I-5 Northbound Ramps & Lyons Avenue	A.M.	23.2	C	23.4	C	0.2
		P.M.	33.9	C	34.8	C	0.9

Notes:

Intersections are signalized except as otherwise noted.

[a] Intersection is 2-way stop-controlled

[b] Future intersection to be constructed by the Project.

[c] Intersection would be constructed as part of the Dockweiler Extension

TABLE 17 (CONTINUED)
EXISTING CONDITIONS WITH RAILROAD CROSSING UPGRADE (YEAR 2021)
INTERSECTION LEVELS OF SERVICE

No.	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions		
			Delay	LOS	Delay	LOS	Δ Delay
13.	Wiley Canyon Road & Lyons Avenue	A.M.	35.5	D	35.4	D	-0.1
		P.M.	42.4	D	43.0	D	0.6
14.	Valley Street/Orchard Village Road & Lyons Avenue	A.M.	36.3	D	37.0	D	0.7
		P.M.	39.3	D	40.1	D	0.8
15.	Newhall Avenue & Lyons Avenue	A.M.	36.1	D	34.0	C	-2.1
		P.M.	33.1	C	32.7	C	-0.4
16. [b]	Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2	A.M.	New Intersection		31.1	C	N/A
		P.M.			30.1	C	N/A
17. [a]	Arch Street & 12th Street & Placerita Canyon Road	A.M.	3.4	A	3.2	A	-0.2
		P.M.	4.9	A	4.6	A	-0.3
18. [c]	Dockweiler Drive & Placerita Canyon Road	A.M. P.M.	New Intersection				
19. [a]	Valle Del Oro & Dockweiler Drive	A.M.	9.1	A	9.1	A	0.0
		P.M.	8.3	A	8.3	A	0.0
20.	Sierra Highway & Dockweiler Drive	A.M.	58.6	E	59.7	E	1.1
		P.M.	8.1	A	8.0	A	-0.1
21.	Sierra Highway & Placerita Canyon Road	A.M.	17.9	B	20.4	C	2.5
		P.M.	16.0	B	18.0	B	2.0
22. [a]	Sierra Highway & SR 14 Southbound Ramps	A.M.	2.2	A	2.2	A	0.0
		P.M.	6.4	A	7.1	A	0.7
23. [a]	SR 14 Northbound Ramps & Placerita Canyon Road	A.M.	4.7	A	4.9	A	0.2
		P.M.	4.7	A	4.9	A	0.2

Notes:

- Intersections are signalized except as otherwise noted.
- [a] Intersection is 2-way stop-controlled
- [b] Future intersection to be constructed by the Project.
- [c] Intersection would be constructed as part of the Dockweiler Extension

TABLE 18
FUTURE CONDITIONS WITHOUT DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION LEVELS OF SERVICE

No.	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions				Future with Project with Mitigation Conditions			
			Delay	LOS	Delay	LOS	Δ Delay	Impact	Delay	LOS	Δ Delay	Impact
1.	Bouquet Canyon Road & Newhall Ranch Road	A.M.	87.1	F	89.4	F	2.3	Yes	87.8	F	0.7	No
		P.M.	63.1	E	64.2	E	1.1	No	64.1	E	1.0	No
2.	Bouquet Canyon Road & Valencia Boulevard/Soledad Canyon Road	A.M.	36.7	D	36.8	D	0.1	No	39.2	D	2.5	No
		P.M.	92.4	F	95.3	F	2.9	Yes	67.6	E	-24.8	No
3.	Railroad Avenue/Bouquet Canyon Road & Magic Mountain Parkway	A.M.	56.0	E	63.9	E	7.9	Yes	23.5	C	-32.5	No
		P.M.	111.1	F	115.4	F	4.3	Yes	92.4	F	-18.7	No
4.	Railroad Avenue & Oak Ridge Drive	A.M.	19.0	B	19.3	B	0.3	No	20.1	C	1.1	No
		P.M.	30.3	C	31.1	C	0.8	No	31.6	C	1.3	No
5.	Railroad Avenue & 13th Street	A.M.	25.6	C	25.4	C	-0.2	No	26.5	C	0.9	No
		P.M.	61.3	E	41.3	D	-20.0	No	42.4	D	-18.9	No
6.	Railroad Avenue & Lyons Avenue	A.M.	29.2	C	31.9	C	2.7	No	31.7	C	2.5	No
		P.M.	32.5	C	34.0	C	1.5	No	34.1	C	1.6	No
7.	Railroad Avenue & Newhall Avenue	A.M.	17.1	B	16.9	B	-0.2	No	16.9	B	-0.2	No
		P.M.	20.4	C	25.5	C	5.1	No	25.5	C	5.1	No
8.	Valle Del Oro & Newhall Avenue	A.M.	17.5	B	17.7	B	0.2	No	17.8	B	0.3	No
		P.M.	9.9	A	9.6	A	-0.3	No	9.6	A	-0.3	No
9.	Sierra Highway & Newhall Avenue	A.M.	47.7	D	48.7	D	1.0	No	47.4	D	-0.3	No
		P.M.	97.3	F	104.2	F	6.9	Yes	66.4	E	-30.9	No
10. [a]	SR 14 Southbound Ramp & Newhall Avenue	A.M.	0.2	A	0.2	A	0.0	No	0.2	A	0.0	No
		P.M.	0.9	A	1.1	A	0.2	No	1.1	A	0.2	No
11. [a]	SR 14 Northbound Ramp & Newhall Avenue	A.M.	1.2	A	1.2	A	0.0	No	1.2	A	0.0	No
		P.M.	11.5	B	11.5	B	0.0	No	11.5	B	0.0	No
12.	I-5 Northbound Ramps & Lyons Avenue	A.M.	24.5	C	25.0	C	0.5	No	24.9	C	0.4	No
		P.M.	27.1	C	28.1	C	1.0	No	28.1	C	1.0	No

Notes:

Intersections are signalized except as otherwise noted.

[a] Intersection is 2-way stop-controlled

[b] Future intersection to be constructed by the Project.

[c] Intersection would be constructed as part of the Dockweiler Extension

TABLE 18 (CONTINUED)
FUTURE CONDITIONS WITHOUT DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION LEVELS OF SERVICE

No.	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions				Future with Project with Mitigation Conditions			
			Delay	LOS	Delay	LOS	Δ Delay	Impact	Delay	LOS	Δ Delay	Impact
13.	Wiley Canyon Road & Lyons Avenue	A.M.	37.2	D	37.6	D	0.4	No	36.8	D	-0.4	No
		P.M.	60.6	E	65.3	E	4.7	Yes	53.0	D	-7.6	No
14.	Valley Street/Orchard Village Road & Lyons Avenue	A.M.	41.4	D	42.2	D	0.8	No	41.5	D	0.1	No
		P.M.	46.9	D	57.9	E	11.0	Yes	48.1	D	1.2	No
15.	Newhall Avenue & Lyons Avenue	A.M.	41.7	D	42.4	D	0.7	No	43.6	D	1.9	No
		P.M.	173.0	F	169.9	F	-3.1	No	170.9	F	-2.1	No
16. [b]	Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2	A.M.	New Intersection		25.2	C	N/A	No	24.6	C	N/A	No
		P.M.			29.2	C	N/A	No	29.2	C	N/A	No
17. [a]	Arch Street & 12th Street & Dockweiler Drive	A.M.	5.4	A	5.4	A	0.0	No	5.4	A	0.0	No
		P.M.	8.7	A	10.2	B	1.5	No	10.2	B	1.5	No
18. [c]	Dockweiler Drive & Placerita Canyon Road	A.M. P.M.	New Intersection									
19. [a]	Valle Del Oro & Dockweiler Drive	A.M.	10.0	A	10.0	A	0.0	No	10.0	A	0.0	No
		P.M.	11.8	B	11.8	B	0.0	No	11.8	B	0.0	No
20.	Sierra Highway & Dockweiler Drive	A.M.	56.6	E	48.6	D	-8.0	No	48.7	D	-7.9	No
		P.M.	17.7	B	18.8	B	1.1	No	19.8	B	2.1	No
21.	Sierra Highway & Placerita Canyon Road	A.M.	37.6	D	32.2	C	-5.4	No	34.4	C	-3.2	No
		P.M.	165.9	F	162.1	F	-3.8	No	161.9	F	-4.0	No
22. [a]	Sierra Highway & SR 14 Southbound Ramps	A.M.	26.2	C	24.8	C	-1.4	No	37.1	D	10.9	No
		P.M.	169.7	F	176.1	F	6.4	Yes	160.2	F	-9.5	No
23. [a]	SR 14 Northbound Ramps & Placerita Canyon Road	A.M.	43.6	D	50.9	F	7.3	Yes	22.9	C	-20.7	No
		P.M.	6.1	A	6.5	A	0.4	No	10.3	B	4.2	No

Notes:

Intersections are signalized except as otherwise noted.

[a] Intersection is 2-way stop-controlled

[b] Future intersection to be constructed by the Project.

[c] Intersection would be constructed as part of the Dockweiler Extension

**TABLE 19
FUTURE CONDITIONS WITH DOCKWEILER DRIVE EXTENSION PROJECT AND ROUNDABOUT (YEAR 2028)
INTERSECTION LEVELS OF SERVICE**

No.	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions				Future with Project with Mitigation Conditions			
			Delay	LOS	Delay	LOS	Δ Delay	Impact	Delay	LOS	Δ Delay	Impact
1.	Bouquet Canyon Road & Newhall Ranch Road	A.M.	86.8	F	89.1	F	2.3	Yes	88.0	F	1.2	No
		P.M.	62.8	E	64.0	E	1.2	No	63.8	E	1.0	No
2.	Bouquet Canyon Road & Valencia Boulevard/Soledad Canyon Road	A.M.	37.9	D	38.0	D	0.1	No	40.7	D	2.8	No
		P.M.	100.9	F	104.2	F	3.3	Yes	73.4	E	-27.5	No
3.	Railroad Avenue/Bouquet Canyon Road & Magic Mountain Parkway	A.M.	57.7	E	65.2	E	7.5	Yes	24.4	C	-33.3	No
		P.M.	104.2	F	108.8	F	4.6	Yes	85.8	F	-18.4	No
4.	Railroad Avenue & Oak Ridge Drive	A.M.	21.6	C	23.3	C	1.7	No	24.1	C	2.5	No
		P.M.	28.3	C	31.7	C	3.4	No	32.4	C	4.1	No
5.	Railroad Avenue & 13th Street	A.M.	10.2	B	18.1	B	7.9	No	18.8	B	8.6	No
		P.M.	16.1	B	20.4	C	4.3	No	21.1	C	5.0	No
6.	Railroad Avenue & Lyons Avenue	A.M.	26.3	C	30.2	C	3.9	No	29.6	C	3.3	No
		P.M.	27.3	C	27.7	C	0.4	No	27.8	C	0.5	No
7.	Railroad Avenue & Newhall Avenue	A.M.	16.1	B	15.7	B	-0.4	No	15.9	B	-0.2	No
		P.M.	19.1	B	19.0	B	-0.1	No	18.9	B	-0.2	No
8.	Valle Del Oro & Newhall Avenue	A.M.	17.0	B	17.0	B	0.0	No	17.0	B	0.0	No
		P.M.	8.5	A	8.3	A	-0.2	No	8.3	A	-0.2	No
9.	Sierra Highway & Newhall Avenue	A.M.	85.8	F	85.5	F	-0.3	No	84.0	F	-1.8	No
		P.M.	120.4	F	131.6	F	11.2	Yes	87.1	F	-33.3	No
10.	SR 14 Southbound Ramp & Newhall Avenue [a]	A.M.	0.2	A	0.2	A	0.0	No	0.2	A	0.0	No
		P.M.	0.9	A	1.0	A	0.1	No	1.0	A	0.1	No
11.	SR 14 Northbound Ramp & Newhall Avenue [a]	A.M.	0.2	A	0.2	A	0.0	No	0.2	A	0.0	No
		P.M.	0.1	A	0.1	A	0.0	No	0.1	A	0.0	No
12.	I-5 Northbound Ramps & Lyons Avenue	A.M.	24.7	C	25.2	C	0.5	No	25.2	C	0.5	No
		P.M.	29.2	C	30.4	C	1.2	No	30.4	C	1.2	No

Notes:

Intersections are signalized except as otherwise noted.

[a] Intersection is 2-way stop-controlled

[b] Future intersection to be constructed by the Project.

[c] Intersection would be constructed as part of the Dockweiler Extension

**TABLE 19 (CONTINUED)
FUTURE CONDITIONS WITH DOCKWEILER DRIVE EXTENSION PROJECT AND ROUNDABOUT (YEAR 2028)
INTERSECTION LEVELS OF SERVICE**

No.	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions				Future with Project with Mitigation Conditions			
			Delay	LOS	Delay	LOS	Δ Delay	Impact	Delay	LOS	Δ Delay	Impact
13.	Wiley Canyon Road & Lyons Avenue	A.M.	38.4	D	38.7	D	0.3	No	37.9	D	-0.5	No
		P.M.	67.4	E	72.6	E	5.2	Yes	54.0	D	-13.4	No
14.	Valley Street/Orchard Village Road & Lyons Avenue	A.M.	41.9	D	42.9	D	1.0	No	41.1	D	-0.8	No
		P.M.	57.0	E	73.6	E	16.6	Yes	57.2	E	0.2	No
15.	Newhall Avenue & Lyons Avenue	A.M.	47.4	D	47.3	D	-0.1	No	49.2	D	1.8	No
		P.M.	178.5	F	175.5	F	-3.0	No	176.5	F	-2.0	No
16. [b]	Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2	A.M.	New Intersection		30.7	C	N/A	No	30.7	C	N/A	No
		P.M.			17.0	B	N/A	No	17.0	B	N/A	No
17. [c]	Arch Street & 12th Street & Dockweiler Drive	A.M.	6.0	A	7.4	A	1.4	No	7.4	A	1.4	No
		P.M.	9.2	A	11.9	B	2.7	No	11.9	B	2.7	No
18. [d]	Dockweiler Drive & Placerita Canyon Road	A.M.	17.0	C	17.7	B	0.7	No	17.7	B	0.7	No
		P.M.	19.5	C	25.4	C	5.9	No	25.4	C	5.9	No
19. [e]	Valle Del Oro & Dockweiler Drive	A.M.	16.4	B	14.0	B	-2.4	No	14.0	B	-2.4	No
		P.M.	16.0	B	18.3	B	2.3	Yes	18.3	B	2.3	No
20.	Sierra Highway & Dockweiler Drive	A.M.	29.3	C	31.9	C	2.6	No	31.9	C	2.6	No
		P.M.	45.8	D	47.4	D	1.6	No	47.5	D	1.7	No
21.	Sierra Highway & Placerita Canyon Road	A.M.	36.5	D	37.0	D	0.5	No	37.1	D	0.6	No
		P.M.	134.2	F	136.0	F	1.8	No	135.0	F	0.8	No
22. [a]	Sierra Highway & SR 14 Southbound Ramps	A.M.	23.1	C	24.6	C	1.5	Yes	20.4	C	-2.7	No
		P.M.	164.0	F	171.6	F	7.6	Yes	156.7	F	-7.3	No
23. [a]	SR 14 Northbound Ramps & Placerita Canyon Road	A.M.	43.6	D	46.6	E	3.0	Yes	22.6	C	-21.0	No
		P.M.	6.1	A	6.3	A	0.2	No	10.2	B	4.1	No

Notes:

Intersections are signalized except as otherwise noted.

[a] Intersection is 2-way stop-controlled

[b] Future intersection to be constructed by the Project.

[c] Intersection to operate as roundabout

[d] Intersection would be constructed as part of the Dockweiler Extension

[e] Intersection is proposed to be signalized under the Future without Project Conditions

**TABLE 20
FUTURE CONDITIONS WITH DOCKWEILER DRIVE EXTENSION PROJECT AND TRAFFIC SIGNAL (YEAR 2028)
INTERSECTION LEVELS OF SERVICE**

No.	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions				Future with Project with Mitigation Conditions			
			Delay	LOS	Delay	LOS	Δ Delay	Impact	Delay	LOS	Δ Delay	Impact
1.	Bouquet Canyon Road & Newhall Ranch Road	A.M.	86.8	F	89.1	F	2.3	Yes	87.8	F	1.0	No
		P.M.	62.8	E	64.0	E	1.2	No	63.8	E	1.0	No
2.	Bouquet Canyon Road & Valencia Boulevard/Soledad Canyon Road	A.M.	37.9	D	38.0	D	0.1	No	40.7	D	2.8	No
		P.M.	100.8	F	104.2	F	3.4	Yes	73.4	E	-27.4	No
3.	Railroad Avenue/Bouquet Canyon Road & Magic Mountain Parkway	A.M.	57.7	E	65.2	E	7.5	Yes	24.4	C	-33.3	No
		P.M.	104.2	F	108.8	F	4.6	Yes	85.8	F	-18.4	No
4.	Railroad Avenue & Oak Ridge Drive	A.M.	21.6	C	24.5	C	2.9	No	25.3	C	3.7	No
		P.M.	27.0	C	31.3	C	4.3	No	30.2	C	3.2	No
5.	Railroad Avenue & 13th Street	A.M.	10.2	B	15.2	B	5.0	No	15.6	B	5.4	No
		P.M.	13.7	B	19.1	B	5.4	No	21.9	C	8.2	No
6.	Railroad Avenue & Lyons Avenue	A.M.	26.3	C	29.1	C	2.8	No	28.2	C	1.9	No
		P.M.	26.7	C	27.2	C	0.5	No	27.3	C	0.6	No
7.	Railroad Avenue & Newhall Avenue	A.M.	16.1	B	15.6	B	-0.5	No	15.6	B	-0.5	No
		P.M.	19.0	B	19.0	B	0.0	No	18.9	B	-0.1	No
8.	Valle Del Oro & Newhall Avenue	A.M.	17.0	B	17.0	B	0.0	No	17.0	B	0.0	No
		P.M.	8.5	A	8.3	A	-0.2	No	8.3	A	-0.2	No
9.	Sierra Highway & Newhall Avenue	A.M.	85.8	F	85.6	F	-0.2	No	84.1	F	-1.7	No
		P.M.	120.3	F	131.4	F	11.1	Yes	87.0	F	-33.3	No
10. [a]	SR 14 Southbound Ramp & Newhall Avenue	A.M.	0.2	A	0.2	A	0.0	No	0.2	A	0.0	No
		P.M.	0.9	A	1.0	A	0.1	No	1.0	A	0.1	No
11. [a]	SR 14 Northbound Ramp & Newhall Avenue	A.M.	0.2	A	0.2	A	0.0	No	0.2	A	0.0	No
		P.M.	0.1	A	0.1	A	0.0	No	0.1	A	0.0	No
12.	I-5 Northbound Ramps & Lyons Avenue	A.M.	24.7	C	25.2	C	0.5	No	25.2	C	0.5	No
		P.M.	29.2	C	30.1	C	0.9	No	30.4	C	1.2	No

Notes:

Intersections are signalized except as otherwise noted.

[a] Intersection is 2-way stop-controlled

[b] Future intersection to be constructed by the Project.

[c] Intersection would be constructed as part of the Dockweiler Extension

TABLE 20 (CONTINUED)
FUTURE CONDITIONS WITH DOCKWEILER DRIVE EXTENSION PROJECT AND TRAFFIC SIGNAL (YEAR 2028)
INTERSECTION LEVELS OF SERVICE

No.	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions				Future with Project with Mitigation Conditions			
			Delay	LOS	Delay	LOS	Δ Delay	Impact	Delay	LOS	Δ Delay	Impact
13.	Wiley Canyon Road & Lyons Avenue	A.M.	38.4	D	38.7	D	0.3	No	37.9	D	-0.5	No
		P.M.	67.4	E	72.6	E	5.2	Yes	54.0	D	-13.4	No
14.	Valley Street/Orchard Village Road & Lyons Avenue	A.M.	41.9	D	42.9	D	1.0	No	41.1	D	-0.8	No
		P.M.	57.0	E	73.6	E	16.6	Yes	57.2	E	0.2	No
15.	Newhall Avenue & Lyons Avenue	A.M.	47.4	D	47.7	D	0.3	No	49.6	D	2.2	No
		P.M.	178.7	F	175.5	F	-3.2	No	176.5	F	-2.2	No
16. [b]	Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2	A.M.	New Intersection		30.2	C	N/A	No	30.2	C	N/A	No
		P.M.			17.0	B	N/A	No	17.0	B	N/A	No
17. [a]	Arch Street & 12th Street & Dockweiler Drive	A.M.	24.1	C	30.8	C	6.7	No	30.8	C	6.7	No
		P.M.	25.0	C	33.5	C	8.5	No	33.5	C	8.5	No
18. [c]	Dockweiler Drive & Placerita Canyon Road	A.M.	17.0	B	17.8	B	0.8	No	17.8	B	0.8	No
		P.M.	19.5	B	25.5	C	6.0	No	25.5	C	6.0	No
19. [d]	Valle Del Oro & Dockweiler Drive	A.M.	16.4	B	14.0	B	-2.4	No	14.0	B	-2.4	No
		P.M.	16.0	B	18.3	B	2.3	No	18.3	B	2.3	No
20.	Sierra Highway & Dockweiler Drive	A.M.	29.3	C	31.9	C	2.6	No	31.9	C	2.6	No
		P.M.	44.3	D	47.5	D	3.2	No	47.6	D	3.3	No
21.	Sierra Highway & Placerita Canyon Road	A.M.	36.5	D	37.0	D	0.5	No	37.1	D	0.6	No
		P.M.	118.2	F	120.3	F	2.1	Yes	120.0	F	1.8	No
22. [a]	Sierra Highway & SR 14 Southbound Ramps	A.M.	23.1	C	24.6	C	1.5	No	20.4	C	-2.7	No
		P.M.	163.3	F	170.9	F	7.6	Yes	156.0	F	-7.3	No
23. [a]	SR 14 Northbound Ramps & Placerita Canyon Road	A.M.	43.6	D	46.6	E	3.0	Yes	22.6	C	-21.0	No
		P.M.	6.1	A	6.3	A	0.2	No	10.2	B	4.1	No

Notes:

- Intersections are signalized except as otherwise noted.
- [a] Intersection is 2-way stop-controlled
- [b] Future intersection to be constructed by the Project.
- [c] Intersection would be constructed as part of the Dockweiler Extension
- [d] Intersection is proposed to be signalized under the Future without Project Conditions

**TABLE 21
FUTURE CONDITIONS WITHOUT DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION QUEUES**

Intersection	Turn Pocket Length	Peak Hour	Queue Length		
			Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length
Intersection #1, Bouquet Canyon Road & Newhall Ranch Road					
Eastbound Left-Turn [a] <i>from Newhall Ranch Road to Bouquet Canyon Road</i>	290	A.M.	69	69	0
		P.M.	400	400	0
Westbound Left-Turn <i>from Newhall Ranch Road to Bouquet Canyon Road</i>	410	A.M.	589	589	0
		P.M.	281	281	0
Northbound Left-Turn <i>From Bouquet Canyon Road to Newhall Ranch Road</i>	475	A.M.	331	332	1
		P.M.	201	198	-3
Southbound Left-Turn <i>From Bouquet Canyon Road to Newhall Ranch Road</i>	260	A.M.	139	139	0
		P.M.	251	251	0
Intersection #2, Bouquet Canyon Road & Valencia Boulevard / Soledad Canyon Road					
Eastbound Left-Turn [a] <i>from Valencia Boulevard to Bouquet Canyon Road</i>	360	A.M.	139	139	0
		P.M.	418	418	0
Westbound Left-Turn <i>from Soledad Canyon Road to Bouquet Canyon Road</i>	330	A.M.	215	222	7
		P.M.	173	179	6
Northbound Left-Turn <i>From Bouquet Canyon Road to Valencia Boulevard</i>	250	A.M.	18	33	15
		P.M.	17	17	0
Southbound Left-Turn [a] <i>From Bouquet Canyon Road to Soledad Canyon Road</i>	435	A.M.	208	203	-5
		P.M.	119	117	-2

Notes:

All lengths shown in feet based on 25 feet per vehicle. Queues based on 95th percentile queue calculated by the HCM methodology.

[a] The travel lane ends in a left-turn pocket, and therefore the queue does not block through traffic.

[b] Estimated distance as turn lane has not yet been constructed

**TABLE 21 (CONTINUED)
FUTURE CONDITIONS WITHOUT DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION QUEUES**

Intersection	Turn Pocket Length	Peak Hour	Queue Length		
			Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length
Intersection #3, Railroad Avenue / Bouquet Canyon Road & Magic Mountain Parkway					
Eastbound Left-Turn [a] <i>from Magic Mountain Parkway to Bouquet Canyon Road</i>	265	A.M.	178	178	0
		P.M.	1,380	1,380	0
Northbound Left-Turn <i>from Railroad Avenue to Magic Mountain Parkway</i>	260	A.M.	310	329	19
		P.M.	607	608	1
Intersection #4, Railroad Avenue & Oak Ridge Drive					
Westbound Left-Turn [a] <i>from Oak Ridge Drive to Railroad Avenue</i>	175	A.M.	95	98	3
		P.M.	120	123	3
Southbound Left-Turn <i>from Railroad Avenue to Oak Ridge Drive</i>	330	A.M.	234	227	-7
		P.M.	579	564	-15
Intersection #5, Railroad Avenue & 13th Street					
Westbound Left-Turn [a] [b] <i>from 13th Street to Railroad Avenue</i>	280	A.M.	N/A	184	N/A
		P.M.		352	
Northbound Left-Turn <i>from Railroad Avenue to 13th Street</i>	100	A.M.	22	18	-4
		P.M.	20	18	-2
Southbound Left-Turn <i>from Railroad Avenue to 13th Street</i>	160	A.M.	231	331	100
		P.M.	502	567	65

Notes:

All lengths shown in feet based on 25 feet per vehicle. Queues based on 95th percentile queue calculated by the HCM methodology.

[a] The travel lane ends in a left-turn pocket, and therefore the queue does not block through traffic.

[b] Estimated distance as turn lane has not yet been constructed

TABLE 21 (CONTINUED)
FUTURE CONDITIONS WITHOUT DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION QUEUES

Intersection	Turn Pocket Length	Peak Hour	Queue Length		
			Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length
Intersection #6, Railroad Avenue & Lyons Avenue					
Eastbound Left-Turn [a] <i>from Lyons Avenue to Railroad Avenue</i>	220	A.M.	180	233	53
		P.M.	196	232	36
Northbound Left-Turn <i>from Railroad Avenue to Lyons Avenue</i>	290	A.M.	79	78	-1
		P.M.	107	103	-4
Intersection #7, Newhall Avenue & Railroad Avenue					
Southbound Left-Turn [a] <i>from Railroad Avenue to Newhall Avenue</i>	N/A	A.M.	76	65	-11
		P.M.	599	605	6
Intersection #8, Newhall Avenue & Valle Del Oro					
Eastbound Left-Turn [a] <i>from Newhall Avenue to Valle Del Oro</i>	380	A.M.	204	194	-10
		P.M.	297	276	-21
Southbound Left-Turn <i>from Valle Del Oro to Newhall Avenue</i>	95	A.M.	484	486	2
		P.M.	119	120	1
Intersection #9, Sierra Highway & Newhall Avenue					
Eastbound Left-Turn <i>from Newhall Avenue to Sierra Highway</i>	100	A.M.	140	140	0
		P.M.	81	81	0
Westbound Left-Turn <i>from Newhall Avenue to Sierra Highway</i>	160	A.M.	584	584	0
		P.M.	158	158	0
Northbound Left-Turn <i>from Sierra Highway to Newhall Avenue</i>	400	A.M.	14	14	0
		P.M.	37	37	0
Southbound Left-Turn <i>from Sierra Highway to Newhall Avenue</i>	240	A.M.	337	341	4
		P.M.	137	148	11

Notes:

All lengths shown in feet based on 25 feet per vehicle. Queues based on 95th percentile queue calculated by the HCM methodology.

[a] The travel lane ends in a left-turn pocket, and therefore the queue does not block through traffic.

[b] Estimated distance as turn lane has not yet been constructed

**TABLE 21 (CONTINUED)
FUTURE CONDITIONS WITHOUT DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION QUEUES**

Intersection	Turn Pocket Length	Peak Hour	Queue Length		
			Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length
Intersection #10, SR 14 Southbound Ramp & Newhall Avenue					
Westbound Left-Turn <i>from Newhall Avenue to SR 14 Southbound Ramp</i>	250	A.M.	0	0	0
		P.M.	3	3	0
Intersection #12, I-5 Northbound Ramp & Lyons Avenue					
Eastbound Left-Turn <i>from Lyons Avenue to I-5 Northbound Ramps</i>	270	A.M.	174	174	0
		P.M.	248	248	0
Northbound Left-Turn <i>from I-5 Northbound Ramps to Lyons Avenue</i>	190	A.M.	58	58	0
		P.M.	153	153	0
Intersection #13, Wiley Canyon Road & Lyons Avenue					
Eastbound Left-Turn <i>from Lyons Avenue to Wiley Canyon Road</i>	185	A.M.	98	98	0
		P.M.	273	273	0
Westbound Left-Turn <i>from Lyons Avenue to Wiley Canyon Road</i>	125	A.M.	376	376	0
		P.M.	198	188	-10
Northbound Left-Turn <i>from Wiley Canyon Road to Lyons Avenue</i>	225	A.M.	318	318	0
		P.M.	223	223	0
Southbound Left-Turn <i>from Wiley Canyon Road to Lyons Avenue</i>	170	A.M.	184	200	16
		P.M.	471	492	21

Notes:

All lengths shown in feet based on 25 feet per vehicle. Queues based on 95th percentile queue calculated by the HCM methodology.

[a] The travel lane ends in a left-turn pocket, and therefore the queue does not block through traffic.

[b] Estimated distance as turn lane has not yet been constructed

**TABLE 21 (CONTINUED)
FUTURE CONDITIONS WITHOUT DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION QUEUES**

Intersection	Turn Pocket Length	Peak Hour	Queue Length		
			Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length
Intersection #14, Valley Street/Orchard Village Road & Lyons Avenue					
Eastbound Left-Turn <i>from Lyons Avenue to Valley Street</i>	165	A.M.	141	134	-7
		P.M.	117	112	-5
Westbound Left-Turn <i>from Lyons Avenue to Orchard Village Road</i>	180	A.M.	113	112	-1
		P.M.	95	94	-1
Northbound Left-Turn <i>from Valley Street to Lyons Avenue</i>	165	A.M.	174	174	0
		P.M.	124	124	0
Southbound Left-Turn [a] <i>from Orchard Village Road to Lyons Avenue</i>	270	A.M.	257	263	6
		P.M.	283	287	4
Intersection #15, Newhall Avenue & Lyons Avenue					
Eastbound Left-Turn <i>from Lyons Avenue to Newhall Avenue</i>	195	A.M.	152	145	-7
		P.M.	127	126	-1
Westbound Left-Turn <i>from Lyons Avenue to Newhall Avenue</i>	100	A.M.	94	99	5
		P.M.	118	119	1
Northbound Left-Turn <i>from Newhall Avenue to Lyons Avenue</i>	175	A.M.	464	464	0
		P.M.	806	806	0
Southbound Left-Turn <i>from Newhall Avenue to Lyons Avenue</i>	75	A.M.	74	74	0
		P.M.	29	29	0

Notes:

All lengths shown in feet based on 25 feet per vehicle. Queues based on 95th percentile queue calculated by the HCM methodology.

[a] The travel lane ends in a left-turn pocket, and therefore the queue does not block through traffic.

[b] Estimated distance as turn lane has not yet been constructed

**TABLE 21 (CONTINUED)
FUTURE CONDITIONS WITHOUT DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION QUEUES**

Intersection	Turn Pocket Length	Peak Hour	Queue Length		
			Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length
Intersection #16, Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2					
Eastbound Left-Turn [b] <i>from 13th Street to 13th Street Driveway 1</i>	200	A.M. P.M.	N/A	108 82	N/A
Westbound Left-Turn [b] <i>from 13th Street Driveway 2 to Arch Street</i>	100	A.M. P.M.		16 27	
Northbound Left-Turn [b] <i>from Arch Street to 13th Street</i>	200	A.M. P.M.		158 242	
Intersection #17, Arch Street & 12th Street & Dockweiler Drive					
Northbound Left-Turn [b] <i>from Dockwiler Drive to 12th Street</i>	150	A.M. P.M.	N/A		
Southbound Left-Turn [b] <i>from Arch Street to 12th Street</i>	250	A.M. P.M.			
Intersection #18, Dockweiler Drive & Placerita Canyon Road					
Westbound Right-Turn [b] <i>from Placerita Canyon Road to Dockweiler Drive</i>	150	A.M. P.M.	N/A		
Southbound Left-Turn [b] <i>from Dockwiler Drive to Placerita Canyon Road</i>	200	A.M. P.M.			
Intersection #19, Valle Del Oro & Dockweiler Drive					
Eastbound Left-Turn <i>from Dockweiler Drive to Valle Del Oro</i>	100	A.M. P.M.	0 0	0 0	0 0
Westbound Left-Turn <i>from Dockweiler Drive to Valle Del Oro</i>	100	A.M. P.M.	28 28	28 28	0 0

Notes:

All lengths shown in feet based on 25 feet per vehicle. Queues based on 95th percentile queue calculated by the HCM methodology.

[a] The travel lane ends in a left-turn pocket, and therefore the queue does not block through traffic.

[b] Estimated distance as turn lane has not yet been constructed

**TABLE 21 (CONTINUED)
FUTURE CONDITIONS WITHOUT DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION QUEUES**

Intersection	Turn Pocket Length	Peak Hour	Queue Length		
			Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length
Intersection #20, Sierra Highway & Dockweiler Drive					
Eastbound Left-Turn [a] <i>from Dockweiler Drive to Sierra Highway</i>	200	A.M.	81	81	0
		P.M.	88	88	0
Northbound Left-Turn <i>from Sierra Highway to Dockweiler Drive</i>	300	A.M.	34	35	1
		P.M.	93	112	19
Intersection #21, Sierra Highway & Placerita Canyon Road					
Eastbound Left-Turn <i>from Placerita Canyon Road to Sierra Highway</i>	175	A.M.	21	53	32
		P.M.	47	102	55
Westbound Left-Turn <i>from Placerita Canyon Road to Sierra Highway</i>	175	A.M.	505	510	5
		P.M.	102	102	0
Northbound Left-Turn <i>from Sierra Highway to Placerita Canyon Road</i>	155	A.M.	25	45	20
		P.M.	17	25	8
Southbound Left-Turn <i>from Sierra Highway to Placerita Canyon Road</i>	380	A.M.	686	686	0
		P.M.	511	514	3
Intersection #22, Sierra Highway & SR 14 Southbound Ramps					
Southbound Left-Turn <i>from Sierra Highway to SR 14 Southbound Ramps</i>	130	A.M.	622	650	28
		P.M.	614	647	33
Intersection #23, SR 14 Northbound Ramps & Placerita Canyon Road					
Northbound Left-Turn [a] <i>from SR 14 Northbound Ramps to Placerita Canyon Road</i>	100	A.M.	498	550	52
		P.M.	68	75	7

Notes:

All lengths shown in feet based on 25 feet per vehicle. Queues based on 95th percentile queue calculated by the HCM methodology.

[a] The travel lane ends in a left-turn pocket, and therefore the queue does not block through traffic.

[b] Estimated distance as turn lane has not yet been constructed

**TABLE 22
FUTURE CONDITIONS WITH DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION QUEUES**

Intersection	Turn Pocket Length	Peak Hour	Queue Length					
			With Roundabout			With Traffic Signal		
			Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length	Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length
Intersection #1, Bouquet Canyon Road & Newhall Ranch Road								
Eastbound Left-Turn [a] <i>from Newhall Ranch Road to Bouquet Canyon Road</i>	290	A.M.	69	69	0	69	69	0
		P.M.	400	400	0	400	400	0
Westbound Left-Turn <i>from Newhall Ranch Road to Bouquet Canyon Road</i>	410	A.M.	589	589	0	589	589	0
		P.M.	281	281	0	281	281	0
Northbound Left-Turn <i>From Bouquet Canyon Road to Newhall Ranch Road</i>	475	A.M.	333	334	1	333	334	1
		P.M.	200	196	-4	200	196	-4
Southbound Left-Turn <i>From Bouquet Canyon Road to Newhall Ranch Road</i>	260	A.M.	139	139	0	139	139	0
		P.M.	251	251	0	251	251	0
Intersection #2, Bouquet Canyon Road & Valencia Boulevard / Soledad Canyon Road								
Eastbound Left-Turn [a] <i>from Valencia Boulevard to Bouquet Canyon Road</i>	360	A.M.	143	143	0	143	143	0
		P.M.	380	380	0	380	380	0
Westbound Left-Turn <i>from Soledad Canyon Road to Bouquet Canyon Road</i>	330	A.M.	207	214	7	207	214	7
		P.M.	157	163	6	157	163	6
Northbound Left-Turn <i>From Bouquet Canyon Road to Valencia Boulevard</i>	250	A.M.	34	34	0	34	34	0
		P.M.	19	18	-1	19	18	-1
Southbound Left-Turn [a] <i>From Bouquet Canyon Road to Soledad Canyon Road</i>	435	A.M.	229	225	-4	229	225	-4
		P.M.	132	130	-2	132	130	-2

Notes:

All lengths shown in feet based on 25 feet per vehicle. Queues based on 95th percentile queue calculated by the HCM methodology.

[a] The travel lane ends in a left-turn pocket, and therefore the queue does not block through traffic.

[b] Estimated distance as turn lane has not yet been constructed

TABLE 22 (CONTINUED)
FUTURE CONDITIONS WITH DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION QUEUES

Intersection	Turn Pocket Length	Peak Hour	Queue Length					
			With Roundabout			With Traffic Signal		
			Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length	Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length
Intersection #3, Railroad Avenue / Bouquet Canyon Road & Magic Mountain Parkway								
Eastbound Left-Turn [a] <i>from Magic Mountain Parkway to Bouquet Canyon Road</i>	265	A.M.	178	178	0	178	178	0
		P.M.	1,319	1,319	0	1,319	1,319	0
Northbound Left-Turn <i>from Railroad Avenue to Magic Mountain Parkway</i>	260	A.M.	350	365	15	350	365	15
		P.M.	574	574	0	575	574	-1
Intersection #4, Railroad Avenue & Oak Ridge Drive								
Westbound Left-Turn [a] <i>from Oak Ridge Drive to Railroad Avenue</i>	175	A.M.	94	96	2	94	96	2
		P.M.	122	124	2	122	124	2
Southbound Left-Turn <i>from Railroad Avenue to Oak Ridge Drive</i>	330	A.M.	224	218	-6	224	218	-6
		P.M.	567	555	-12	567	555	-12
Intersection #5, Railroad Avenue & 13th Street								
Westbound Left-Turn [a][b] <i>from 13th Street to Railroad Avenue</i>	280	A.M.	37	97	60	37	48	11
		P.M.	76	184	108	76	162	86
Northbound Left-Turn <i>from Railroad Avenue to 13th Street</i>	100	A.M.	25	20	-5	25	21	-4
		P.M.	13	12	-1	13	12	-1
Southbound Left-Turn <i>from Railroad Avenue to 13th Street</i>	160	A.M.	138	193	55	138	193	55
		P.M.	220	287	67	234	287	53

Notes:

All lengths shown in feet based on 25 feet per vehicle. Queues based on 95th percentile queue calculated by the HCM methodology.

[a] The travel lane ends in a left-turn pocket, and therefore the queue does not block through traffic.

[b] Estimated distance as turn lane has not yet been constructed

TABLE 22 (CONTINUED)
FUTURE CONDITIONS WITH DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION QUEUES

Intersection	Turn Pocket Length	Peak Hour	Queue Length					
			With Roundabout			With Traffic Signal		
			Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length	Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length
Intersection #6, Railroad Avenue & Lyons Avenue								
Eastbound Left-Turn [a] <i>from Lyons Avenue to Railroad Avenue</i>	220	A.M.	220	273	53	220	273	53
		P.M.	199	332	133	199	332	133
Northbound Left-Turn <i>from Railroad Avenue to Lyons Avenue</i>	290	A.M.	81	78	-3	81	78	-3
		P.M.	56	23	-33	56	53	-3
Intersection #7, Newhall Avenue & Railroad Avenue								
Southbound Left-Turn [a] <i>from Railroad Avenue to Newhall Avenue</i>	N/A	A.M.	78	77	-1	33	77	44
		P.M.	102	101	-1	102	101	-1
Intersection #8, Newhall Avenue & Valle Del Oro								
Eastbound Left-Turn [a] <i>from Newhall Avenue to Valle Del Oro</i>	380	A.M.	165	163	-2	165	163	-2
		P.M.	293	280	-13	293	280	-13
Southbound Left-Turn <i>from Valle Del Oro to Newhall Avenue</i>	95	A.M.	476	478	2	476	478	2
		P.M.	62	59	-3	62	59	-3
Intersection #9, Sierra Highway & Newhall Avenue								
Eastbound Left-Turn <i>from Newhall Avenue to Sierra Highway</i>	100	A.M.	123	123	0	123	123	0
		P.M.	244	243	-1	244	243	-1
Westbound Left-Turn <i>from Newhall Avenue to Sierra Highway</i>	160	A.M.	686	686	0	686	686	0
		P.M.	158	158	0	158	158	0
Northbound Left-Turn <i>from Sierra Highway to Newhall Avenue</i>	400	A.M.	14	14	0	14	14	0
		P.M.	37	37	0	37	37	0
Southbound Left-Turn <i>from Sierra Highway to Newhall Avenue</i>	240	A.M.	729	746	17	729	746	17
		P.M.	297	470	173	297	470	173

Notes:

All lengths shown in feet based on 25 feet per vehicle. Queues based on 95th percentile queue calculated by the HCM methodology.

[a] The travel lane ends in a left-turn pocket, and therefore the queue does not block through traffic.

[b] Estimated distance as turn lane has not yet been constructed

TABLE 22 (CONTINUED)
FUTURE CONDITIONS WITH DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION QUEUES

Intersection	Turn Pocket Length	Peak Hour	Queue Length					
			With Roundabout			With Traffic Signal		
			Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length	Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length
Intersection #10, SR 14 Southbound Ramp & Newhall Avenue								
Westbound Left-Turn from Newhall Avenue to SR 14 Southbound Ramp	250	A.M.	0	0	0	0	0	0
		P.M.	3	3	0	3	3	0
Intersection #12, I-5 Northbound Ramp & Lyons Avenue								
Eastbound Left-Turn from Lyons Avenue to I-5 Northbound Ramps	270	A.M.	174	174	0	174	174	0
		P.M.	248	260	12	248	260	12
Northbound Left-Turn from I-5 Northbound Ramps to Lyons Avenue	190	A.M.	118	118	0	118	118	0
		P.M.	195	195	0	195	195	0
Intersection #13, Wiley Canyon Road & Lyons Avenue								
Eastbound Left-Turn from Lyons Avenue to Wiley Canyon Road	185	A.M.	98	98	0	98	98	0
		P.M.	315	315	0	315	315	0
Westbound Left-Turn from Lyons Avenue to Wiley Canyon Road	125	A.M.	403	400	-3	403	400	-3
		P.M.	196	186	-10	196	186	-10
Northbound Left-Turn from Wiley Canyon Road to Lyons Avenue	225	A.M.	318	318	0	318	318	0
		P.M.	184	184	0	184	184	0
Southbound Left-Turn from Wiley Canyon Road to Lyons Avenue	170	A.M.	197	213	16	197	213	16
		P.M.	686	704	18	686	704	18

Notes:

All lengths shown in feet based on 25 feet per vehicle. Queues based on 95th percentile queue calculated by the HCM methodology.

[a] The travel lane ends in a left-turn pocket, and therefore the queue does not block through traffic.

[b] Estimated distance as turn lane has not yet been constructed

TABLE 22 (CONTINUED)
FUTURE CONDITIONS WITH DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION QUEUES

Intersection	Turn Pocket Length	Peak Hour	Queue Length					
			With Roundabout			With Traffic Signal		
			Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length	Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length
Intersection #14, Valley Street/Orchard Village Road & Lyons Avenue								
Eastbound Left-Turn <i>from Lyons Avenue to Valley Street</i>	165	A.M.	136	129	-7	136	129	-7
		P.M.	106	103	-3	106	103	-3
Westbound Left-Turn <i>from Lyons Avenue to Orchard Village Road</i>	180	A.M.	111	110	-1	97	110	13
		P.M.	78	80	2	78	80	2
Northbound Left-Turn <i>from Valley Street to Lyons Avenue</i>	165	A.M.	162	162	0	162	162	0
		P.M.	149	149	0	149	149	0
Southbound Left-Turn [a] <i>from Orchard Village Road to Lyons Avenue</i>	270	A.M.	267	272	5	267	272	5
		P.M.	292	297	5	292	297	5
Intersection #15, Newhall Avenue & Lyons Avenue								
Eastbound Left-Turn <i>from Lyons Avenue to Newhall Avenue</i>	195	A.M.	145	140	-5	145	140	-5
		P.M.	115	113	-2	115	113	-2
Westbound Left-Turn <i>from Lyons Avenue to Newhall Avenue</i>	100	A.M.	96	96	0	96	96	0
		P.M.	74	67	-7	74	67	-7
Northbound Left-Turn <i>from Newhall Avenue to Lyons Avenue</i>	175	A.M.	444	444	0	444	444	0
		P.M.	846	846	0	846	846	0
Southbound Left-Turn <i>from Newhall Avenue to Lyons Avenue</i>	75	A.M.	74	74	0	74	74	0
		P.M.	47	47	0	47	47	0

Notes:

All lengths shown in feet based on 25 feet per vehicle. Queues based on 95th percentile queue calculated by the HCM methodology.

[a] The travel lane ends in a left-turn pocket, and therefore the queue does not block through traffic.

[b] Estimated distance as turn lane has not yet been constructed

TABLE 22 (CONTINUED)
FUTURE CONDITIONS WITH DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION QUEUES

Intersection	Turn Pocket Length	Peak Hour	Queue Length					
			With Roundabout			With Traffic Signal		
			Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length	Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length
Intersection #16, Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2								
Eastbound Left-Turn [b] <i>from 13th Street to 13th Street Driveway 1</i>	200	A.M. P.M.	N/A	121 84	N/A	N/A	121 84	N/A
Westbound Left-Turn [b] <i>from 13th Street Driveway 2 to Arch Street</i>	100	A.M. P.M.		41 65			41 65	
Northbound Left-Turn [b] <i>from Arch Street to 13th Street</i>	200	A.M. P.M.		183 98			186 98	
Intersection #17, Arch Street & 12th Street & Dockweiler Drive								
Northbound Left-Turn [b] <i>from Dockwiler Drive to 12th Street</i>	150	A.M. P.M.	N/A			59 170	66 183	7 13
Southbound Left-Turn [b] <i>from Arch Street to 12th Street</i>	250	A.M. P.M.				53 156	58 174	5 18
Intersection #18, Dockweiler Drive & Placerita Canyon Road								
Westbound Right-Turn [b] <i>from Placerita Canyon Road to Dockweiler Drive</i>	150	A.M. P.M.	36 130	71 140	35 10	36 130	71 45	35 -85
Southbound Left-Turn [b] <i>from Dockwiler Drive to Placerita Canyon Road</i>	200	A.M. P.M.	72 167	98 222	26 55	72 167	98 222	26 55
Intersection #19, Valle Del Oro & Dockweiler Drive								
Eastbound Left-Turn <i>from Dockweiler Drive to Valle Del Oro</i>	100	A.M. P.M.	9 7	9 7	0 0	9 7	9 7	0 0
Westbound Left-Turn <i>from Dockweiler Drive to Valle Del Oro</i>	100	A.M. P.M.	291 411	329 431	38 20	291 417	329 434	38 17

Notes:

All lengths shown in feet based on 25 feet per vehicle. Queues based on 95th percentile queue calculated by the HCM methodology.

[a] The travel lane ends in a left-turn pocket, and therefore the queue does not block through traffic.

[b] Estimated distance as turn lane has not yet been constructed

TABLE 22 (CONTINUED)
FUTURE CONDITIONS WITH DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION QUEUES

Intersection	Turn Pocket Length	Peak Hour	Queue Length					
			With Roundabout			With Traffic Signal		
			Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length	Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length
Intersection #20, Sierra Highway & Dockweiler Drive								
Eastbound Left-Turn [a] <i>from Dockweiler Drive to Sierra Highway</i>	200	A.M.	266	286	20	266	286	20
		P.M.	530	590	60	542	590	48
Northbound Left-Turn <i>from Sierra Highway to Dockweiler Drive</i>	300	A.M.	239	362	123	239	362	123
		P.M.	148	190	42	147	188	41
Intersection #21, Sierra Highway & Placerita Canyon Road								
Eastbound Left-Turn <i>from Placerita Canyon Road to Sierra Highway</i>	175	A.M.	21	34	13	21	34	13
		P.M.	49	67	18	50	67	17
Westbound Left-Turn <i>from Placerita Canyon Road to Sierra Highway</i>	175	A.M.	566	578	12	566	578	12
		P.M.	119	119	0	120	121	1
Northbound Left-Turn <i>from Sierra Highway to Placerita Canyon Road</i>	155	A.M.	28	37	9	28	37	9
		P.M.	9	13	4	9	13	4
Southbound Left-Turn <i>from Sierra Highway to Placerita Canyon Road</i>	380	A.M.	687	683	-4	687	683	-4
		P.M.	482	484	2	494	496	2
Intersection #22, Sierra Highway & SR 14 Southbound Ramps								
Southbound Left-Turn <i>from Sierra Highway to SR 14 Southbound Ramps</i>	130	A.M.	615	637	22	615	637	22
		P.M.	654	654	0	654	654	0
Intersection #23, SR 14 Northbound Ramps & Placerita Canyon Road								
Northbound Left-Turn [a] <i>from SR 14 Northbound Ramps to Placerita Canyon Road</i>	100	A.M.	498	520	22	498	520	22
		P.M.	68	70	2	68	70	2

Notes:

All lengths shown in feet based on 25 feet per vehicle. Queues based on 95th percentile queue calculated by the HCM methodology.

[a] The travel lane ends in a left-turn pocket, and therefore the queue does not block through traffic.

[b] Estimated distance as turn lane has not yet been constructed

**TABLE 23
TRAVEL TIMES THROUGH DOCKWEILER CORRIDOR**

Trip Type	Evacuation Scenario		
	Existing Conditions	Future with Project Conditions (Traffic Signal)	Future with Project Conditions (Roundabout)
<i>Neighborhood to Northbound Railroad</i>			
Segment: 12th Street (s)	23	23	23
Intersection #17: Arch Street & 12th Street & Dockweiler Drive - WBR (s)	284.7	287	425.2
Segment: Arch Street (s)	11.5	6.4	6.4
Intersection #16: Arch Street & 13th Street & Driveway 1 & Driveway 2 - NBL (s)	0	70.1	70.1
Segment: 13th Street (s)	17.1	17.1	17.1
Intersection #5 Railroad Avenue & 13th Street - WBR (s)	1244.8	4.4	4.4
Segment: Railroad Avenue north of 13th Street (s)	16.3	16.3	16.3
<i>Sum WBR (Minutes)</i>	26.6	7.1	9.4
<i>TOTAL DELAY TO NB RAILROAD (HRS)</i>	449.7	156.8	207.6
<i>Neighborhood to Southbound Railroad</i>			
Segment: 12th Street (s)	23	23	23
Intersection #17: Arch Street & 12th Street & Dockweiler Drive - WBR (s)	284.7	287	425.2
Segment: Arch Street (s)	11.5	6.4	6.4
Intersection #16: Arch Street & 13th Street & Driveway 1 & Driveway 2 - NBL (s)	0	70.1	70.1
Segment: 13th Street (s)	17.1	17.1	17.1
Intersection #5: Railroad Avenue & 13th Street - WBL (s)	1244.8	521	521
Segment: Railroad Avenue south of 13th Street (s)	18.4	18.4	18.4
<i>Sum WBL (Minutes)</i>	26.7	15.7	18
<i>TOTAL DELAY TO SB RAILROAD (HRS)</i>	232.5	178.7	204.9
<i>TOTAL DELAY LEAVING CANYON (HRS)</i>	682.2	335.5	412.5

Notes:

(s): in seconds

NBL: Northbound Left

WBL: Westbound Left

WBR: Westbound Right

**TABLE 24A
SUMMARY OF EVACUATION DELAY
AFTERNOON PEAK HOUR (WORST-CASE CONDITIONS)**

Existing Conditions						
No.	Intersection	Approach	Approach Lanes	Volume	Approach Delay [a]	Minutes of Congestion [b]
5	Railroad Avenue & 13th Street	Northbound	2	1427	9.7	71
		Southbound	2	1402	7.5	70
		Westbound	1	1537	1244.8	154
16	Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2	Northbound	1	1537	N/A	
		Southbound	N/A			
		Eastbound	1	0	N/A	
		Westbound	N/A			
17	Arch Street & 12th Street & Dockweiler Drive	Northbound	1	122	0	12
		Southbound	1	0	N/A	
		Eastbound	1	75	0	8
		Westbound	1	1340	284.7	134
SEVERE CONGESTION = 154 MINUTES (2.6 HOURS)						

Notes:

[a] Approach Delay determined by using HCM 6th Edition methodology

[b] Minutes to Clear determined by using an assumed vehicular flow of 600 vehicles per lane per hour

 Indicates highest congestion for exiting Canyon traffic

**TABLE 24B
SUMMARY OF EVACUATION DELAY
AFTERNOON PEAK HOUR (WORST-CASE CONDITIONS)**

Future with Project Conditions with Traffic Signal						
No.	Intersection	Approach	Approach Lanes	Volume	Approach Delay [a]	Minutes of Congestion [b]
5	Railroad Avenue & 13th Street	Northbound	2	1740	13.1	87
		Southbound	2	1940	22.5	97
		Westbound	3	2008	365.9	67
16	Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2	Northbound	2	1740	70.1	87
		Southbound	2	169	35.6	8
		Eastbound	1	0	N/A	
		Westbound	1	99	68.3	10
17 [c]	Arch Street & 12th Street & Dockweiler Drive (traffic signal)	Northbound	2	328	53.3	16
		Southbound	2	0	N/A	
		Eastbound	1	75	32.7	8
		Westbound	2	1340	287	67
SEVERE CONGESTION = 87 MINUTES (1.5 HOURS)						

Notes:

[a] Approach Delay determined by using HCM 6th Edition methodology

[b] Minutes to Clear determined by using an assumed vehicular flow of 600 vehicles per lane per hour

[c] With the Dockweiler Dr Extension, Intersection #17 would be controlled by a traffic signal

 Indicates highest congestion for exiting Canyon traffic

**TABLE 24C
SUMMARY OF EVACUATION DELAY
AFTERNOON PEAK HOUR (WORST-CASE CONDITIONS)**

Future with Project Conditions with Roundabout						
No.	Intersection	Approach	Approach Lanes	Volume	Approach Delay [a]	Minutes of Congestion [b]
5	Railroad Avenue & 13th Street	Northbound	2	1740	13.1	87
		Southbound	2	1940	22.5	97
		Westbound	3	2008	365.9	67
16	Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2	Northbound	2	1740	70.1	87
		Southbound	2	169	35.6	8
		Eastbound	1	0	N/A	
		Westbound	1	99	68.3	10
17B [c]	Arch Street & 12th Street & Dockweiler Drive (roundabout)	Northbound	1	328	21.9	33
		Southbound	1	0	N/A	
		Eastbound	1	75	12.6	8
		Westbound	1	1340	425.2	134
SEVERE CONGESTION = 134 MINUTES (2.2 HOURS)						

Notes:

[a] Approach Delay determined by using HCM 6th Edition methodology

[b] Minutes to Clear determined by using an assumed vehicular flow of 600 vehicles per lane per hour

[c] With the Dockweiler Dr Extension, Intersection #17 would be controlled by a roundabout

Indicates highest congestion for exiting Canyon traffic

Chapter 10

Non-CEQA Analysis: Project Construction

This chapter describes the temporary effects of Project construction on the surrounding sidewalks and streets and how construction activities would affect pedestrian, bicycle, transit, and vehicular circulation.

EVALUATION CRITERIA

The TAU requires that the Project construction period be reviewed to determine the extent and the duration to which Project construction would interfere with pedestrian, bicycle, transit, or vehicular circulation and accessibility in the surrounding vicinity. To address this requirement three types of review were conducted:

- Temporary Transportation Constraints: This relates to the closure of streets or travel lanes. The review considers the duration of closure, the classification of the street, existing congestion levels, whether the street directly leads to a freeway ramp, and the closure's potential effect on safety and emergency services.
- Temporary Loss of Access: This relates to the closure of any bicycle or pedestrian facilities or the loss of access to any nearby parcels. The review considers the duration of closure or loss of access, the availability of alternative facilities or access, and the extent to which this condition would result in safety, convenience, or economic issues.
- Temporary Loss of Bus Stops or Rerouting of Bus Lines: This relates to the effects of Project construction on public transit operations. The review considers the duration that an existing bus stop would be unavailable and the potential to temporarily relocate the stop, the duration that existing service routes would be interrupted and the availability of alternative routes, and whether interruptions would occur on weekdays, weekends, or holidays.

Additionally, this chapter reviews the effect of Project construction on parking and compares the level of construction-related traffic to that generated by the Project once operational.

PROJECT SETTING

As detailed in Chapter 2, the Project Site is currently vacant and does not provide any transit stops along the Project frontage. The existing transit lines in the area are shown in Figure 6 and summarized in Table 4. Transit stops are listed in Table 3. On-street parking is prohibited along the Project frontage.

Surrounding the Project Site are a mix of residential, commercial, and institutional uses. Residential developments are predominant in the area, with commercial developments directly south of the Project Site and along Railroad Avenue to the west.

PROJECT CONSTRUCTION DETAILS

The construction information used in this section was provided by the Applicant.

Construction Schedule

On-site construction activity would occur between 7:00 AM and 7:00 PM on weekdays and between 8:00 AM and 6:00 PM on Saturdays, consistent with the City's construction hour restrictions. There may be additional restrictions on construction activity or hauling during commuter peak periods, to be determined during the construction permitting process. Additionally, any construction within the public ROW would be subject to additional time restrictions. Construction would not occur on Sundays or federal holidays, though construction-related street or sidewalk closures may remain in place even on days construction does not occur.

The Applicant developed a detailed projection of the anticipated timeline for Project construction. It is important to note that the construction schedule is a long-range forecast that is inherently subject to change based on market conditions and the availability of financing. The schedule described below represents a reasonable projection for Project construction for use in this assessment. However, in practice, it could be compressed (resulting in more intensive construction activity over a shorter duration), extended (resulting in less intensive construction

activity over a longer duration), or staggered (resulting in similar intensity as in the forecast schedule but with periods of inactivity between construction phases).

The Project is anticipated to be constructed in two primary segments. Segment 1 would consist of: site clearing (generally one to two months), grading and excavation, utility placement, and construction of culverts, retaining walls and on-site bridges. Segment 2 includes the building of the various on-site structures, finishing work, and parking lot/garage construction. It is anticipated that these two construction segments would be continuous with no long break between the two.

Within each segment, the Applicant has developed a forecast schedule for construction. Segment 1, Site Development, would last approximately 18 months beginning in November 2023 and ending in April 2025. The Construction Activity, Segment 2, would last approximately 20 months from May 2025 to December 2026. The construction schedule includes three months of inclement weather contingency, which could push the ultimate completion date from December 2026 to March 2027. The following analysis will consider the more aggressive construction schedule that is completed in 38 months between November 2023 and December 2026.

Accommodations for Public Transit

There are no transit-serving facilities on-site or along the Project frontage; therefore, no accommodations will be required for public transit access.

Construction Traffic

Project construction would result in truck traffic (haul trucks, delivery trucks, concrete trucks) and worker traffic to and from the Project Site on a daily basis. Detailed information about the maximum numbers of trucks and workers that would be required during each phase of Project construction is provided below.

Trucks. Haul trucks carry dirt or debris away from the Project Site. Haul truck activity is heaviest during grading and excavation periods. Most of the haul from this site will consist only of brush and tree removals as any excavated dirt will be re-used on-site for fill purposes. The peak debris

haul truck activity is anticipated to occur during brush clearance when approximately 100 10-yard trucks will be utilized to haul green debris to the Chiquita Canyon Landfill over a period of three weeks, resulting in approximately seven debris haul trips per day on average. Debris haul trucks would travel on Lyons Avenue and Henry Mayo Drive between I-5 and the Project Site. The haul route is subject to City review and approval during the construction permitting process.

Concrete truck trips to the Project Site are concentrated on concrete pour days, such as when pouring building foundations or when the garage is constructed. These trucks often arrive and leave over the first half of the day so the remainder of the day can be devoted to leveling and smoothing the concrete and to allow ample time to set before it can be worked on the following day, though when exceptionally large concrete pours are required, the hours could be extended. Concrete activity is expected to occur over approximately eight months. The number of concrete trucks per day would vary depending on the size of a particular pour but would average approximately 15 trucks per day over the concrete activity period. For large concrete pours, a Worksite Traffic Control Plan could be required by the City.

Delivery truck traffic is highest during building construction and finishing and, therefore, does not generally overlap with peak haul truck traffic. The Project would have an average of approximately 15 to 20 daily deliveries during this period of approximately 20 months.

Workers. The number of workers at the Project Site is highest during building construction and finishing. There could be as many as 450 workers overall at the Project Site during the building construction and finishing stage.

Construction Closures

This transportation assessment analyzed the effects of Project construction on surrounding sidewalks and streets. Construction activities would be primarily contained within the Project Site boundaries, but temporary sidewalk and lane closures could be necessary to construct any street or sidewalk improvement along the Project frontage or any off-site improvements at the key Study Intersections. All lane closures would require temporary traffic control plans that would be individually reviewed and approved by the City during the construction permitting process.

Project construction would not prevent pedestrian or vehicular access to any neighboring properties. The construction of improvements along 13th Street and along Arch Street would require temporary traffic control patterns to retain access to adjacent properties.

EFFECTS OF PROJECT CONSTRUCTION

The severity of the Project's effects on circulation, access, transit, and parking during construction was assessed. The measures proposed below to minimize the negative effects of Project construction would be incorporated into a Construction Management Plan, summarized at the end of this chapter.

Temporary Transportation Constraints

As discussed above there would temporary lane closures along 13th Street and Arch Street to accommodate improvements to the roadway and the Project frontage.

It is important to note that travel lane closures refer to the closure of some or all of the physical space that the travel lane currently occupies but may not result in an actual reduction in road capacity. At both locations, it may be feasible to temporarily narrow and/or shift lanes during construction in order to maintain a lane that would otherwise be removed. At each location, at least one travel lane would remain open in each direction at all times.

Temporary Loss of Access

The Project is not expected to result in any temporary or permanent loss of access for any adjacent properties.

Temporary Loss of Bus Stops or Rerouting of Bus Lines

As discussed earlier, there are no current transit facilities on-site or along the Project frontage; therefore, no accommodations will be required to maintain current access levels.

Temporary Loss of On-Street Parking

On-street parking is generally prohibited along the Project frontage, so no loss of on-street parking is expected.

Construction Traffic

Project construction would result in varying levels of truck and worker traffic to and from the Project Site on a daily basis. However, the total numbers of daily and peak hour trucks and workers on any given day would be substantially less than the Project traffic estimates upon operation, detailed in Table 6.

Construction workers often arrive to and depart from the Project Site outside of the morning and afternoon peak hours. Many workers would drive their own vehicles to and from the Project Site, but some would carpool with coworkers and some would ride public transit. The Construction Management Plan would include a measure requiring contractors to provide information to construction workers regarding the availability of transit to and from the Project Site. For those workers who drive, parking would be provided on-site.

CONSTRUCTION MANAGEMENT PLAN

A detailed Construction Management Plan, including street closure information, a detour plan, haul routes, and a staging plan would be prepared and submitted to the City for review and approval during the construction permitting process. The Construction Management Plan would formalize how construction would be carried out and include a Worksite Traffic Control Plan, which

would facilitate traffic and pedestrian movement and minimize the potential conflicts between construction activities, street traffic, bicyclists, and pedestrians.

The Construction Management Plan shall be based on the nature and timing of the specific construction activities and other projects in the vicinity of the Project Site, and shall include, but not be limited to, the following elements, as appropriate:

- Preparation of a vicinity map identifying construction access locations, haul truck staging locations, a haul truck route map, and detour plans, when applicable, for grading and excavation of each block.
- Scheduling workdays to begin and end outside of the morning and afternoon peak hours to the extent feasible so as to minimize worker trips during those peak hours.
- Scheduling of construction-related deliveries and haul trips to occur outside the commuter peak hours (e.g., from 9:00 AM to 4:00 PM) to reduce the effect on traffic flow on surrounding streets.
- Scheduling of construction-related deliveries so as not to coincide with major concrete pour days, to the extent feasible.
- Provision of worker parking on-site.
- Prohibition of construction-related vehicle parking on surrounding public streets.
- Requirement for contractors to provide public transit information to workers.
- Temporary traffic control (e.g., flag persons) during all construction activities adjacent to public ROW to improve traffic flow on public roadways and to maintain access for land uses in the vicinity of the Project Site.
- Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers as appropriate.
- Planning and scheduling of construction activities so as to minimize the duration of sidewalk and lane closures and public transit detours.
- Coordination with emergency service providers to ensure that Project construction does not impede emergency response.
- Provision of regular construction updates for adjacent businesses and residents through a website or social media.

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Transportation Analysis Scope for the Blackhall Studios Project, Santa Clarita, California, Gibson Transportation Consulting, Inc., September 27, 2021.

References, cont.

Transportation Analysis Updates in Santa Clarita, Fehr & Peers, May 19, 2020.

Trip Generation Manual, 11th Edition, Institute of Transportation Engineers, 2021.

Appendix A

**Transportation Analysis Scope
for the Blackhall Studios Project,
Santa Clarita, California
(GTC, September 27, 2021)**



September 27, 2021

Ian Pari
City of Santa Clarita
23920 Valencia Blvd., Suite 300
Santa Clarita, CA 91355

cc: Mr. Jeff Weber, J.L.W. Equities, Inc.

**Re: TRANSPORTATION ANALYSIS SCOPE FOR THE
BLACKHALL STUDIOS PROJECT
SANTA CLARITA, CALIFORNIA**

Ref: J1814a

Dear Mr. Pari:

This letter summarizes the proposed scope for a transportation analysis (TA) for a new studio development (Project) located in the City of Santa Clarita (City), California (State). The Project includes the development of 475,000 square feet (sf) of stage area, 560,000 sf of studio support (including 22,272 sf of catering space), and 200,000 sf of production office. Base camp areas, a parking structure, and potential back lot space will also be provided.

Primary access to the Project site is proposed via one driveway on 12th Street and two driveways on 13th Street east of Railroad Avenue. Internal circulation will be provided by on-campus loop roads that deliver all campus traffic to/from the three proposed driveways. Similar to the previously-approved residential project on the site, the Project site will be served by the Dockweiler Drive Extension Project (DDEP), which would improve access to/from the south. However, the Project proposes to signalize Arch Street & 13th Street and locate two driveways (Gate 1 Driveway and Gate 2 Driveway) at this intersection. Arch Street, and possibly a portion of 13th Street, may be renamed to Dockweiler Drive with completion of the DDEP.

The Project site plan is shown in Figure 1. A list of the proposed study intersections is provided in Table 1 and shown in Figure 2.

ANALYSIS REQUIREMENTS

Gibson Transportation Consulting, Inc. (GTC), along with representatives from J.L.W. Equities, Inc. (Applicant), met with City Planning and Public Works staff to discuss requirements for the TA. GTC also reviewed the guidelines in *Transportation Analysis Updates in Santa Clarita* (Fehr & Peers, May 19, 2020). The following requirements were identified for the TA:

California Environmental Quality Act (CEQA) Analysis

- Review of local transportation plans, policies, and ordinances to ensure Project compliance
- Vehicle Miles Traveled screening and analysis utilizing the Southern California Association of Governments Travel Demand Model
- Review of potential geometric hazards

Non-CEQA Analysis

- Review of existing transportation conditions within the Study Area, including intersection lane configurations, bike lanes, pedestrian enhancements, and transit options
- Review of proposed transportation improvements within the Study Area
- Estimation of net new Project-related trips based on *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017) and empirical rates for studio campuses based on local studies
- Analysis of any intersection or roadway segment where the Project would add 50 or more net new peak hour trips
- Use of Highway Capacity Manual methodology using the City's Synchro network for the capacity analyses
- Analysis of existing year and interim year 2028 conditions with and without the DDEP and with and without Project traffic
- Coordination with the California Department of Transportation for analysis of State facilities

PROJECT TRIP GENERATION AND DISTRIBUTION

Trip Generation

The number of trips expected to be generated by the Project was estimated using empirical rates for stage, support, and production office uses. These rates were utilized to calculate the number of vehicle trips traveling to and from the Project site during the morning and afternoon peak hours relative to the size of development.

Table 2 shows the projected trip generation of the Project. As shown, the Project would generate 6,993 daily trips, with 569 (364 inbound and 205 outbound) occurring in the morning peak hour (7:00-8:00 AM) and 649 (283 inbound and 366 outbound) occurring in the afternoon peak hour (5:00-6:00 PM).

Trip generation for a studio campus is generally more spread out over the course of a day than other employment or residential land uses that have more concentrated peak hour demands. A studio campus generates trips outside the morning and afternoon commuter peak hours. For example, a studio campus experiences 8.1% of its daily traffic in the morning commuter peak

hour and 9.3% in the afternoon commuter peak hour. Comparatively, a general office building experiences 14.1% of its daily traffic in the morning commuter peak hour and 13.5% in the afternoon commuter peak hour. Likewise, a residential project experiences 5.9% and 10.5% of its daily traffic in the morning and afternoon peak hours, respectively. Therefore, traffic from a studio development has a lessened peak hour impact on the street system than most employment centers and a lessened traffic impact than residential development during the afternoon peak hour.

Trip Distribution

Per *Placerita Meadows EIR Traffic Study* (Stantec, February 28, 2020) (Residential Report), the study of the previous project on the site, traffic to/from the Project site was distributed onto the street network according to a trip distribution pattern that reflected the location of employment opportunities around the site. The trip distribution patterns used in the Residential Report were modified to reflect the areawide residential trip origins and to emphasize the connections to the freeway system (Interstate 5 and State Route 14).

Intersection level trip distribution is illustrated in Figure 3A for the alternative without the DDEP and Figure 3B for the alternative with the DDEP.

Trip Assignment

The Studio trip generation estimates summarized in Table 2 and the trip distribution patterns shown in Figures 3A and 3B were used to assign the Project-generated traffic through the study intersections. Figures 4A and 4B illustrate the Project-only traffic volumes at the study intersections during typical weekday morning and afternoon peak hours.

FUTURE CONDITIONS

Future Roadway Improvements

The DDEP, which is part of the Circulation Element of the City's General Plan (June 2011), would connect the current roadway terminus to Railroad Avenue at 13th Street. Figure 5 shows a conceptual alignment for the extension.

The DDEP would be important to the Project for two reasons: (1) it would include a major upgrade to the 13th Street at-grade rail crossing at Railroad Avenue, and (2) it would serve as an alternate route to/from the Project for traffic from the south, thus relieving traffic along Railroad Avenue. Figures 6A and 6B show the proposed improvements to the at-grade rail crossing and the improvements along Arch Street and 13th Street that would accompany the DDEP.

As shown in Figures 6A and 6B, 13th Street would be widened to provide five traffic lanes over the railroad tracks adjacent to Railroad Avenue. The railroad tracks serve Metrolink trains and approximately eight freight trains per day. Any revisions to an at-grade rail crossing in the State

need to be approved by the Public Utilities Commission (PUC); the at-grade railroad crossing is already under review by the PUC¹.

PROJECT TRAFFIC AND ANALYZED FACILITIES

GTC was asked to analyze the intersections listed in Table 1 and shown in Figure 2. Figures 4A and 4B show the new Project trips at each of the locations proposed for analysis during the morning and afternoon peak hours.

As shown in Figures 4A and 4B, not all of the intersections would experience an increase of 50 or more trips during either the morning or afternoon peak hours, without or with the DDEP. The following intersections do not meet the threshold for analysis based on the Project's trip distribution and will not be included in the TA:

Under Both Conditions

- Intersection #1 I-5 Southbound Ramps & Magic Mountain Parkway
- Intersection #2 I-5 Northbound Ramps & Magic Mountain Parkway
- Intersection #3 Valencia Boulevard & Magic Mountain Parkway
- Intersection #15 I-5 Southbound Ramps & Lyons Avenue
- Intersection #27 SR-14 Northbound Ramps & Placerita Canyon Road

Under No Dockweiler Extension Conditions

- Intersection #23 Valle del Oro & Dockweiler Drive
- Intersection #24 Sierra Highway & Dockweiler Drive

Under with Dockweiler Extension Conditions

- Intersection #11 Newhall Avenue & Valle del Oro

TRAFFIC VOLUMES

Traffic volumes were developed for each of the development scenarios, as described below.

Existing Traffic Volumes

Traffic count data collection is generally conducted during times with typical travel demand patterns (i.e., when local schools are in session, businesses in full operation, weeks without holidays, etc.) However, due to the current traffic conditions related to the State and City's response to COVID-19, traffic counts collected prior to March 1, 2020 were utilized with the application of an adjustment factor.

¹ The 13th Street at-grade railroad crossing east of Railroad Avenue has been shifted slightly to the north to provide a safety buffer zone for the vehicles backing out of the angle parking spaces east of Pine Street. In addition, the crossing design is being investigated to allow the crossing to accommodate WB-67 truck turning movements. This results in a design that is different than the City's alternative that has been seen by the PUC. Should the City or the PUC prefer the original location of the crossing, the design can be shifted southerly to conform to the original. The final design of the railroad crossing will not affect the capacity calculations in the TA because the railroad crossing options all contain the same number of lanes at the intersection.

Weekday peak hour traffic data from the Residential Report and *Lyons Avenue/Dockweiler Drive Extension Project Final Environmental Impact Report* (Parker Environmental Consultants, February 2018) were utilized and adjusted to reflect Existing Year 2021 Conditions. A growth factor of 1.0% per year was applied to each of the study intersections.

The existing intersection peak hour traffic volumes, representing Existing Conditions in Year 2021, are illustrated in Figure 7. Traffic volume data is provided in the Attachment

Interim Year 2028 Transportation Conditions

The forecast of Interim Year 2028 without Project Conditions was prepared in accordance with procedures outlined by the City. This analysis includes increases to traffic from future projects and from regional growth projections based on the Residential Report. The study utilized the Santa Clarita Valley Consolidated Traffic Model (SCVCTM), to develop traffic volumes.

The SCVCTM is a database that includes anticipated development projects (e.g., related projects) and specific plans such as the One Valley One Vision Area Plan, regional growth projections, and various transportation improvement plans. The SCVCTM, updated and managed by the City, can be used to forecast future traffic volumes in the region including intersection level turning movement volumes.

For intersections not included in the Residential Report, the SCVCTM was also utilized to develop traffic volumes in this report. Two interim year scenarios were studied: without the DDEP and with the DDEP.

Interim Year 2028 without DDEP without Project Conditions. This scenario represents the future conditions with the assumption that Dockweiler Drive is not extended from its current terminus at Leonard Tree Lane to the intersection of Arch Street & 12th Street. The traffic volumes for this scenario are shown in Figure 8A and do not include Project traffic.

Interim Year 2028 with DDEP without Project Conditions. This scenario represents the future conditions with the assumption that Dockweiler Drive is extended from its current terminus at Leonard Tree Lane to the intersection of Arch Street & 12th Street. The traffic volumes for this scenario are shown in Figure 8B and do not include Project traffic.

Future Interim Year 2028 with Project Conditions

This analysis scenario projects the potential intersection operating conditions that could be expected if the Project were occupied in the buildout year. In this analysis, the Project-generated traffic is added to the Interim Year 2028 scenarios without and with the DDEP.

The resulting traffic volumes for Interim Year 2028 without DDEP with Project Conditions is provided in Figure 9A and the traffic volumes for Interim Year 2028 with DDEP with Project Conditions is shown in Figure 9B.

Mr. Ian Pari
September 27, 2021
Page 6

Should you have any questions or comments on the proposed scope of analysis for the TA, please don't hesitate to contact us.

Sincerely,



Patrick A. Gibson, P.E., PTOE
Principal Associate



Rich Gibson, LEED Green Associate
Senior Associate

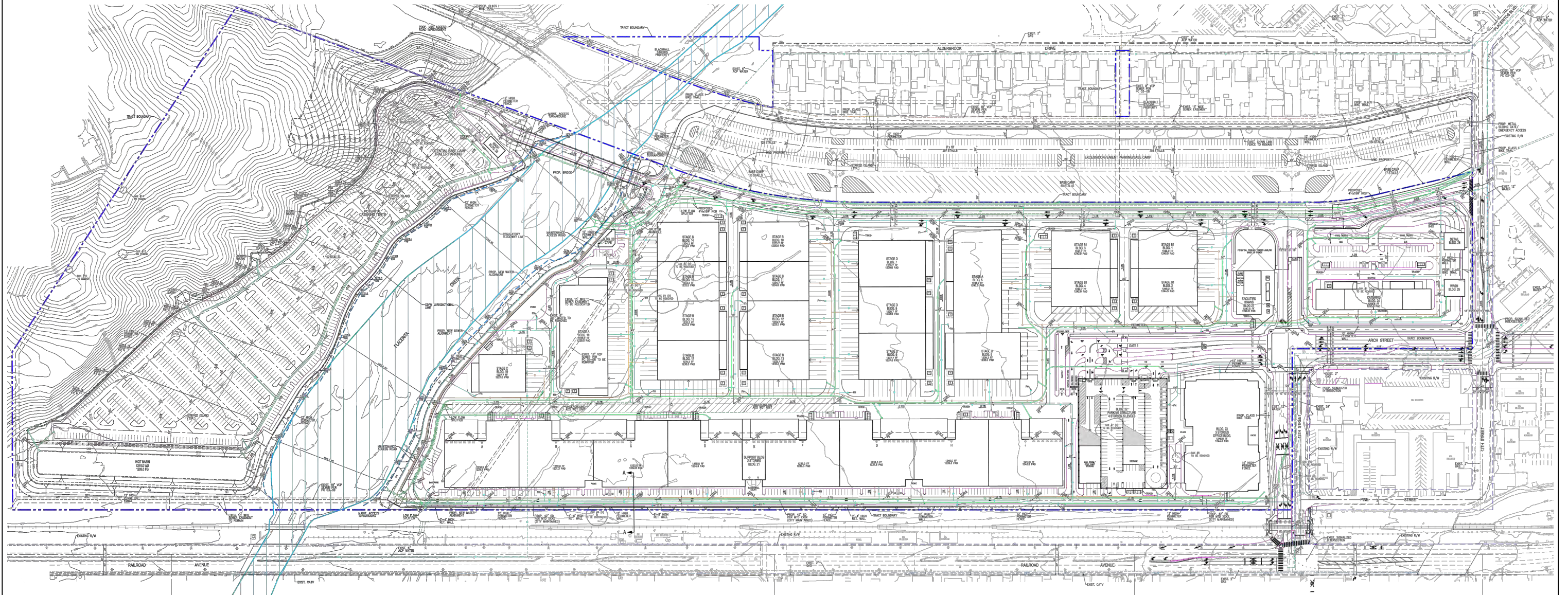


David Roachford
Associate

Accepted and Approved:

Ian Pari
City Traffic Engineer

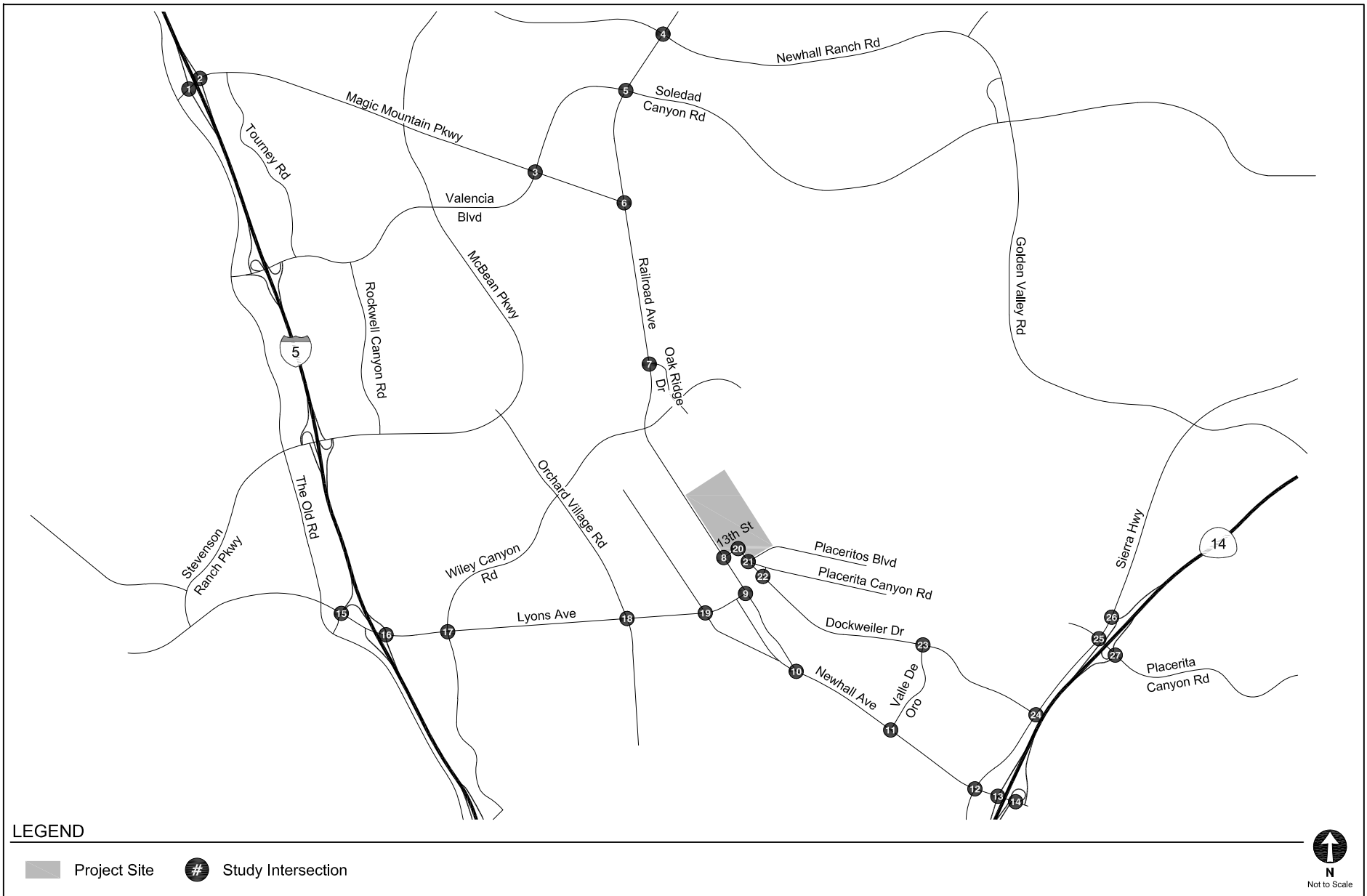
Date



Source: Alliance Land Planning & Engineering, Inc. May, 2021.

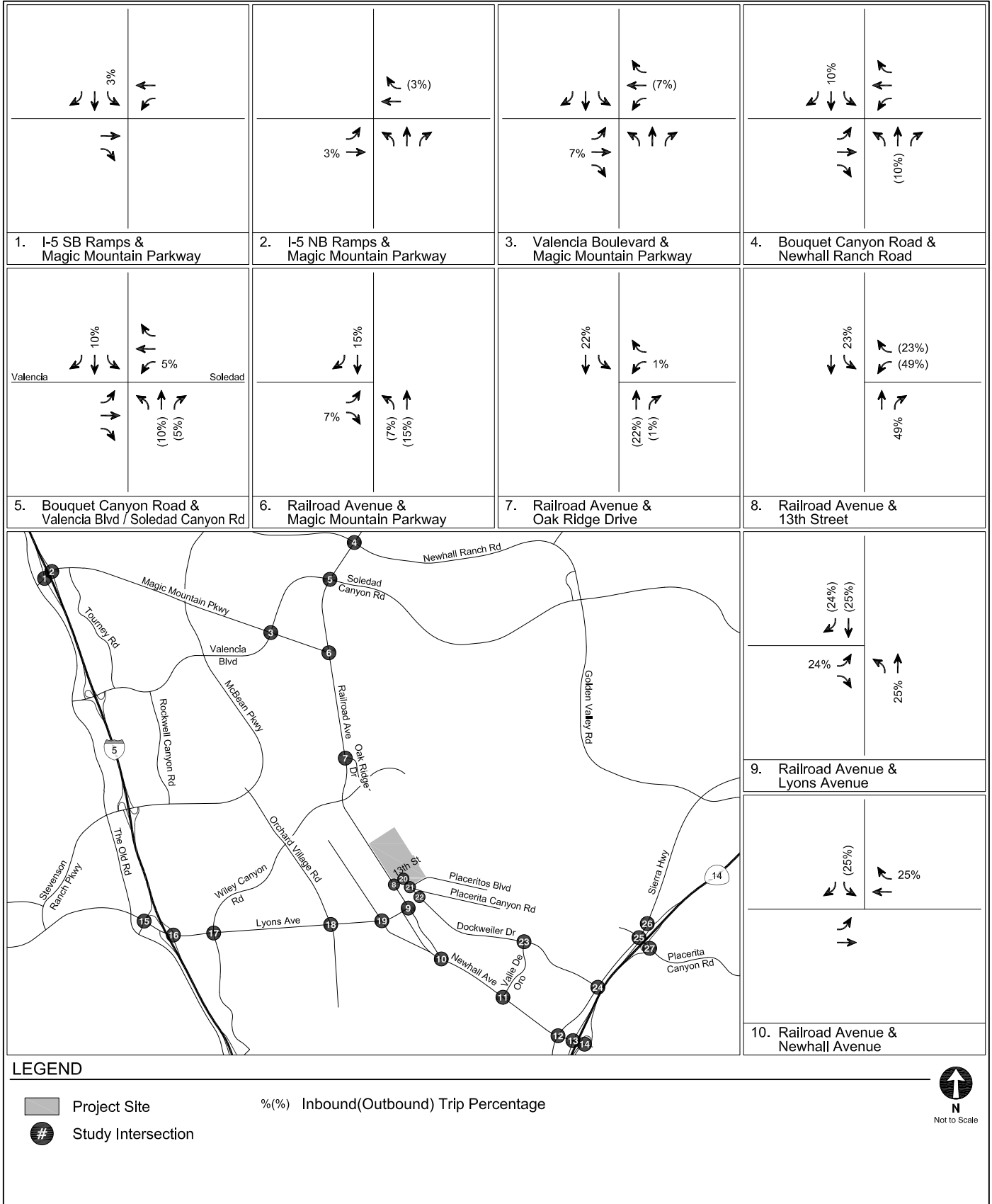
PROJECT SITE PLAN

FIGURE
1



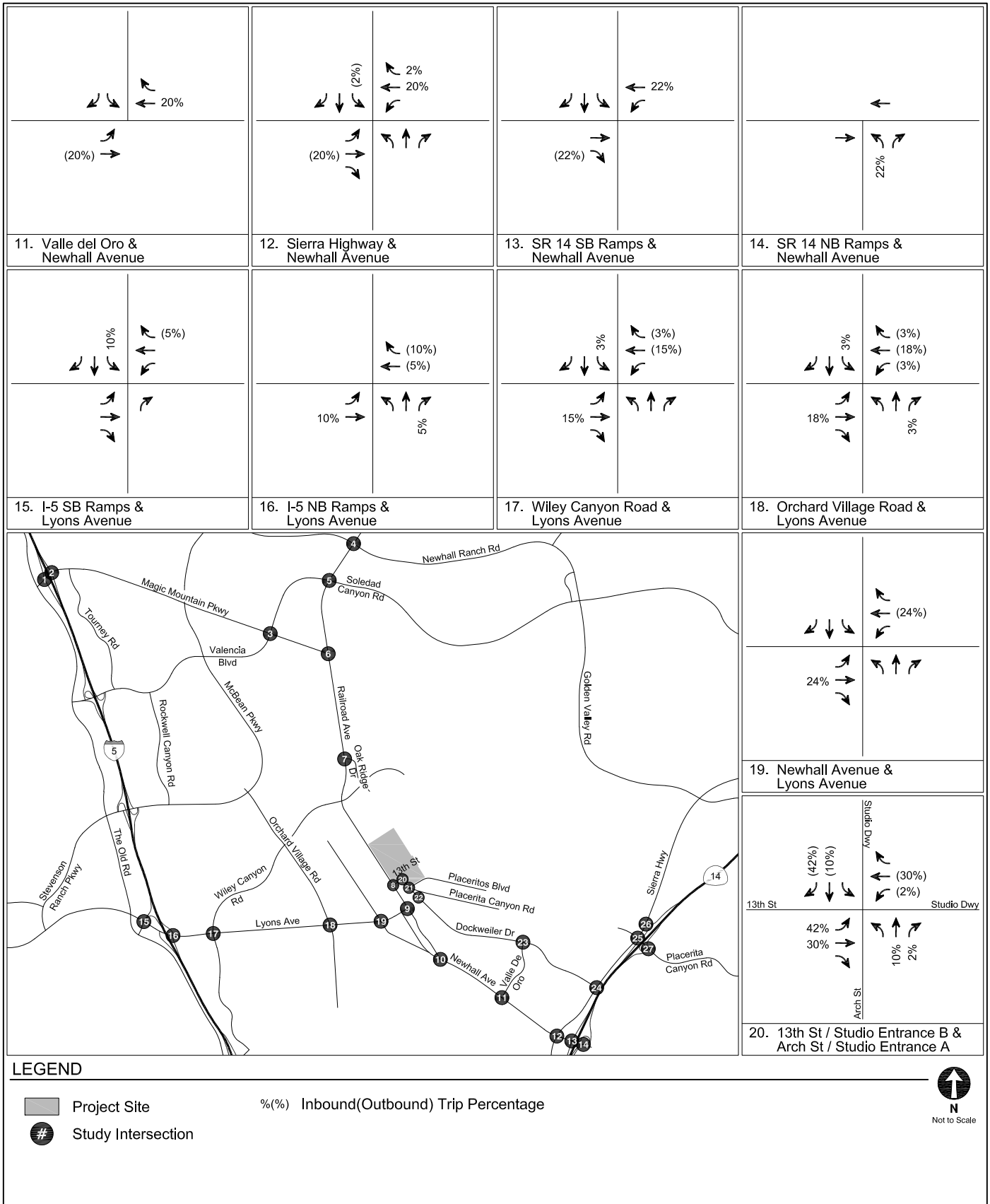
PROPOSED STUDY INTERSECTIONS

FIGURE
2



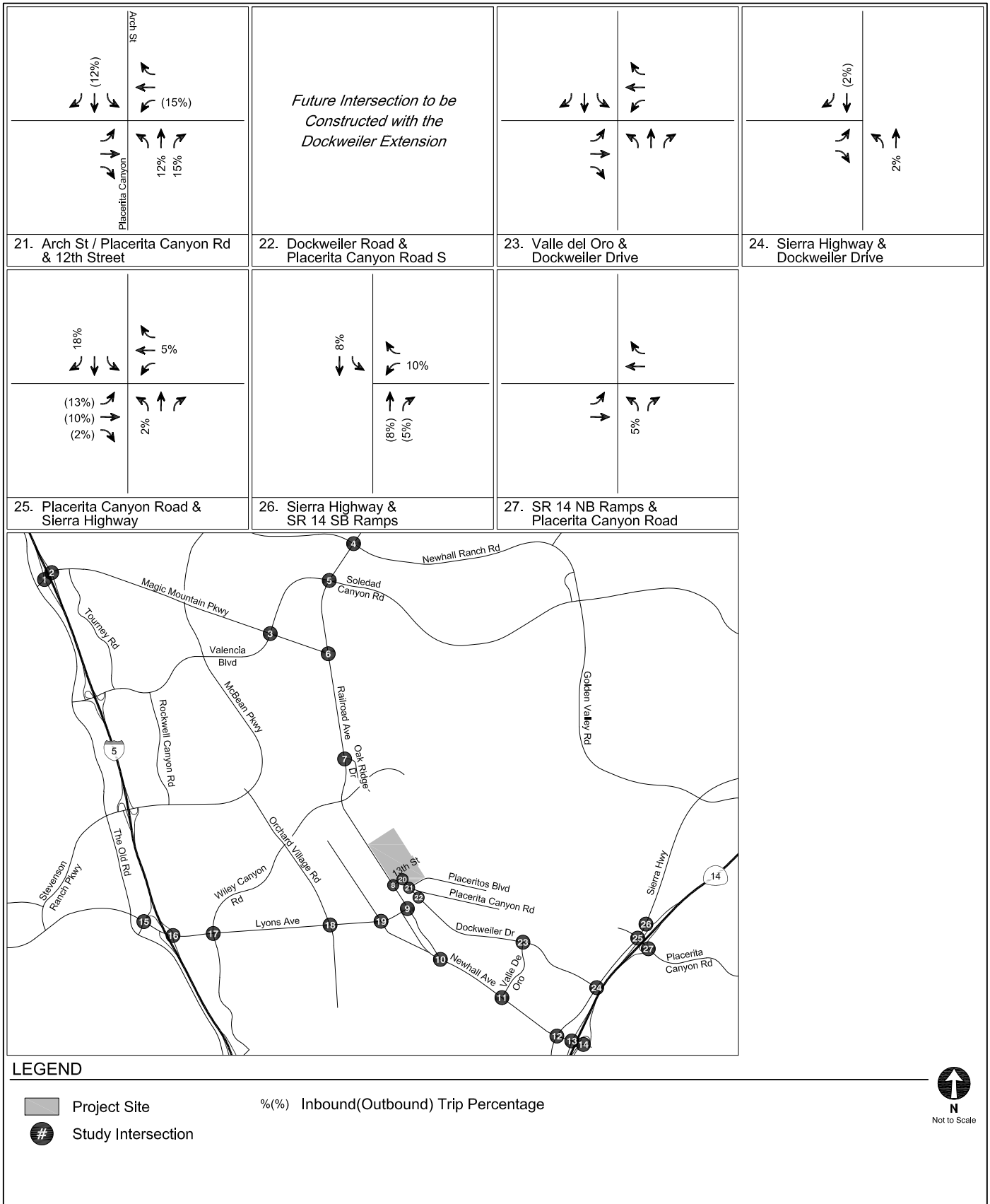
PROJECT TRIP DISTRIBUTION
WITHOUT DOCKWEILER EXTENSION

FIGURE
3A



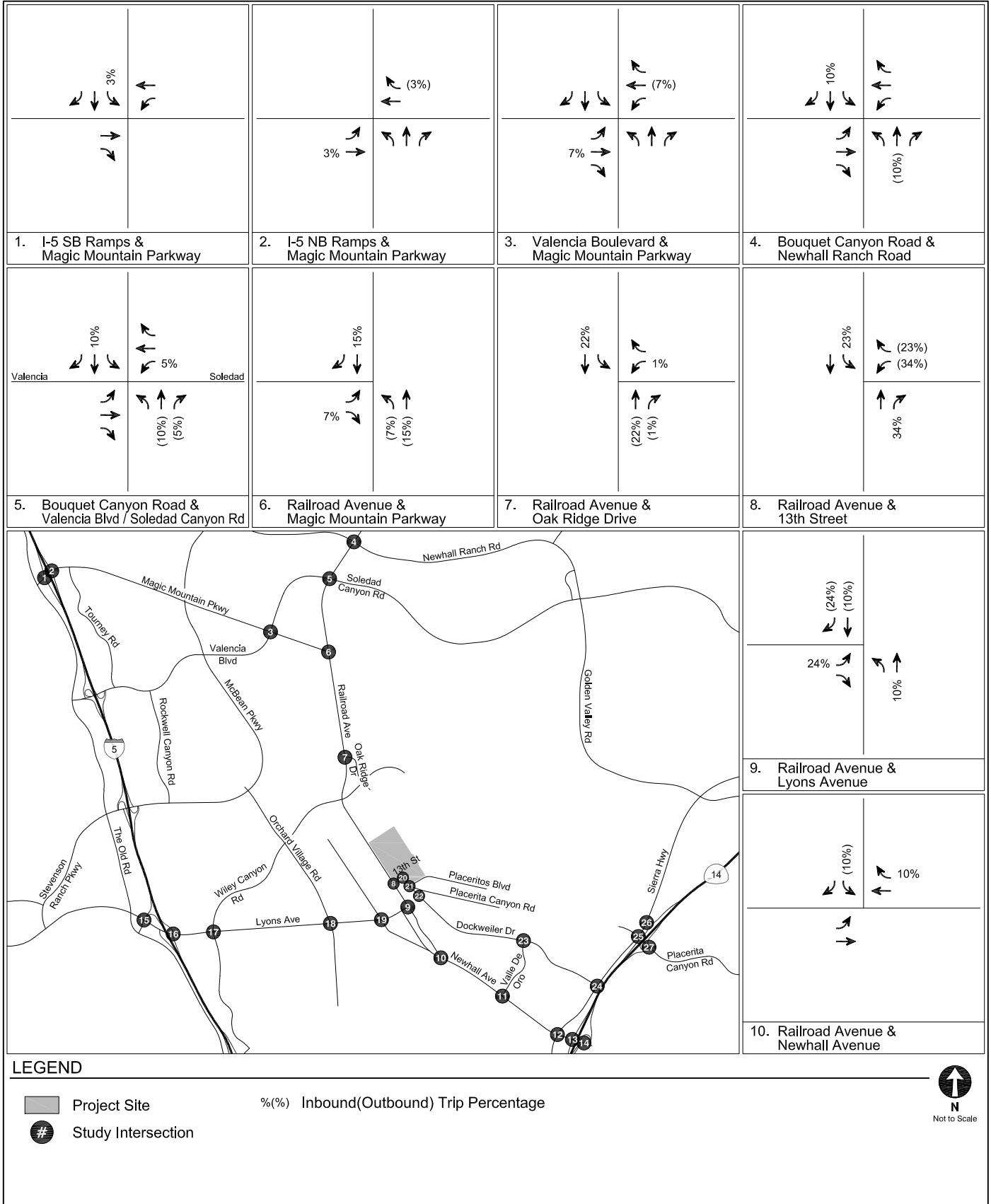
PROJECT TRIP DISTRIBUTION
WITHOUT DOCKWEILER EXTENSION

FIGURE
3A (CONT.)



PROJECT TRIP DISTRIBUTION
WITHOUT DOCKWEILER EXTENSION

FIGURE
3A (CONT.)



LEGEND

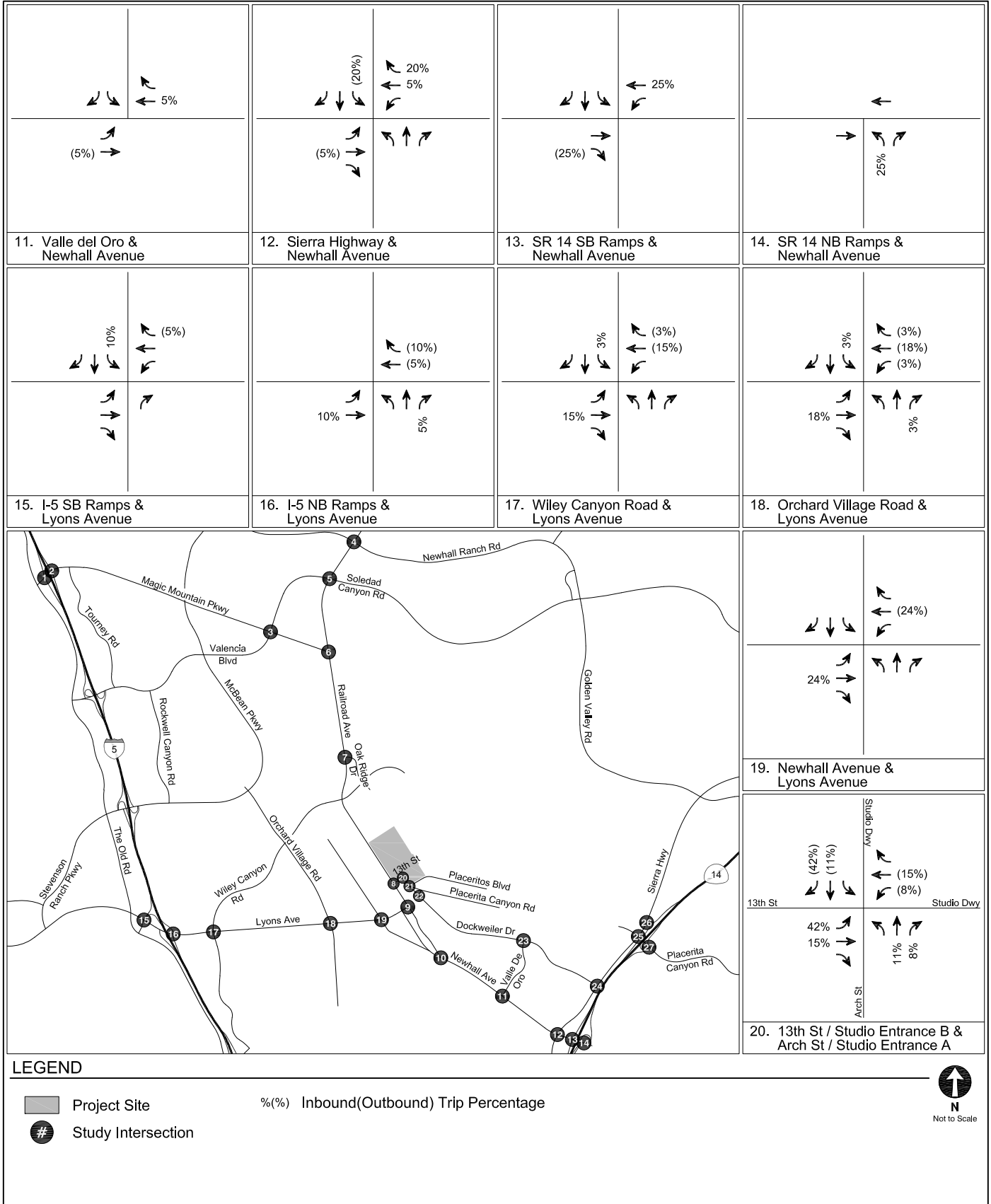
- Project Site
- Study Intersection

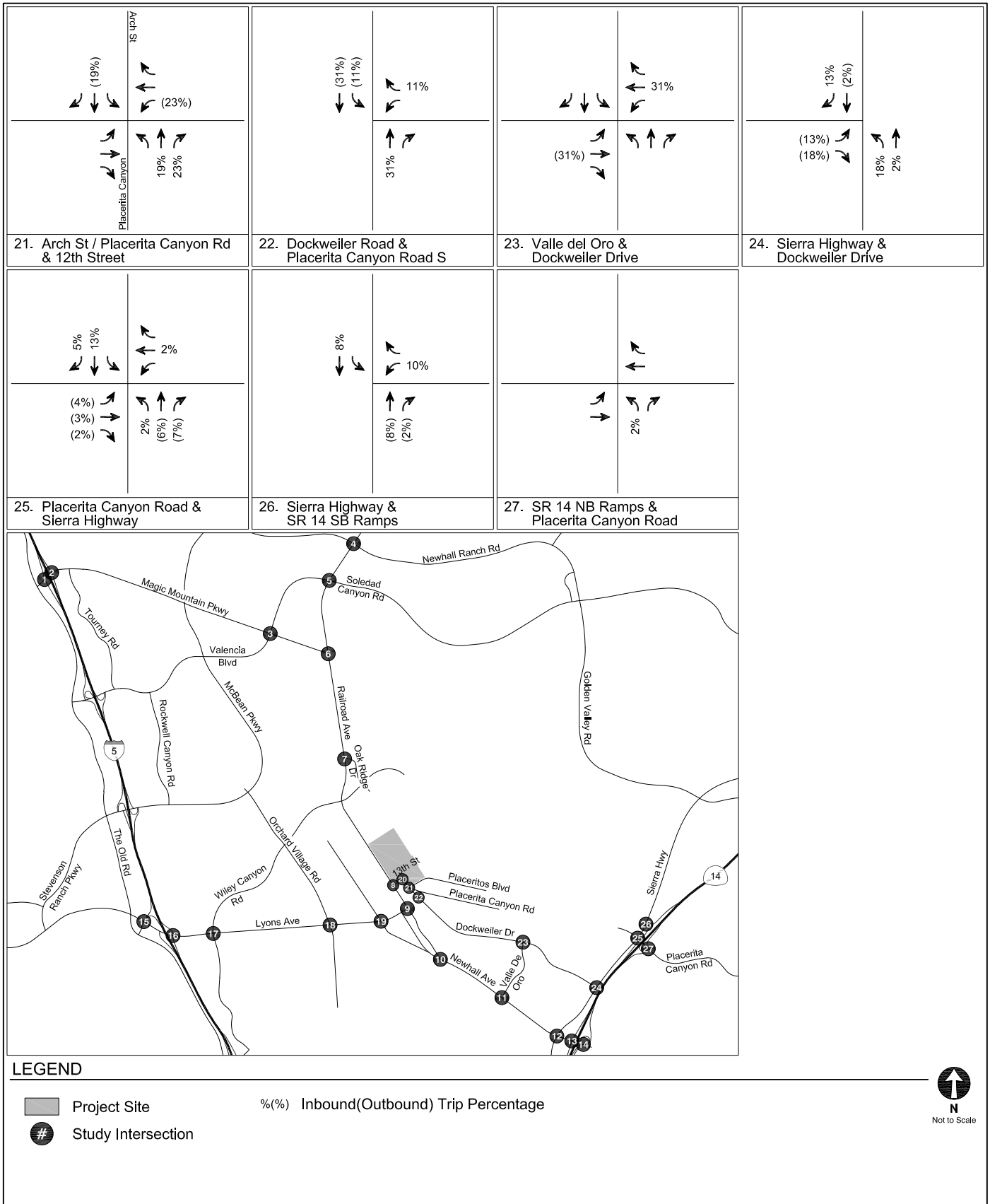
%(%) Inbound(Outbound) Trip Percentage



PROJECT TRIP DISTRIBUTION WITH DOCKWEILER EXTENSION

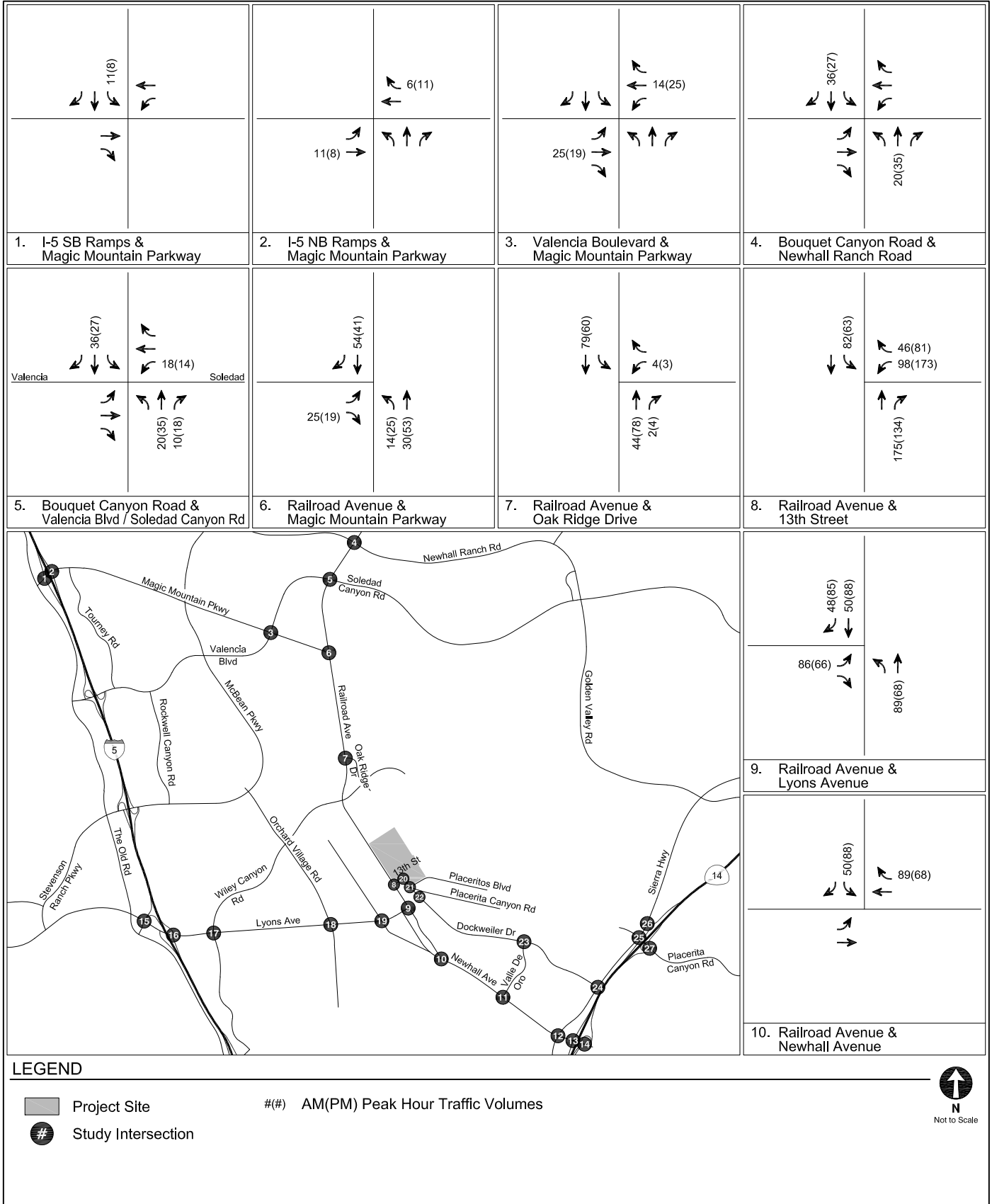
FIGURE 3B





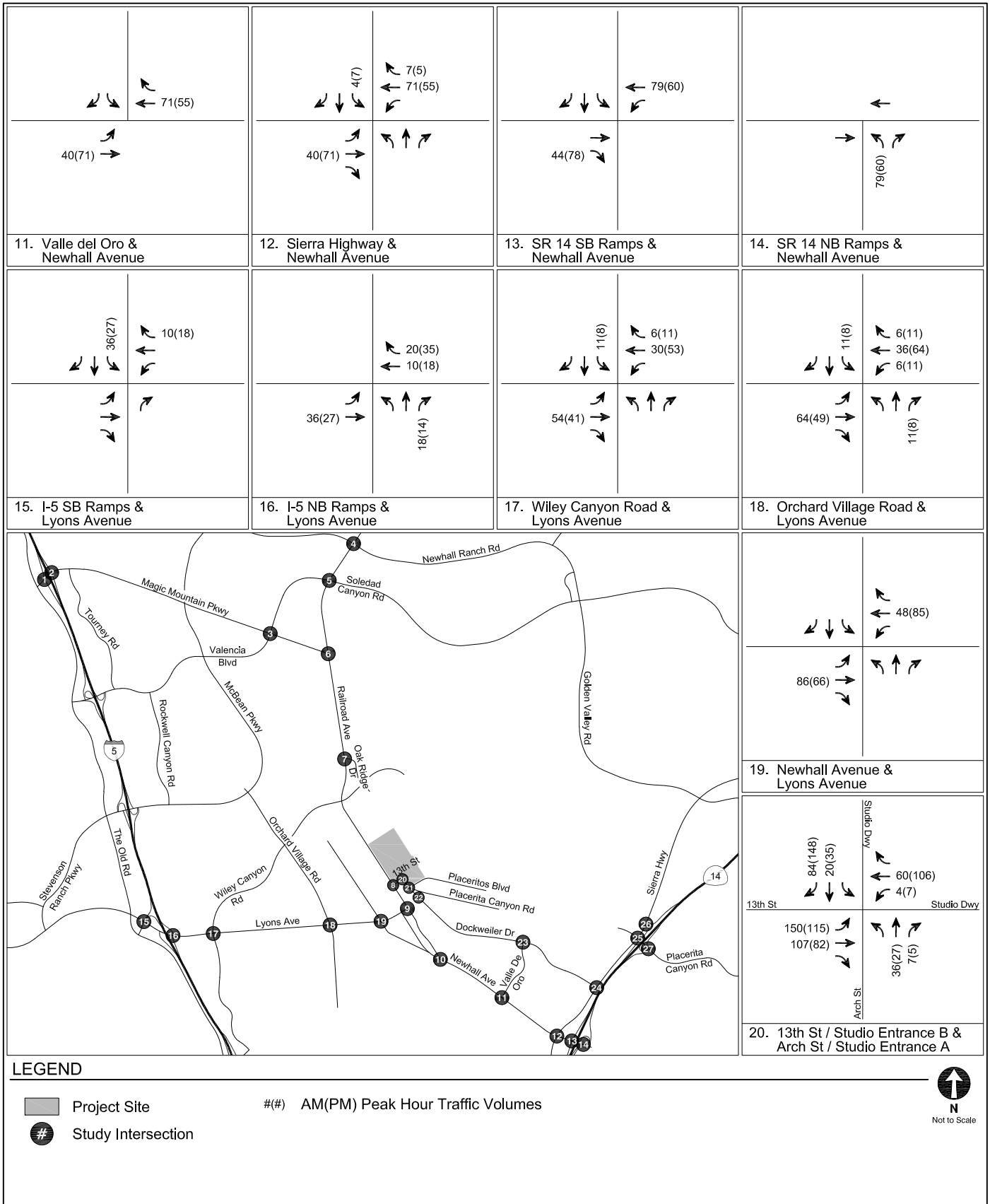
PROJECT TRIP DISTRIBUTION
WITH DOCKWEILER EXTENSION

FIGURE
3B (CONT.)



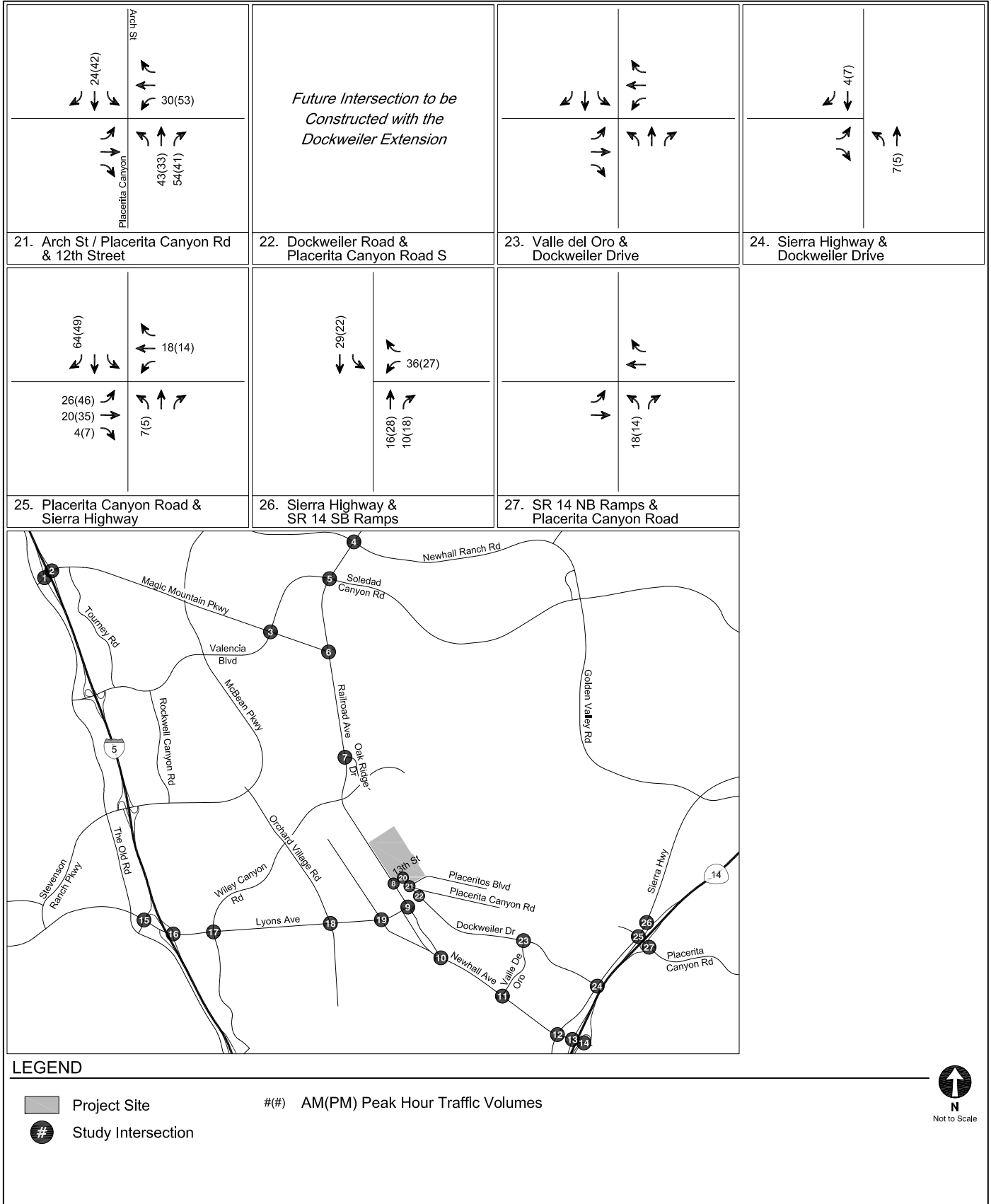
PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES
WITHOUT DOCKWEILER EXTENSION

FIGURE
4A



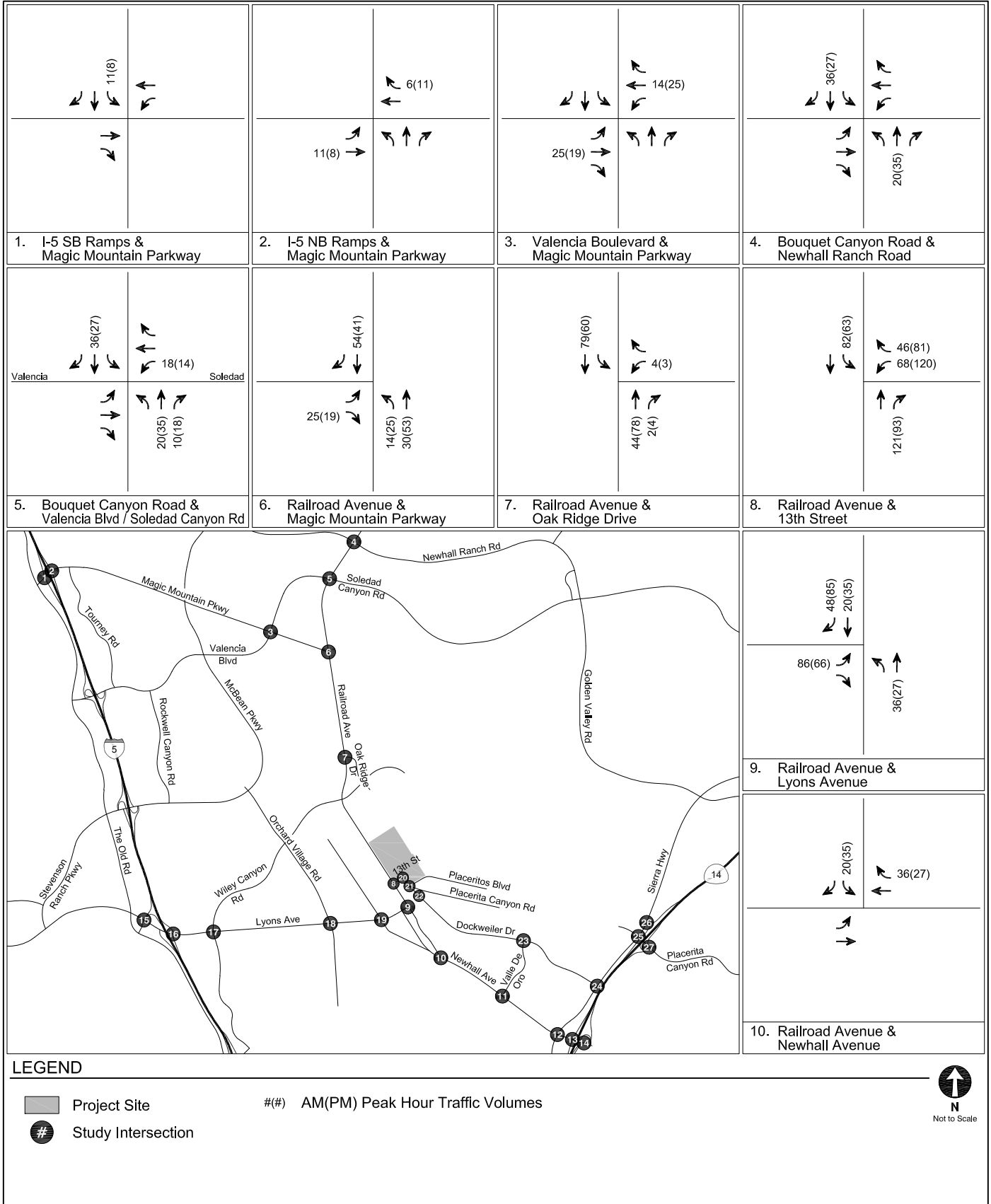
**PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES
WITHOUT DOCKWEILER EXTENSION**

**FIGURE
4A (CONT.)**



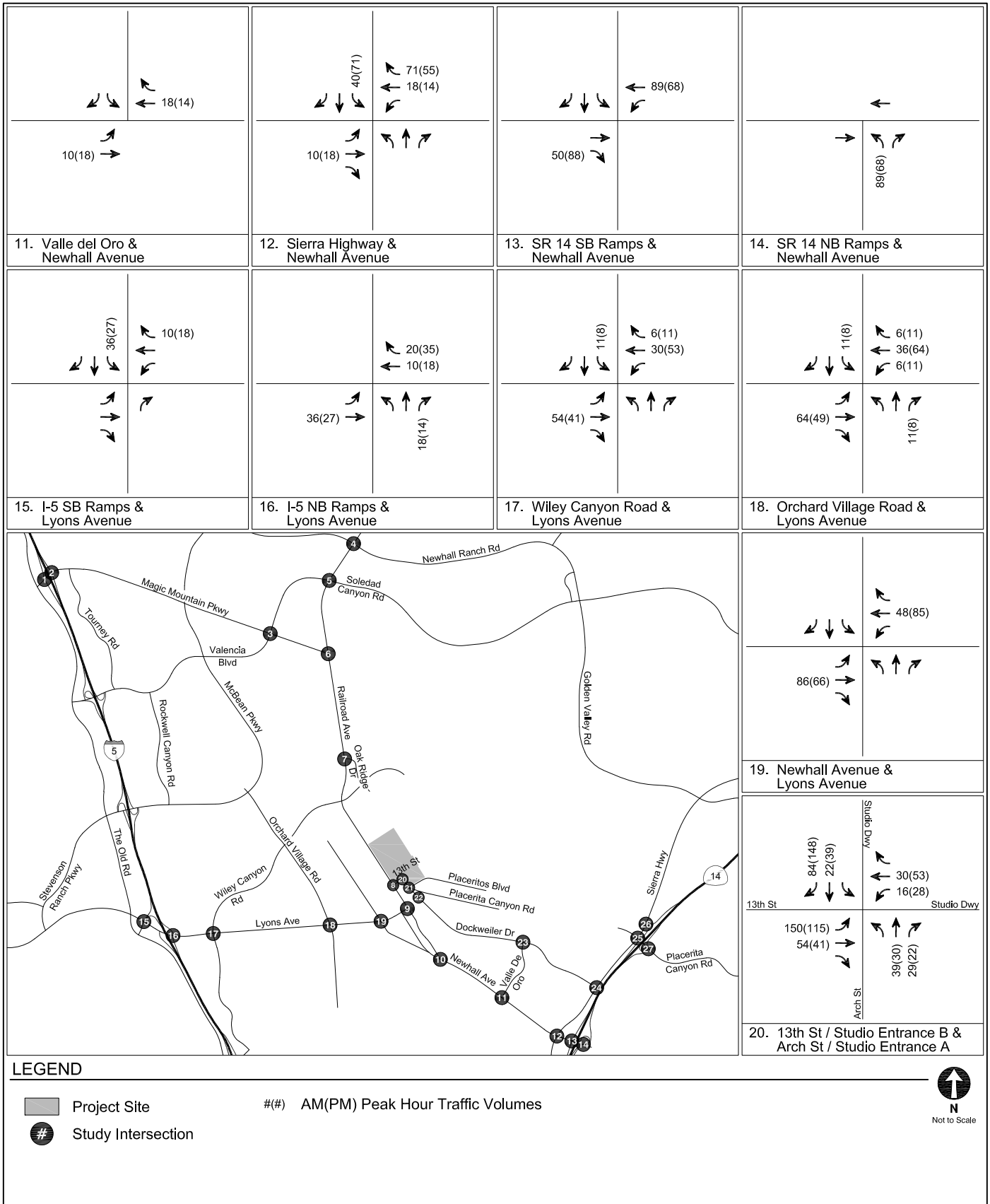
**PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES
WITHOUT DOCKWEILER EXTENSION**

**FIGURE
4A (CONT.)**



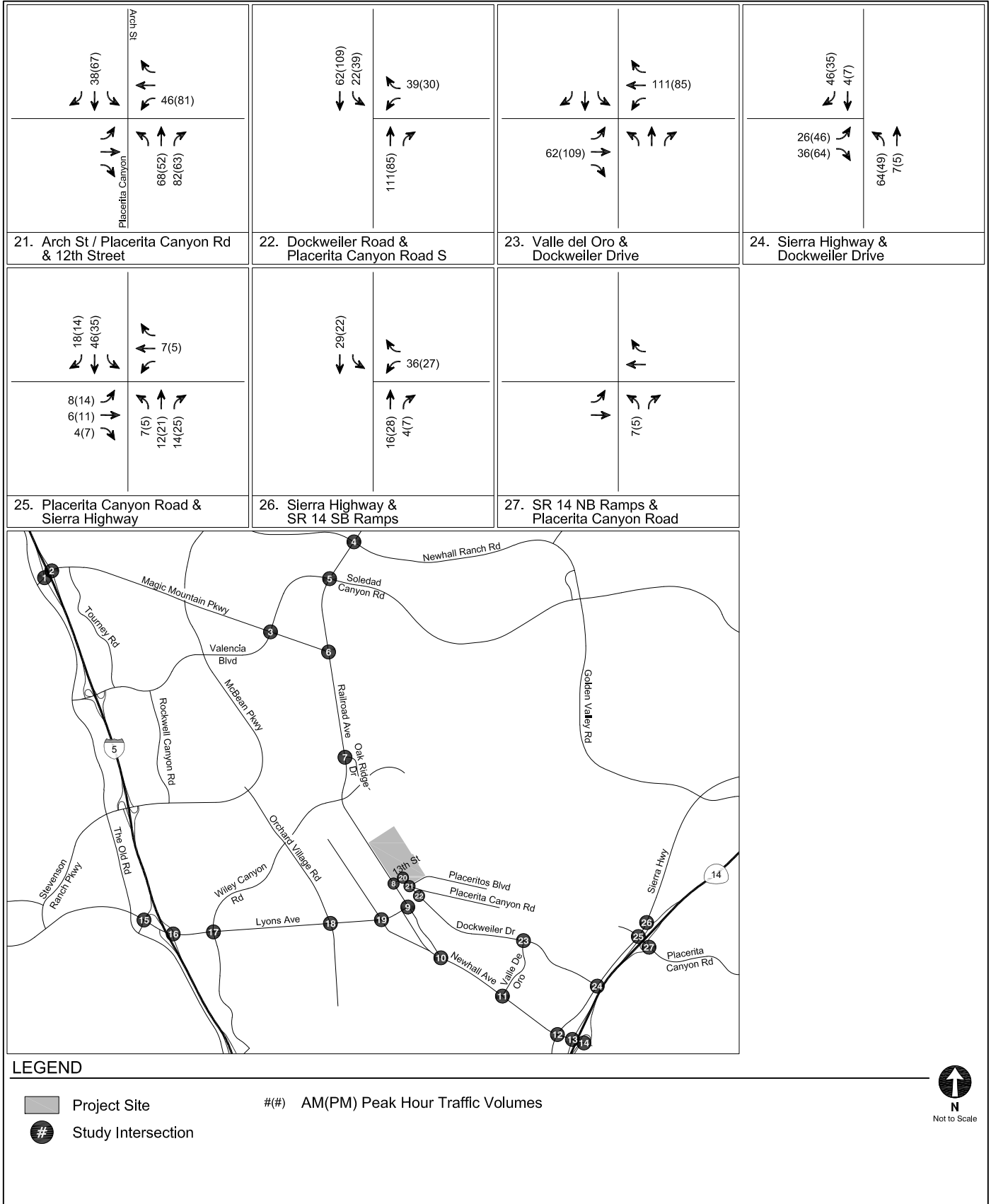
PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES
WITH DOCKWEILER EXTENSION

FIGURE
4B



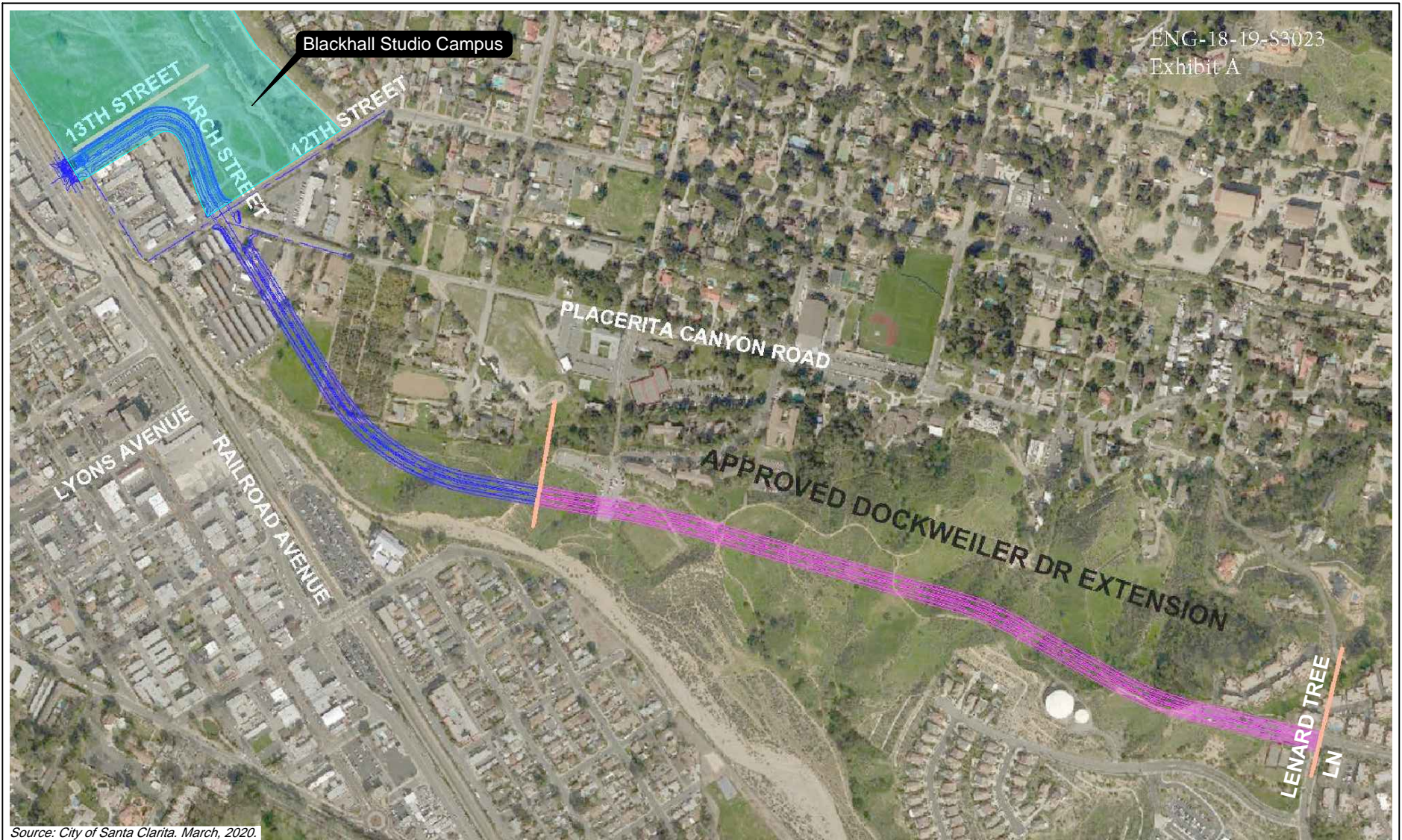
PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES
WITH DOCKWEILER EXTENSION

FIGURE
4B (CONT.)



**PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES
WITH DOCKWEILER EXTENSION**

**FIGURE
4B (CONT.)**



Source: City of Santa Clarita, March, 2020.

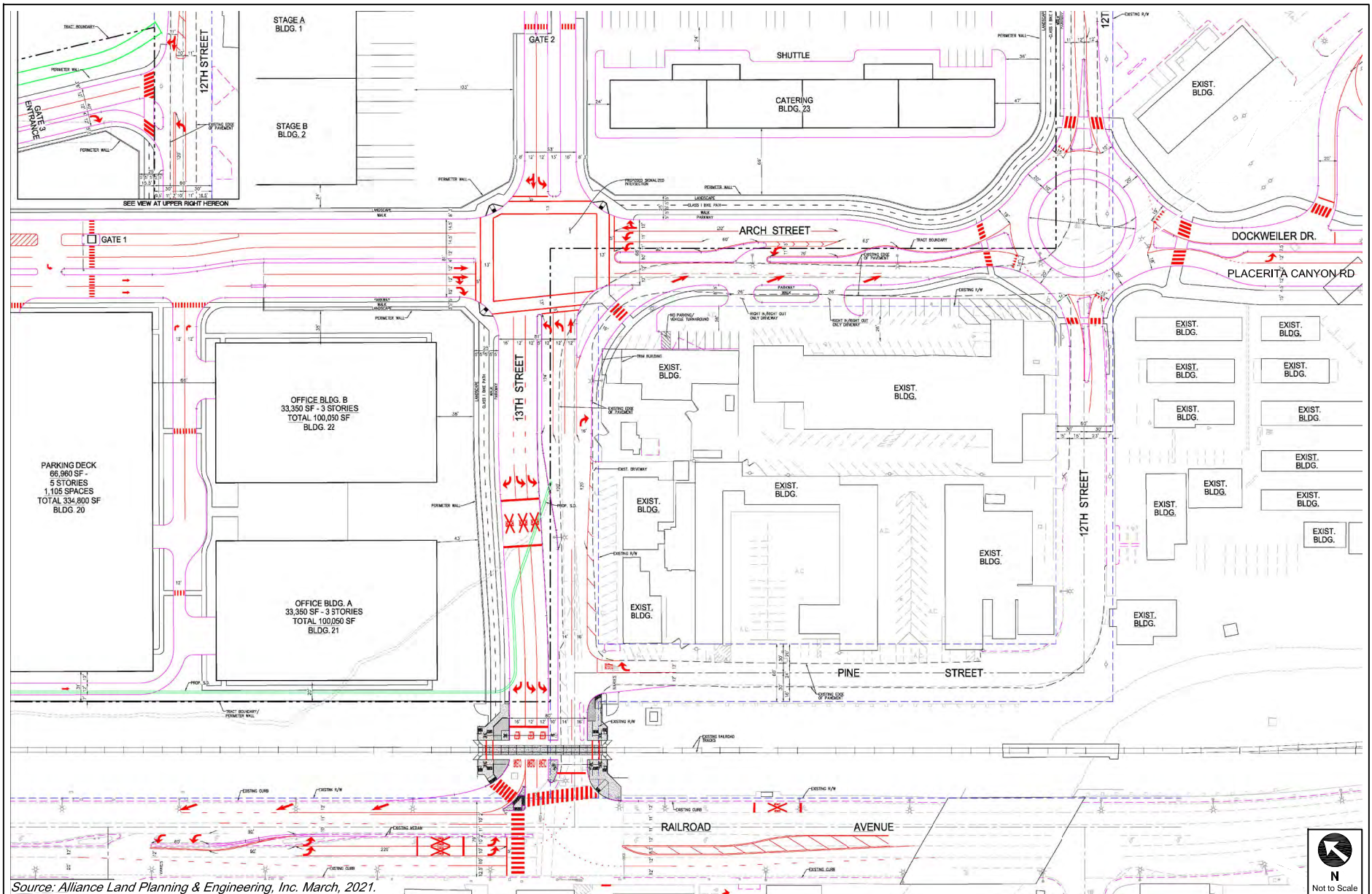
LEGEND

- █ Approved Dockweiler Extension
- █ Proposed Dockweiler Extension



DOCKWEILER DRIVE EXTENSION ALIGNMENT

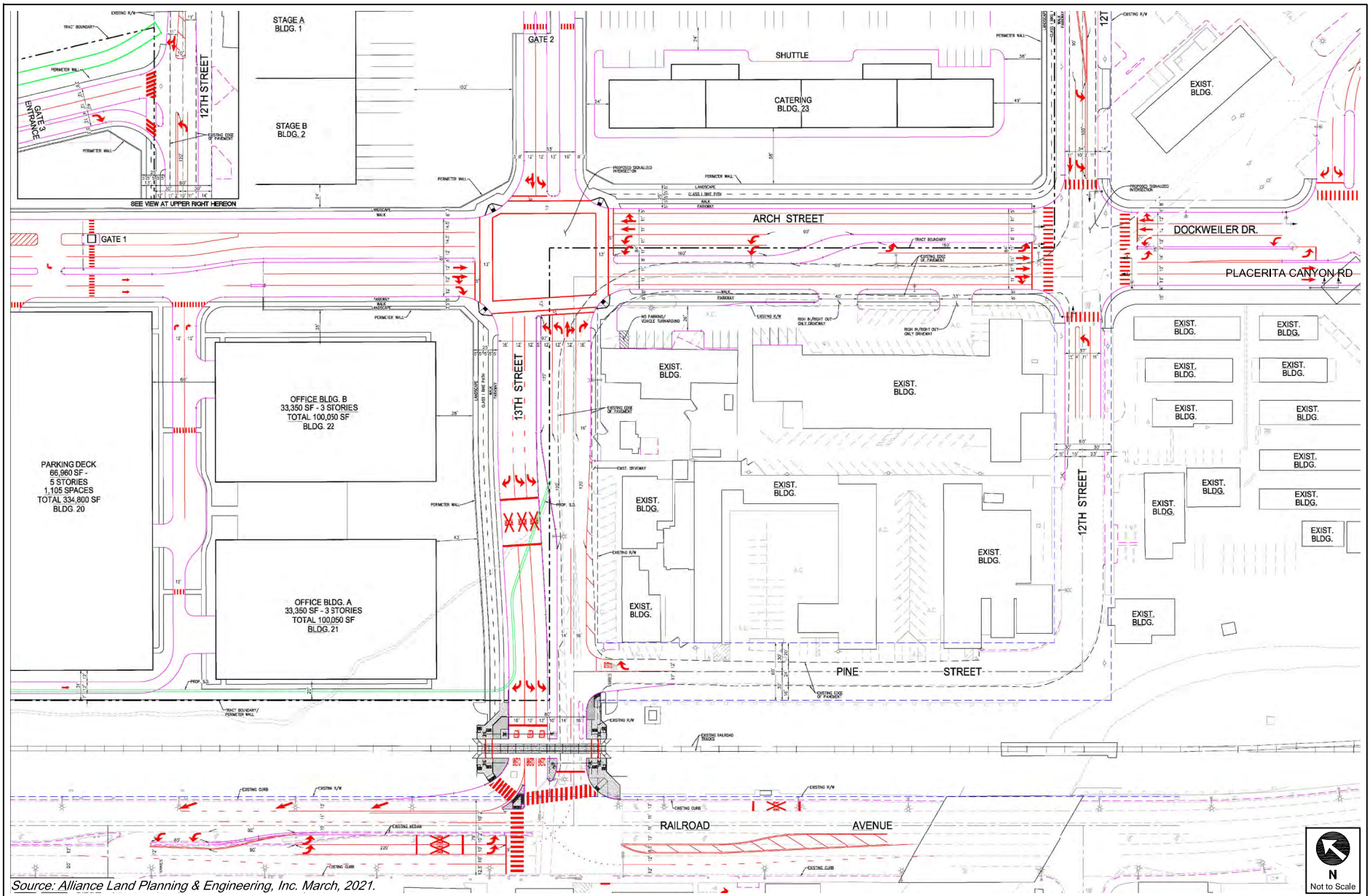
FIGURE 5



Source: Alliance Land Planning & Engineering, Inc. March, 2021.

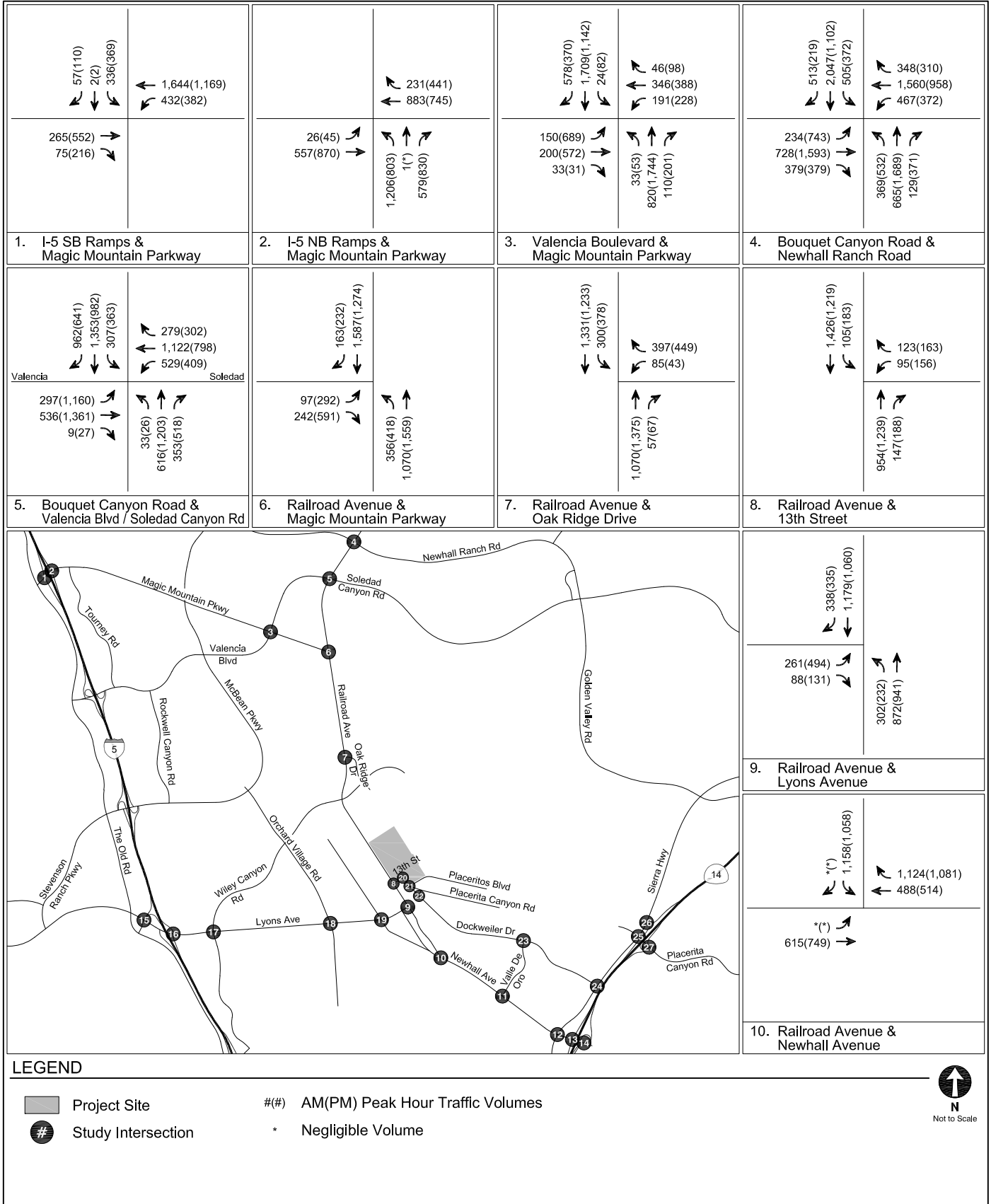
**ROADWAY CONFIGURATION CONCEPT
ROUNDBOUT ALTERNATIVE**

**FIGURE
6A**



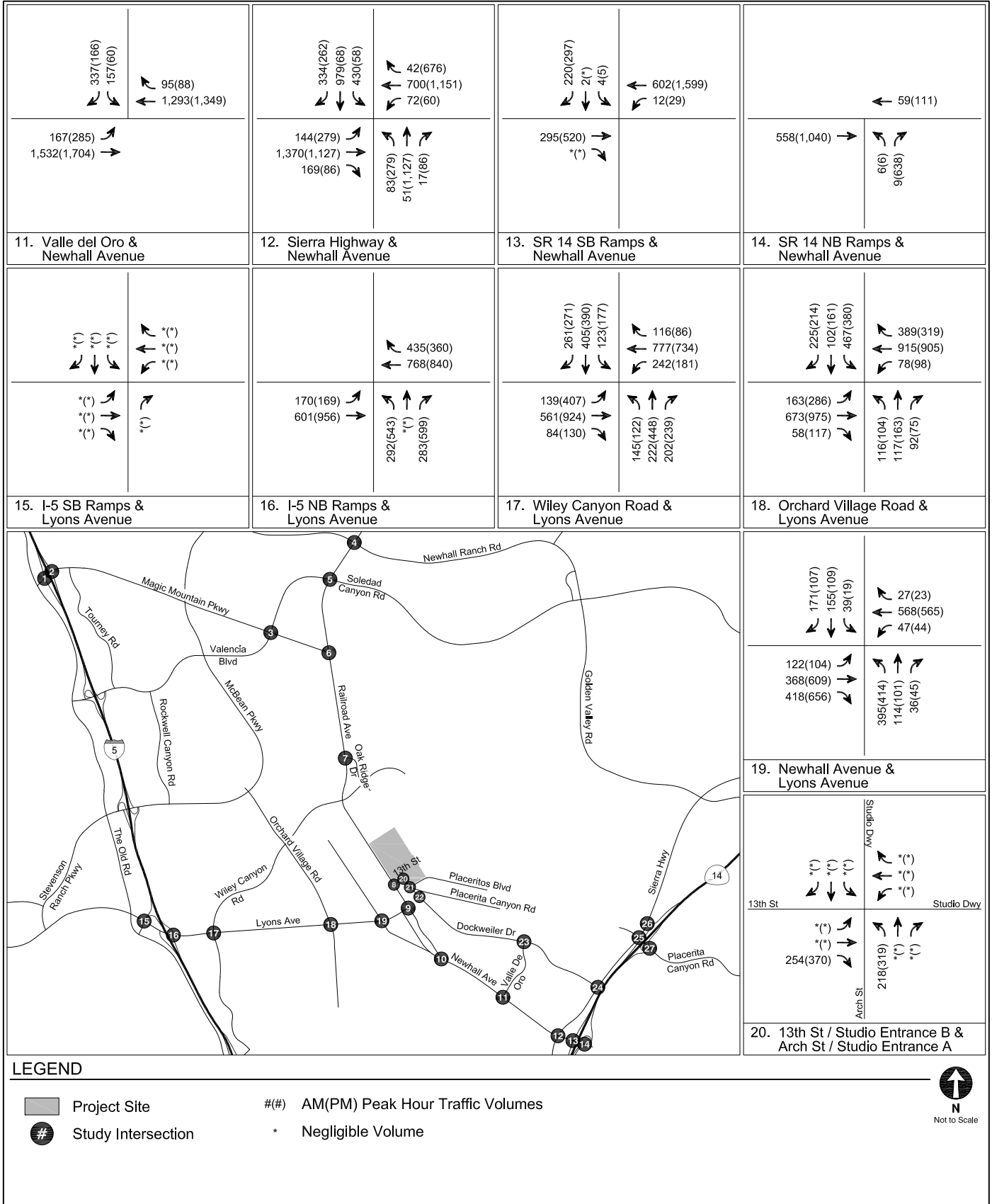
ROADWAY CONFIGURATION CONCEPT
TRAFFIC SIGNAL ALTERNATIVE

FIGURE
6B



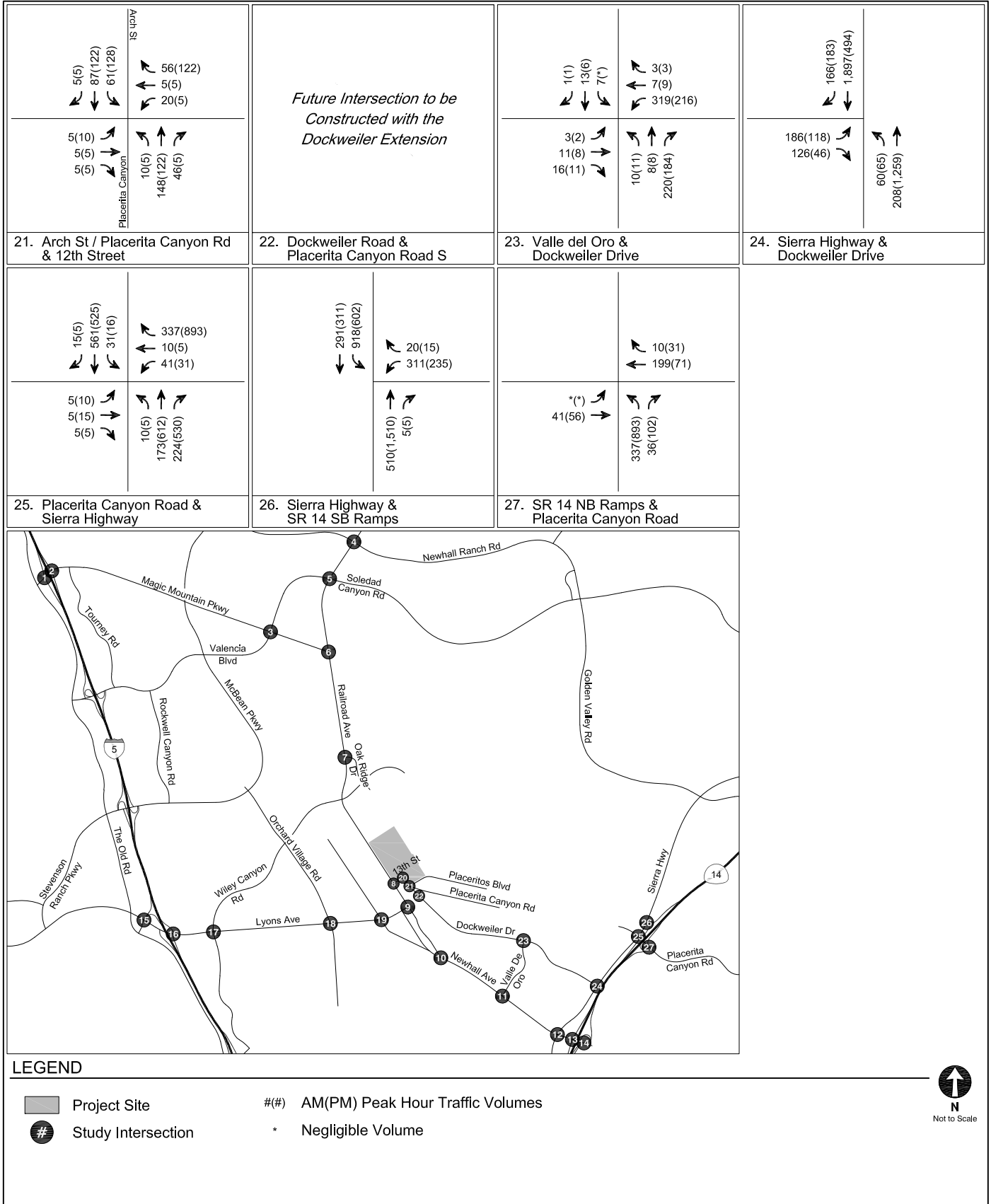
EXISTING CONDITIONS (YEAR 2021)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
7



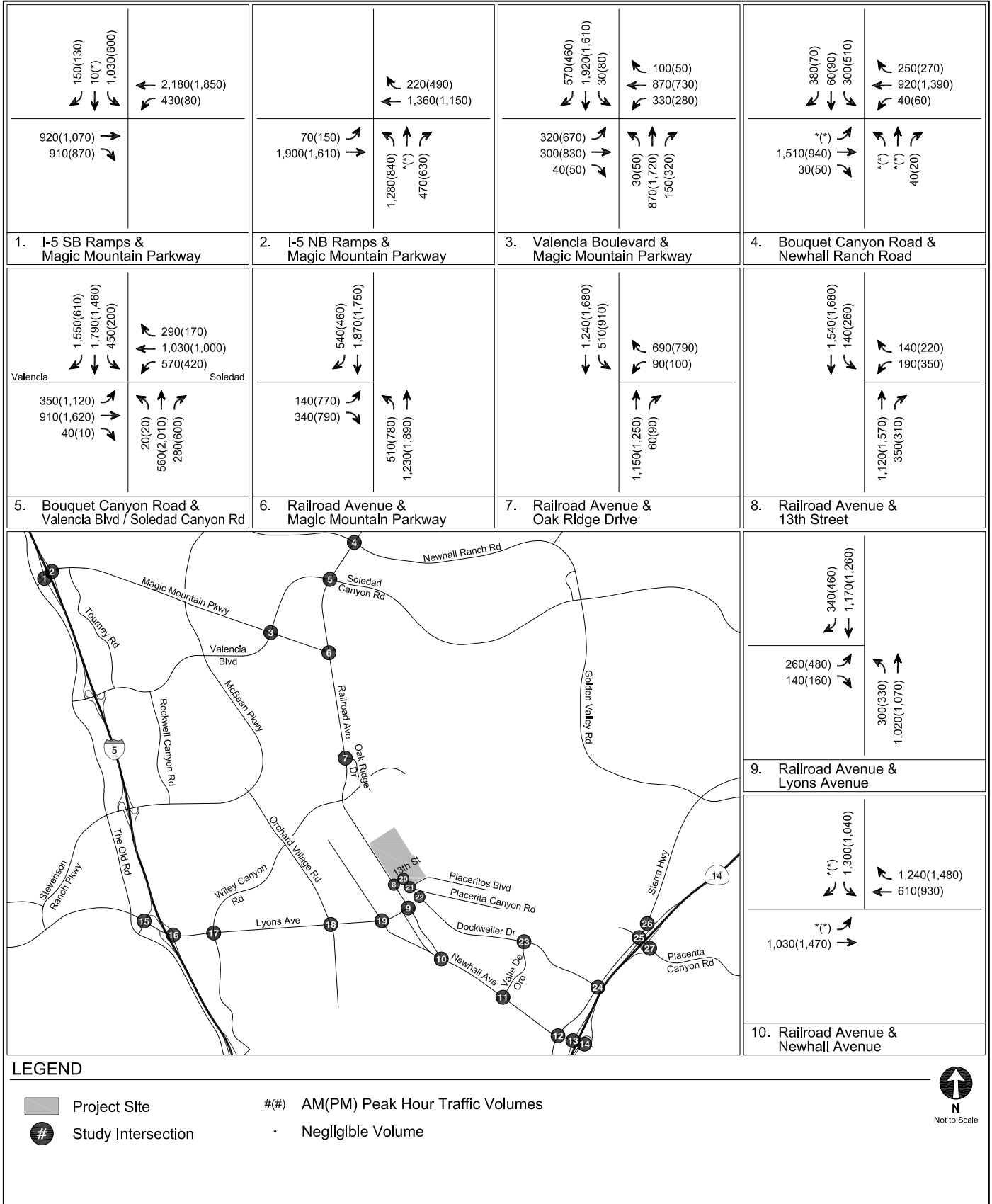
EXISTING CONDITIONS (YEAR 2021)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
7 (CONT.)



**EXISTING CONDITIONS (YEAR 2021)
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE
7 (CONT.)**



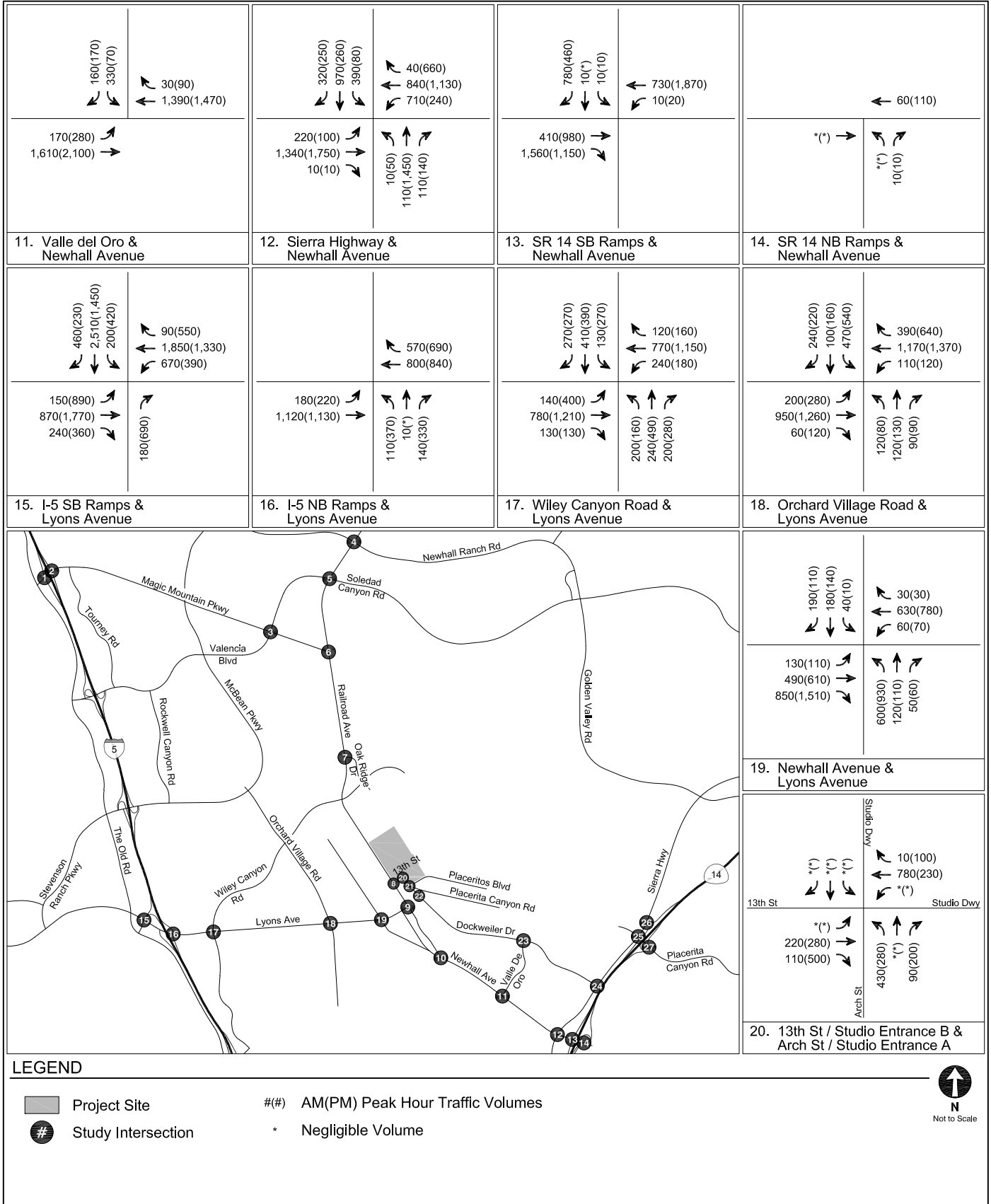
LEGEND

- Project Site
- Study Intersection
- #(##)** AM(PM) Peak Hour Traffic Volumes
- *** Negligible Volume



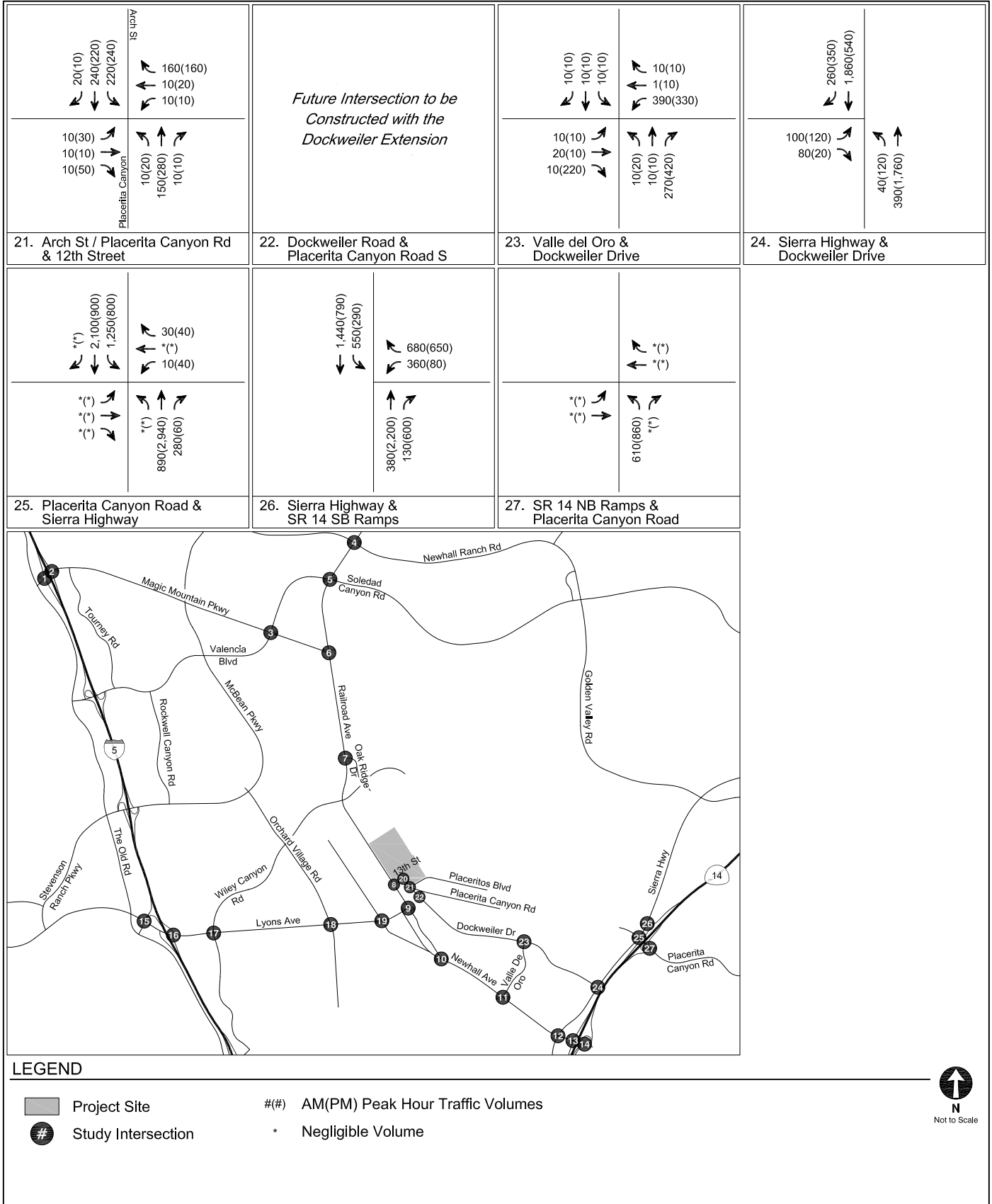
FUTURE WITHOUT PROJECT WITHOUT DOCKWEILER EXTENSION (YEAR 2028)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
8A



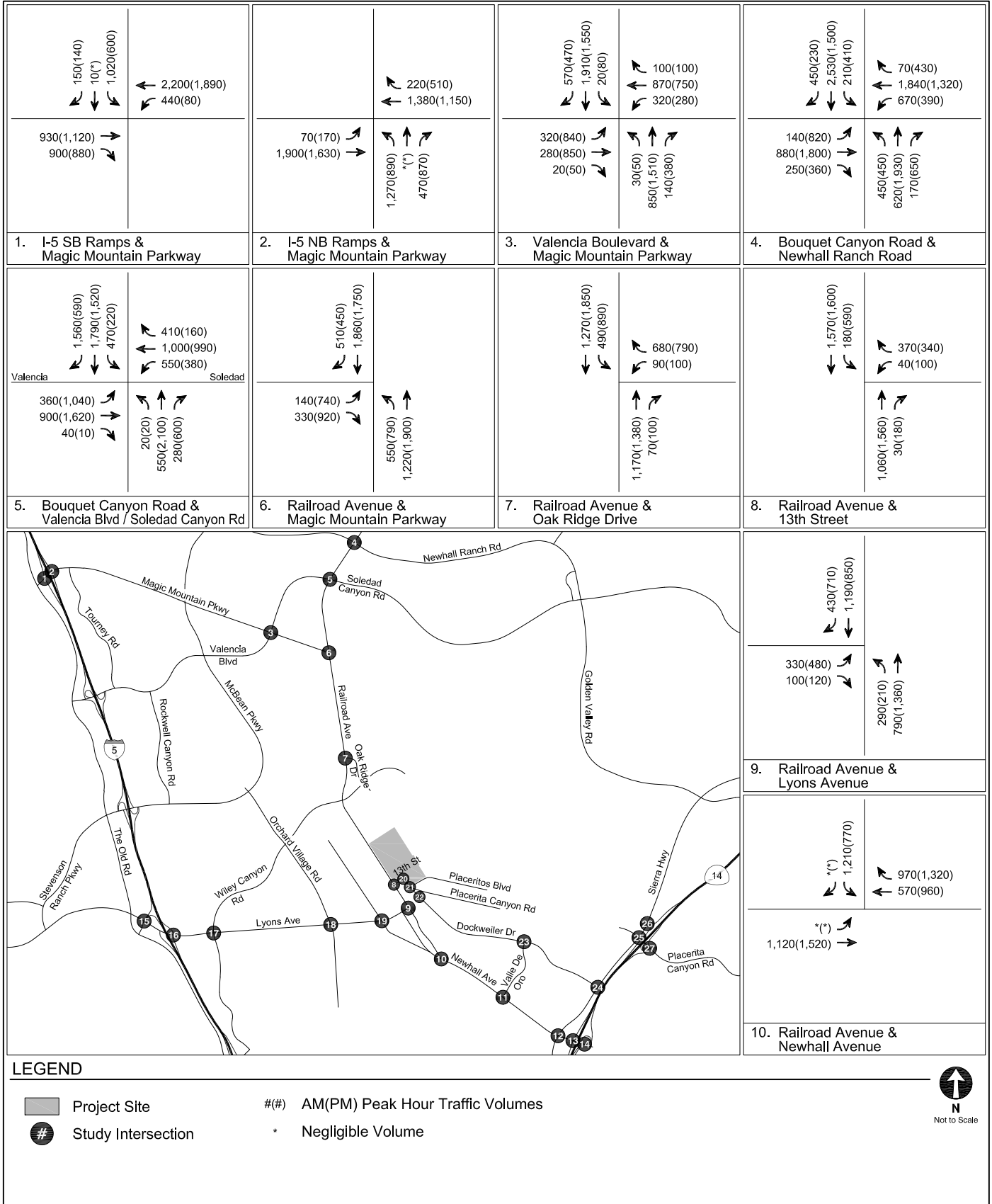
FUTURE WITHOUT PROJECT WITHOUT DOCKWEILER EXTENSION (YEAR 2028)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
8A (CONT.)



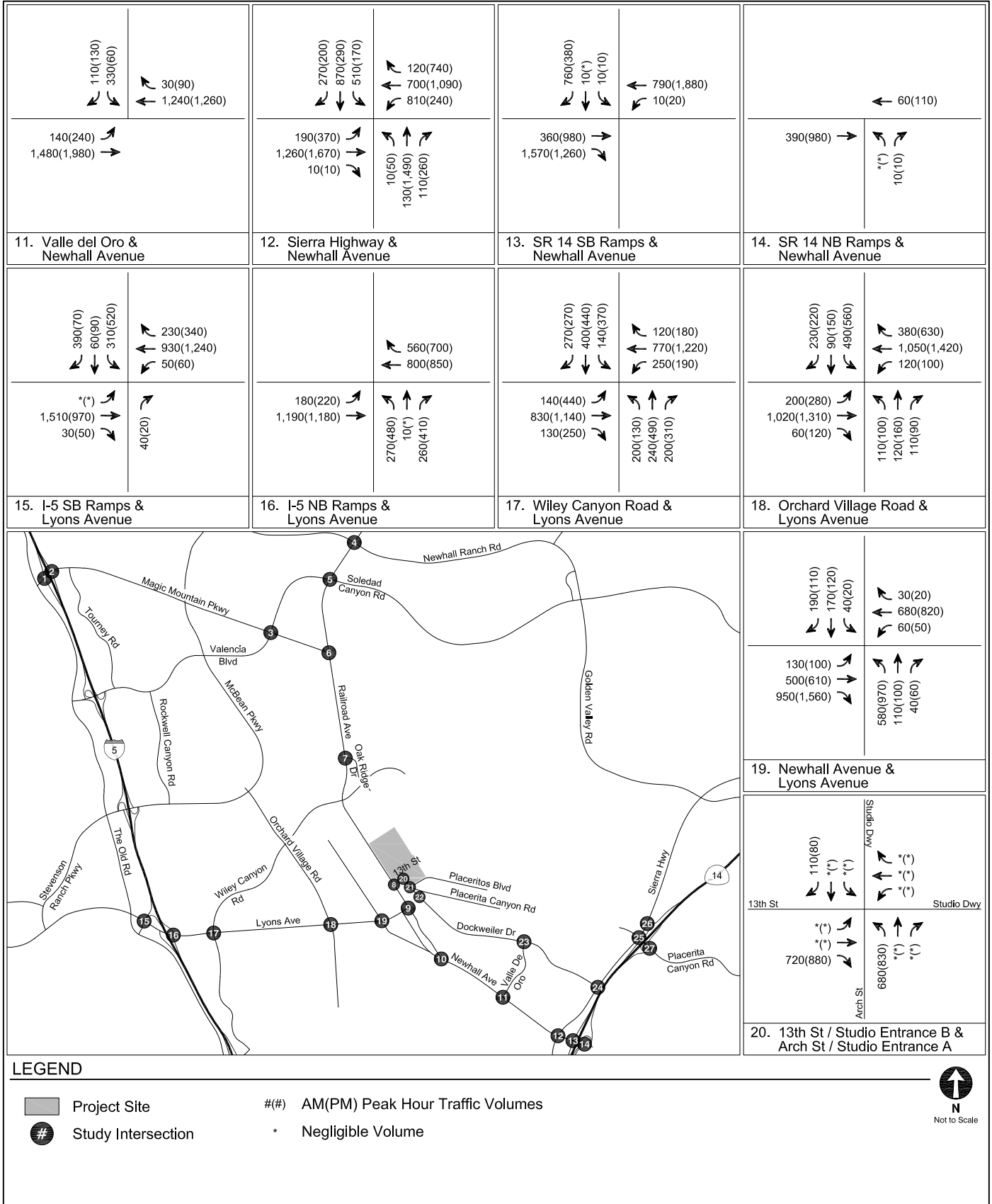
FUTURE WITHOUT PROJECT WITHOUT DOCKWEILER EXTENSION (YEAR 2028)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
8A (CONT.)



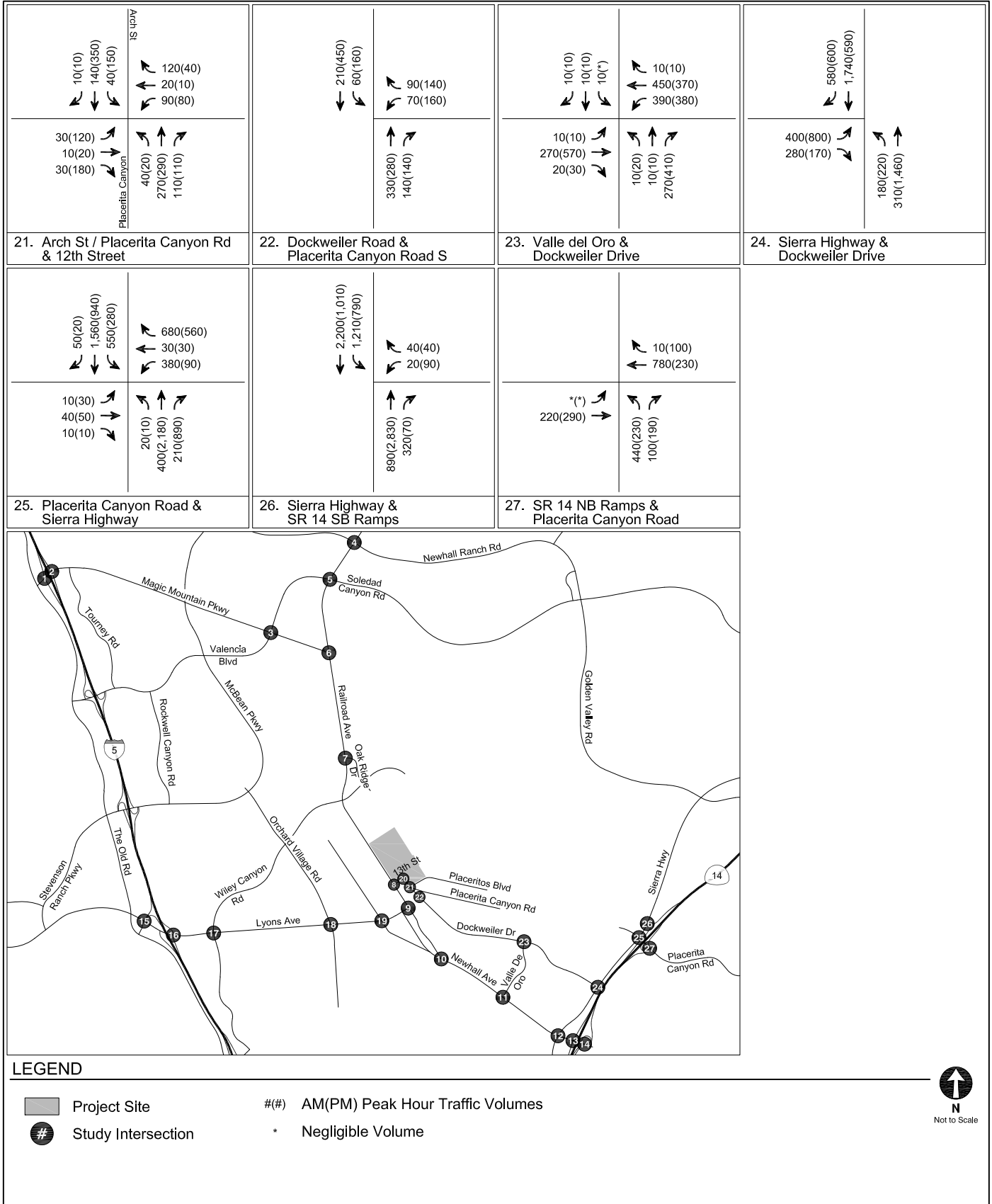
FUTURE WITHOUT PROJECT WITH DOCKWEILER EXTENSION (YEAR 2028)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
8B



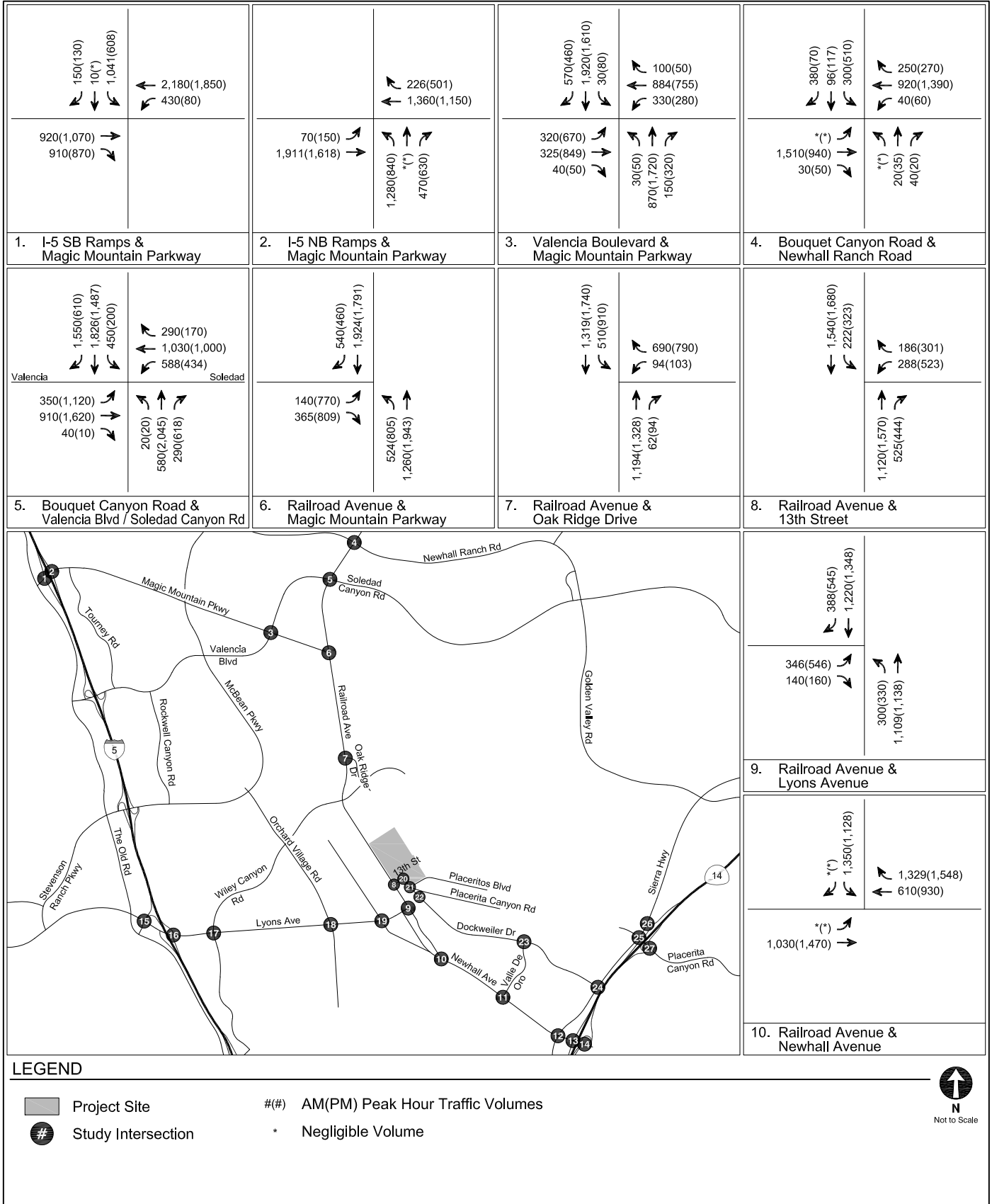
FUTURE WITHOUT PROJECT WITH DOCKWEILER EXTENSION (YEAR 2028)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
8B (CONT.)



FUTURE WITHOUT PROJECT WITH DOCKWEILER EXTENSION (YEAR 2028)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
8B (CONT.)



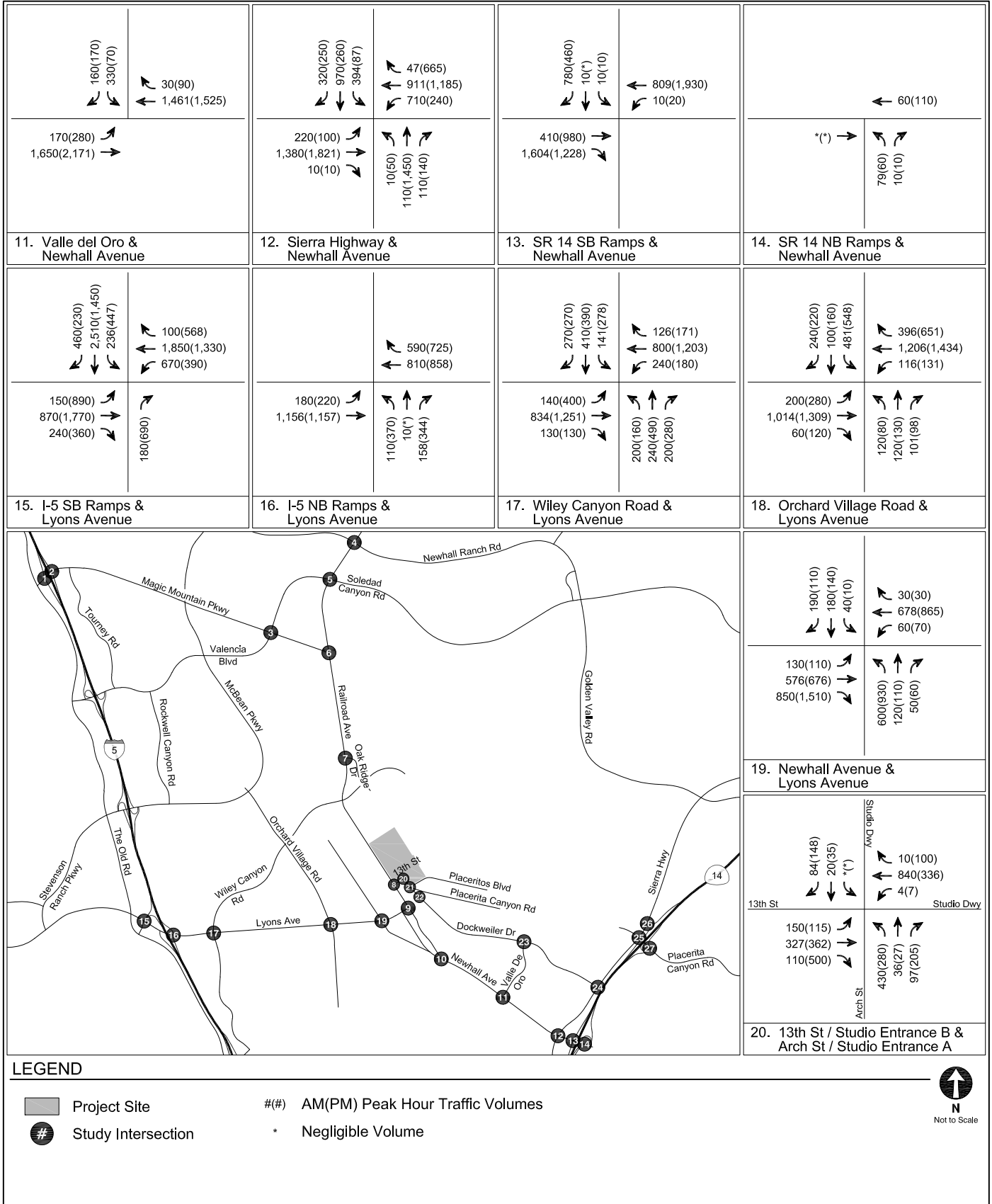
LEGEND

- Project Site
- Study Intersection
- #(##)** AM(PM) Peak Hour Traffic Volumes
- *** Negligible Volume



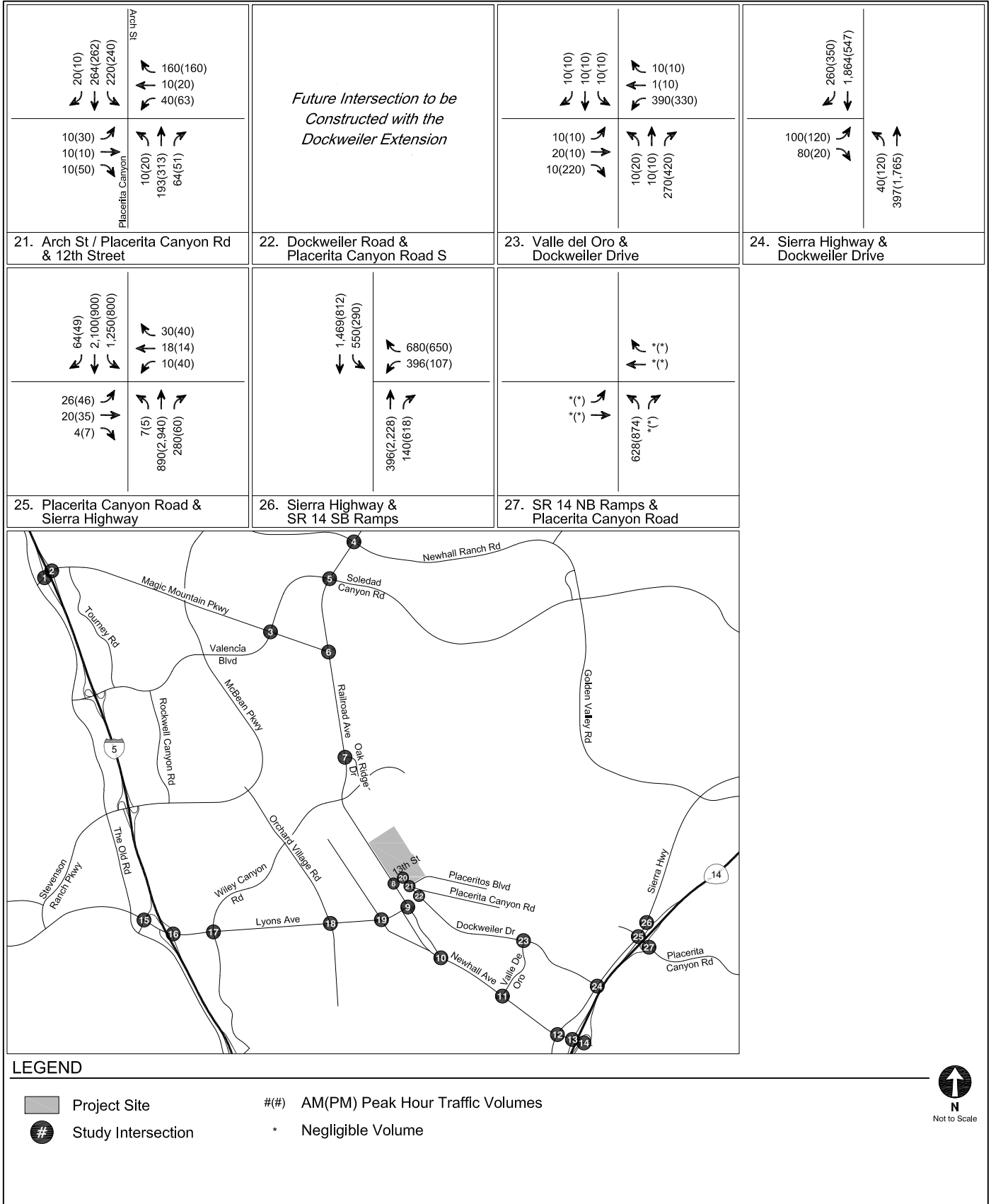
FUTURE WITH PROJECT WITHOUT DOCKWEILER EXTENSION (YEAR 2028)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
9A



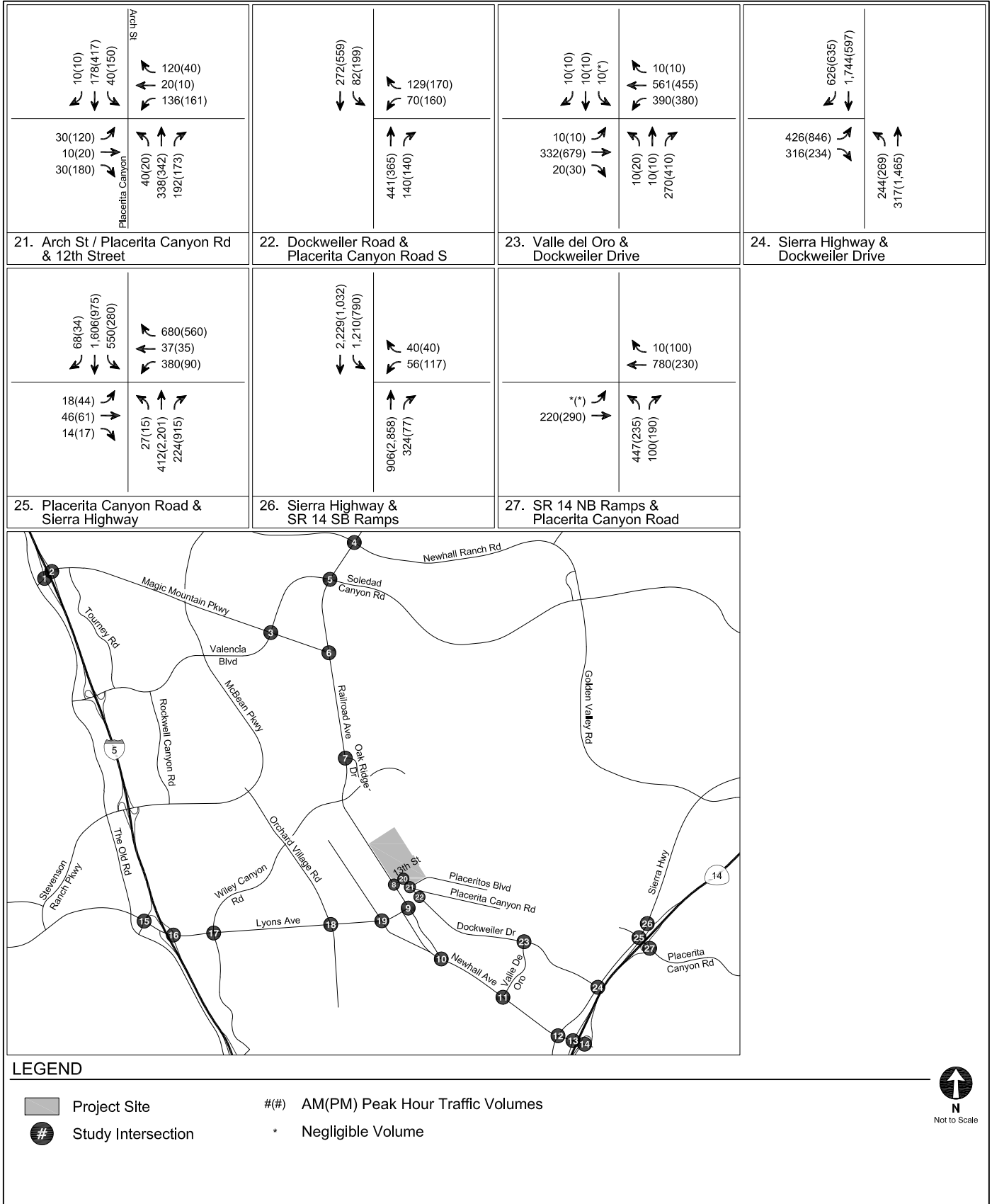
FUTURE WITH PROJECT WITHOUT DOCKWEILER EXTENSION (YEAR 2028)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
9A (CONT.)



FUTURE WITH PROJECT WITHOUT DOCKWEILER EXTENSION (YEAR 2028)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
9A (CONT.)



FUTURE WITH PROJECT WITH DOCKWEILER EXTENSION (YEAR 2028)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
9B (CONT.)

**TABLE 1
STUDY INTERSECTIONS
BLACKHALL STUDIOS TRANSPORTATION ASSESSMENT**

No.	Intersection	Control Type	Notes
1.	I-5 NB Ramps & Magic Mountain Parkway	Signal	[a]
2.	I-5 SB Ramps & Magic Mountain Parkway	Signal	[a]
3.	Valencia Boulevard & Magic Mountain Parkway	Signal	[a]
4.	Bouquet Canyon Road & Newhall Ranch Road	Signal	
5.	Bouquet Canyon Road & Valencia Blvd/Soledad Canyon Rd.	Signal	
6.	Railroad Avenue & Magic Mountain Parkway	Signal	
7.	Railroad Avenue & Oak Ridge Drive	Signal	
8.	Railroad Avenue & 13th Street	Signal	
9.	Railroad Avenue & Lyons Avenue	Signal	
10.	Railroad Avenue & Newhall Avenue	Signal	
11.	Newhall Avenue & Valle Del Oro	Signal	[b]
12.	Newhall Avenue & Sierra Highway	Signal	
13.	SR 14 SB Ramps & Newhall Avenue	Ramp Stop	
14.	SR 14 NB Ramps & Newhall Avenue	Ramp Stop	
15.	I-5 SB Ramps & Lyons Avenue	Signal	[a]
16.	I-5 NB Ramps & Lyons Avenue	Signal	
17.	Wiley Canyon Road & Lyons Avenue	Signal	
18.	Orchard Village Road & Lyons Avenue	Signal	
19.	Newhall Avenue & Lyons Avenue	Signal	
20.	13th Street/Studio Entrance B & Arch Street/Studio Entrance A	Future Signal with Project	
21.	Arch Street/Placerita Canyon Road & 12th Street & Dockweiler Drive (Future)	Future Signal or Roundabout	
22.	Placerita Canyon Rd S & Dockweiler Drive	Potential Future Signal	[c]
23.	Valle del Oro & Dockweiler Drive	Two Way Stop / Potential Future Signal	[d]
24.	Sierra Highway & Dockweiler Drive	Signal	[d]
25.	Placerita Canyon Road & Sierra Highway	Signal	
26.	SR 14 SB Ramps & Sierra Highway	Potential Future Signal	
27.	SR 14 NB Ramps & Placerita Canyon Road	Potential Future Signal	[a]

Notes

- [a] Intersection does not meet 50 trip threshold under either Dockweiler Extension Scenario
- [b] Intersection does not meet 50 trip threshold under with Dockweiler Extension Scenario
- [c] Intersection does not exist under Existing conditions or without Dockweiler Extension Scenario
- [d] Intersection does not meet 50 trip threshold under No Dockweiler Extension Scenario

**TABLE 2
STUDIO TRIP GENERATION ESTIMATES**

TRIP GENERATION RATES									
Land Use	ITE Land Use	Size	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
Stage	[a]	per 1,000 sf	5.91	63%	37%	0.20	40%	60%	0.43
Support [b]	[a]	per 1,000 sf	4.14	65%	35%	0.61	45%	55%	0.57
Production Office	[a]	per 1,000 sf	9.34	62%	38%	0.66	45%	55%	0.63

TRIP GENERATION ESTIMATES									
Land Use	ITE Land Use	Size	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
<u>Proposed Project</u>									
Stage	[a]	475 ksf	2,807	60	35	95	82	122	204
Support [b]	[a]	560 ksf	2,318	222	120	342	144	175	319
Production Office	[a]	200 ksf	1,868	82	50	132	57	69	126
Gross Project Trips			6,993	364	205	569	283	366	649
TOTAL - NET NEW PROJECT TRIPS			6,993	364	205	569	283	366	649

Notes

ksf: 1,000 square feet

[a] Rate based on empirical rates for studio land uses within the Los Angeles region.

[b] Includes 22,272 sf of catering space

Attachment
Traffic Counts

Turning Movement Count Report AM

Location ID: 7
 North/South: I-5 Southbound Ramps
 East/West: Magic Mountain Pkwy

Date: 11/16/17
 City: Santa Clarita, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	9	1	47	0	328	113	0	0	0	10	47	0	555
7:15	10	0	41	0	338	100	0	0	0	9	36	0	534
7:30	13	0	71	0	369	105	0	0	0	22	59	0	639
7:45	12	1	108	0	499	102	0	0	0	15	72	0	809
8:00	17	0	69	0	378	109	0	0	0	11	50	0	634
8:15	13	1	75	0	335	99	0	0	0	24	74	0	621
8:30	10	0	75	0	254	88	0	0	0	14	67	0	508
8:45	5	1	81	0	252	108	0	0	0	17	57	0	521

Total Volume:	89	4	567	0	2753	824	0	0	0	122	462	0	4821
Approach %	13%	1%	86%	0%	77%	23%	0%	0%	0%	21%	79%	0%	

Peak Hr Begin:	7:30												
PHV	55	2	323	0	1581	415	0	0	0	72	255	0	2703
PHF	0.785			0.830			0.000			0.834			0.835

Turning Movement Count Report PM

Location ID: 7
 North/South: I-5 Southbound Ramps
 East/West: Magic Mountain Pkwy

Date: 11/16/17
 City: Santa Clarita, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	8	0	77	0	225	98	0	0	0	45	117	0	570
16:15	14	1	62	0	213	83	0	0	0	43	126	0	542
16:30	18	1	86	0	306	104	0	0	0	52	142	0	709
16:45	12	0	84	0	297	91	0	0	0	54	126	0	664
17:00	24	0	90	0	275	104	0	0	0	65	124	0	682
17:15	52	1	95	0	246	68	0	0	0	37	139	0	638
17:30	47	3	79	0	236	40	0	0	0	35	126	0	566
17:45	46	0	71	0	263	50	0	0	0	46	122	0	598

Total Volume:	221	6	644	0	2061	638	0	0	0	377	1022	0	4969
Approach %	25%	1%	74%	0%	76%	24%	0%	0%	0%	27%	73%	0%	

Peak Hr Begin:	16:30												
PHV	106	2	355	0	1124	367	0	0	0	208	531	0	2693
PHF	0.782			0.909			0.000			0.952			0.950

Pedestrian/Bicycle Count Report

Location ID: 7
 North/South: I-5 Southbound Ramps
 East/West: Magic Mountain Pkwy

Date: 11/16/17
 City: Santa Clarita, CA

Leg:	North		East		South		West	
	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	1	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	1	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	1	0	0	0
17:00	1	0	0	0	0	0	0	0
17:15	0	0	0	0	2	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	1	0	0	0

Turning Movement Count Report AM

Location ID: 8
 North/South: I-5 Northbound Ramps
 East/West: Magic Mountain Pkwy

Date: 11/16/17
 City: Santa Clarita, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	52	176	0	91	1	254	0	97	1	672
7:15	0	0	0	68	194	0	130	0	244	0	78	9	723
7:30	0	0	0	44	201	0	132	1	284	0	105	6	773
7:45	0	0	0	75	221	0	169	0	370	0	178	8	1021
8:00	0	0	0	44	223	0	128	0	273	0	110	4	782
8:15	0	0	0	59	204	0	128	0	233	0	143	7	774
8:30	0	0	0	45	144	0	125	0	202	0	136	10	662
8:45	0	0	0	37	186	0	134	0	182	0	134	5	678

Total Volume:	0	0	0	424	1549	0	1037	2	2042	0	981	50	6085
Approach %	0%	0%	0%	21%	79%	0%	34%	0%	66%	0%	95%	5%	

Peak Hr Begin:	7:30												
PHV	0	0	0	222	849	0	557	1	1160	0	536	25	3350
PHF	0.000			0.905			0.797			0.754			0.820

Turning Movement Count Report PM

Location ID: 8
 North/South: I-5 Northbound Ramps
 East/West: Magic Mountain Pkwy

Date: 11/16/17
 City: Santa Clarita, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	0	0	84	160	0	174	0	174	0	169	12	773
16:15	0	0	0	73	159	0	185	0	149	0	178	23	767
16:30	0	0	0	105	199	0	214	0	200	0	205	9	932
16:45	0	0	0	108	183	0	198	0	205	0	203	13	910
17:00	0	0	0	113	196	0	205	0	193	0	209	7	923
17:15	0	0	0	98	138	0	181	0	174	0	220	14	825
17:30	0	0	0	94	125	0	186	0	157	0	201	8	771
17:45	0	0	0	84	131	0	176	0	161	0	189	9	750

Total Volume:	0	0	0	759	1291	0	1519	0	1413	0	1574	95	6651
Approach %	0%	0%	0%	37%	63%	0%	52%	0%	48%	0%	94%	6%	

Peak Hr Begin:	16:30												
PHV	0	0	0	424	716	0	798	0	772	0	837	43	3590
PHF	0.000			0.922			0.948			0.940			0.963

Pedestrian/Bicycle Count Report

Location ID: 8
 North/South: I-5 Northbound Ramps
 East/West: Magic Mountain Pkwy

Date: 11/16/17
 City: Santa Clarita, CA

Leg:	North		East		South		West	
	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	1	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	1	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	1	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	1	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	2	0	0	0
17:30	0	0	0	0	1	0	0	0
17:45	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

T218

DATE: Tue, May 14, 19	LOCATION: NORTH & SOUTH: EAST & WEST:	Santa Clarita Valencia Magic Mountain	PROJECT #: SC2197 LOCATION #: 57 CONTROL: SIGNAL
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NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼	
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Add U-Turns to Left Turns

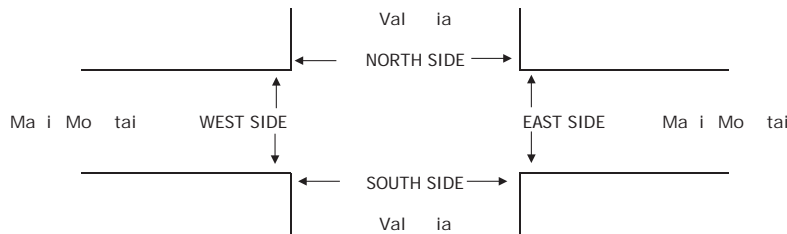
LANES:	NORTHBOUND <small>Valencia</small>			SOUTHBOUND <small>Valencia</small>			EASTBOUND <small>Ma i c Mountain</small>			WESTBOUND <small>Ma i c Mountain</small>			TOTAL
	NL 1	NT 3	NR 1	SL 1	ST 3	SR 2	EL 2	ET 2	ER 0	WL 2	WT 2	WR 0	

U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL 0

AM	7:00 AM	4	112	24	2	342	82	23	27	3	21	47	3	690
	7:15 AM	3	150	25	7	381	127	31	33	1	27	67	6	858
	7:30 AM	1	174	25	6	434	143	29	43	2	40	67	10	974
	7:45 AM	8	223	26	1	477	132	41	47	6	55	97	9	1,122
	8:00 AM	12	210	31	7	437	151	47	58	8	48	84	14	1,107
	8:15 AM	11	197	26	10	327	141	30	48	16	44	91	12	953
	8:30 AM	8	172	30	9	251	106	53	41	9	40	71	16	806
	8:45 AM	5	160	26	5	361	109	46	57	10	56	79	25	939
	VOLUMES	52	1,398	213	47	3,010	991	300	354	55	331	603	95	7,449
	APPROACH %	3%	84%	13%	1%	74%	24%	42%	50%	8%	32%	59%	9%	
APP/DEPART	1,663	/	1,793	4,048	/	3,409	709	/	623	1,029	/	1,624	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	32	804	108	24	1,675	567	147	196	32	187	339	45	4,156	
APPROACH %	3%	85%	11%	1%	74%	25%	39%	52%	9%	33%	59%	8%		
PEAK HR FACTOR	0.918													
APP/DEPART	944	/	996	2,266	/	1,904	375	/	332	571	/	924	0	
PM	4:00 PM	16	367	58	19	258	109	126	78	6	64	97	19	1,217
	4:15 PM	25	411	55	18	267	89	128	107	8	40	79	21	1,248
	4:30 PM	18	420	56	23	259	89	150	111	12	61	97	25	1,321
	4:45 PM	23	397	62	19	260	102	167	125	4	46	88	13	1,306
	5:00 PM	21	419	57	29	286	84	187	128	8	63	91	29	1,402
	5:15 PM	13	438	54	23	266	100	143	151	8	57	108	24	1,385
	5:30 PM	12	449	47	12	269	87	183	151	10	55	95	20	1,390
	5:45 PM	6	404	39	16	299	92	162	131	4	49	86	23	1,311
	VOLUMES	134	3,305	428	159	2,164	752	1,246	982	60	435	741	174	10,580
	APPROACH %	3%	85%	11%	5%	70%	24%	54%	43%	3%	32%	55%	13%	
APP/DEPART	3,867	/	4,727	3,075	/	2,662	2,288	/	1,597	1,350	/	1,594	0	
BEGIN PEAK HR	5:00 PM													
VOLUMES	52	1,710	197	80	1,120	363	675	561	30	224	380	96	5,488	
APPROACH %	3%	87%	10%	5%	72%	23%	53%	44%	2%	32%	54%	14%		
PEAK HR FACTOR	0.964													
APP/DEPART	1,959	/	2,483	1,563	/	1,369	1,266	/	852	700	/	784	0	

0	0	0	0	0
1	0	0	1	2
0	0	0	0	0
0	0	0	1	1
7	0	0	0	7
7	0	0	3	10
4	0	0	1	5
3	0	0	3	6
22	0	0	9	31

5	0	0	5	10
6	0	0	0	6
6	0	0	5	11
5	0	0	4	9
8	1	0	4	13
1	0	0	3	4
1	0	0	5	6
1	1	0	4	6
33	2	0	30	65



AM	7:00 AM	0	0	0	0	0
	7:15 AM	1	0	1	1	3
	7:30 AM	3	0	0	3	6
	7:45 AM	0	1	1	1	3
	8:00 AM	0	1	0	1	2
	8:15 AM	0	1	0	1	2
	8:30 AM	1	1	0	1	3
	8:45 AM	0	0	1	2	3
TOTAL	5	4	3	10	22	
AM BEGIN PEAK HR	7:30 AM					
PM	4:00 PM	1	2	1	0	4
	4:15 PM	0	0	1	2	3
	4:30 PM	4	7	3	3	17
	4:45 PM	2	1	2	0	5
	5:00 PM	0	1	1	0	2
	5:15 PM	4	0	2	0	6
	5:30 PM	1	4	0	0	5
	5:45 PM	1	3	2	1	7
TOTAL	13	18	12	6	49	
PM BEGIN PEAK HR	5:00 PM					

PEDESTRIAN + BIKE CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
0	0	0	0	0	
1	0	1	1	3	
3	0	0	3	6	
0	1	1	1	3	
0	1	0	1	2	
0	1	0	1	2	
1	1	0	1	3	
0	0	1	2	3	
5	4	3	10	22	
7:30 AM					
1	2	1	0	4	
0	0	1	2	3	
4	7	3	3	17	
2	1	2	0	5	
0	1	1	0	2	
4	0	2	0	6	
1	4	0	0	5	
1	3	2	1	7	
13	18	12	6	49	
5:00 PM					
1	2	1	0	4	
0	0	1	2	3	
4	7	3	3	17	
2	1	2	0	5	
0	1	1	0	2	
4	0	1	0	5	
1	4	0	0	5	
1	2	2	1	6	
13	16	9	6	44	
6	6	3	1	16	

PEDESTRIAN CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
0	0	0	0	0	
1	0	1	0	2	
3	0	0	3	6	
0	1	1	1	3	
0	1	0	1	2	
0	1	0	1	2	
1	1	0	1	3	
0	0	1	0	1	
5	4	3	7	19	
3	3	1	6	13	
1	2	1	0	4	
0	0	0	2	2	
4	7	3	3	17	
2	1	2	0	5	
0	0	0	0	0	
4	0	1	0	5	
1	4	0	0	5	
1	2	2	1	6	
13	16	9	6	44	
6	6	3	1	16	

BICYCLE CROSSINGS					
NS	SS	ES	WS	TOTAL	
0	0	0	0	0	
0	0	0	1	1	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	1	1	0	2	
0	0	1	0	1	
0	0	0	0	0	
0	1	0	0	1	
0	2	3	0	5	

08 SCTH - TMC

Thu Feb 21, 2019

Full Length (6 AM-10 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS

Provided by: IDAX Data Solutions
1305 N 30th St, Renton, WA, 98056, US

Leg Direction	North Bouquet Canyon Rd						East Newhall Ranch Rd						South Bouquet Canyon Rd						West Newhall Ranch Rd						Int						
	Southbound						Westbound						Northbound						Eastbound												
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2019-02-21 6:00AM	310	1617	159	0	2086	1	117	872	292	14	1295	0	37	243	237	0	517	0	171	389	118	0	678	2	4576						
7:00AM	483	1973	396	0	2852	1	374	1439	367	13	2193	3	102	602	342	0	1046	7	273	573	188	0	1034	2	7125						
8:00AM	368	1652	363	1	2384	1	169	1285	424	30	1908	4	120	596	347	0	1063	1	326	641	203	0	1170	3	6525						
9:00AM	244	1137	258	0	1639	2	156	760	300	31	1247	8	101	597	331	0	1029	10	232	447	276	1	956	4	4871						
10:00AM	203	1131	287	3	1624	4	175	650	300	26	1151	13	132	703	343	0	1178	9	252	518	328	0	1098	12	5051						
11:00AM	222	1054	300	8	1584	1	174	665	334	31	1204	6	170	897	407	0	1474	7	301	616	366	0	1283	12	5545						
12:00PM	240	981	328	8	1557	12	220	757	302	53	1332	1	240	1126	467	1	1834	4	285	672	460	4	1421	16	6144						
1:00PM	213	960	299	0	1472	6	367	863	317	48	1595	6	230	1245	483	0	1958	2	210	802	436	0	1448	5	6473						
2:00PM	267	1163	439	0	1869	1	343	831	310	40	1524	4	188	1190	445	0	1823	2	296	963	529	0	1788	8	7004						
3:00PM	279	1184	436	1	1900	1	338	998	326	38	1700	8	273	1207	435	1	1916	8	360	1255	621	2	2238	5	7754						
4:00PM	240	1079	357	0	1676	0	338	954	308	44	1644	1	329	1533	427	1	2290	2	392	1343	696	1	2432	5	8042						
5:00PM	217	1065	368	10	1660	3	295	940	326	42	1603	2	368	1738	495	0	2601	4	348	1504	746	3	2601	2	8465						
6:00PM	197	983	318	2	1500	4	279	685	284	63	1311	1	314	1641	449	0	2404	0	309	1106	477	3	1895	1	7110						
7:00PM	170	678	249	0	1097	1	217	553	171	48	989	2	275	1242	383	1	1901	0	165	677	337	4	1183	1	5170						
8:00PM	113	505	150	0	768	0	161	391	150	35	737	0	202	827	295	0	1324	1	120	499	256	1	876	1	3705						
9:00PM	67	363	128	3	561	1	98	266	94	28	486	1	182	705	165	0	1052	1	73	314	156	1	544	1	2643						
Total	3833	17525	4835	36	26229	39	3821	12909	4605	584	21919	60	3263	16092	6051	4	25410	58	4113	12319	6193	20	22645	80	96203						
% Approach	14.6%	66.8%	18.4%	0.1%	-	-	17.4%	58.9%	21.0%	2.7%	-	-	12.8%	63.3%	23.8%	0%	-	-	18.2%	54.4%	27.3%	0.1%	-	-	-	-					
% Total	4.0%	18.2%	5.0%	0%	27.3%	-	4.0%	13.4%	4.8%	0.6%	22.8%	-	3.4%	16.7%	6.3%	0%	26.4%	-	4.3%	12.8%	6.4%	0%	23.5%	-	-	-					
Lights and Motorcycles	3753	17309	4776	36	25874	-	3752	12495	4562	583	21392	-	3232	15848	5826	4	24910	-	3998	11978	6117	20	22113	-	94289						
% Lights and Motorcycles	97.9%	98.8%	98.8%	100%	98.6%	-	98.2%	96.8%	99.1%	99.8%	97.6%	-	99.0%	98.5%	96.3%	100%	98.0%	-	97.2%	97.2%	98.8%	100%	97.7%	-	98.0%						
Heavy	80	213	59	0	352	-	69	414	43	1	527	-	31	240	225	0	496	-	113	339	76	0	528	-	1903						
% Heavy	2.1%	1.2%	1.2%	0%	1.3%	-	1.8%	3.2%	0.9%	0.2%	2.4%	-	1.0%	1.5%	3.7%	0%	2.0%	-	2.7%	2.8%	1.2%	0%	2.3%	-	2.0%						
Pedestrians	0	1	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1						
% Pedestrians	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%						
Bicycles on Road	0	2	0	0	2	-	0	0	0	0	0	-	0	4	0	0	4	-	2	2	0	0	4	-	10						
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%						
Pedestrians	-	-	-	-	-	38	-	-	-	-	-	51	-	-	-	-	-	55	-	-	-	-	-	66	-						
% Pedestrians	-	-	-	-	-	97.4%	-	-	-	-	-	85.0%	-	-	-	-	-	94.8%	-	-	-	-	-	82.5%	-						
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	9	-	-	-	-	-	3	-	-	-	-	-	14	-						
% Bicycles on Crosswalk	-	-	-	-	-	2.6%	-	-	-	-	-	15.0%	-	-	-	-	-	5.2%	-	-	-	-	-	17.5%	-						

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

08 SCTH - TMC

Thu Feb 21, 2019

Full Length (6 AM-10 PM)

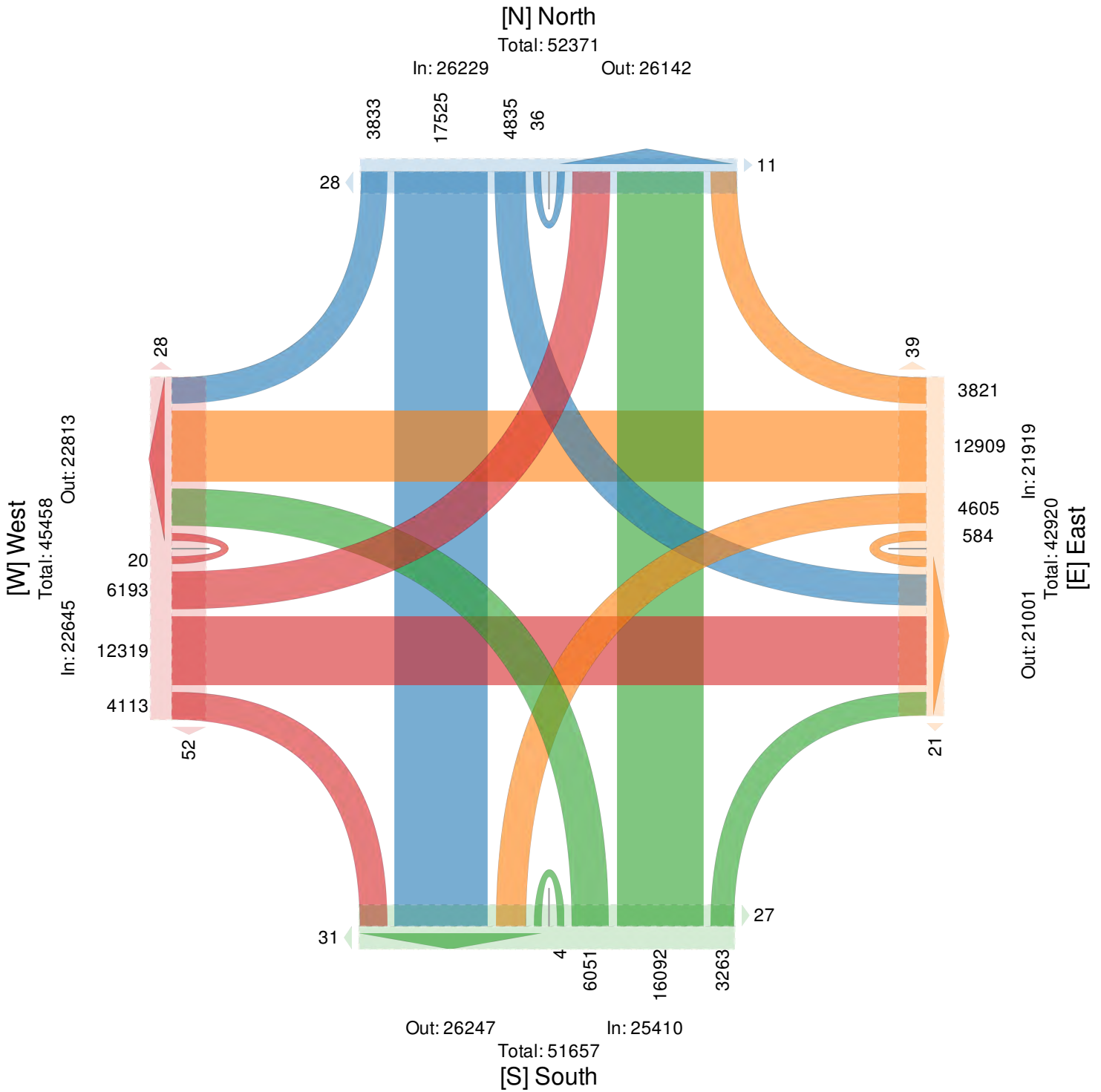
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS
 Provided by: IDAX Data
 Solutions
 1305 N 30th St,
 Renton, WA, 98056, US



08 SCTH - TMC

Thu Feb 21, 2019

AM Peak (7:30 AM - 8:30 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS

Provided by: IDAX Data Solutions
1305 N 30th St, Renton, WA, 98056, US

Leg Direction	North Southbound						East Westbound						South Northbound						West Eastbound						Int
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2019-02-21 7:30AM	143	499	124	0	766	1	162	394	97	3	656	1	27	196	101	0	324	6	72	169	59	0	300	1	2046
7:45AM	130	547	146	0	823	0	93	430	105	4	632	2	39	165	88	0	292	0	111	181	64	0	356	0	2103
8:00AM	129	523	131	0	783	0	35	335	99	9	478	0	28	131	82	0	241	1	106	198	64	0	368	0	1870
8:15AM	101	438	94	0	633	0	51	370	129	12	562	1	32	160	91	0	283	0	83	166	42	0	291	1	1769
Total	503	2007	495	0	3005	1	341	1529	430	28	2328	4	126	652	362	0	1140	7	372	714	229	0	1315	2	7788
% Approach	16.7%	66.8%	16.5%	0%	-	-	14.6%	65.7%	18.5%	1.2%	-	-	11.1%	57.2%	31.8%	0%	-	-	28.3%	54.3%	17.4%	0%	-	-	-
% Total	6.5%	25.8%	6.4%	0%	38.6%	-	4.4%	19.6%	5.5%	0.4%	29.9%	-	1.6%	8.4%	4.6%	0%	14.6%	-	4.8%	9.2%	2.9%	0%	16.9%	-	-
PHF	0.879	0.917	0.848	-	0.913	-	0.526	0.889	0.833	0.583	0.887	-	0.808	0.832	0.896	-	0.880	-	0.838	0.902	0.895	-	0.893	-	0.926
Lights and Motorcycles	498	1993	493	0	2984	-	338	1508	425	28	2299	-	124	636	347	0	1107	-	361	684	220	0	1265	-	7655
% Lights and Motorcycles	99.0%	99.3%	99.6%	0%	99.3%	-	99.1%	98.6%	98.8%	100%	98.8%	-	98.4%	97.5%	95.9%	0%	97.1%	-	97.0%	95.8%	96.1%	0%	96.2%	-	98.3%
Heavy	5	14	2	0	21	-	3	21	5	0	29	-	2	16	15	0	33	-	11	30	9	0	50	-	133
% Heavy	1.0%	0.7%	0.4%	0%	0.7%	-	0.9%	1.4%	1.2%	0%	1.2%	-	1.6%	2.5%	4.1%	0%	2.9%	-	3.0%	4.2%	3.9%	0%	3.8%	-	1.7%
Pedestrians	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Pedestrians	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	7	-	-	-	-	-	2	-
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	75.0%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	25.0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

08 SCTH - TMC

Thu Feb 21, 2019

AM Peak (7:30 AM - 8:30 AM)

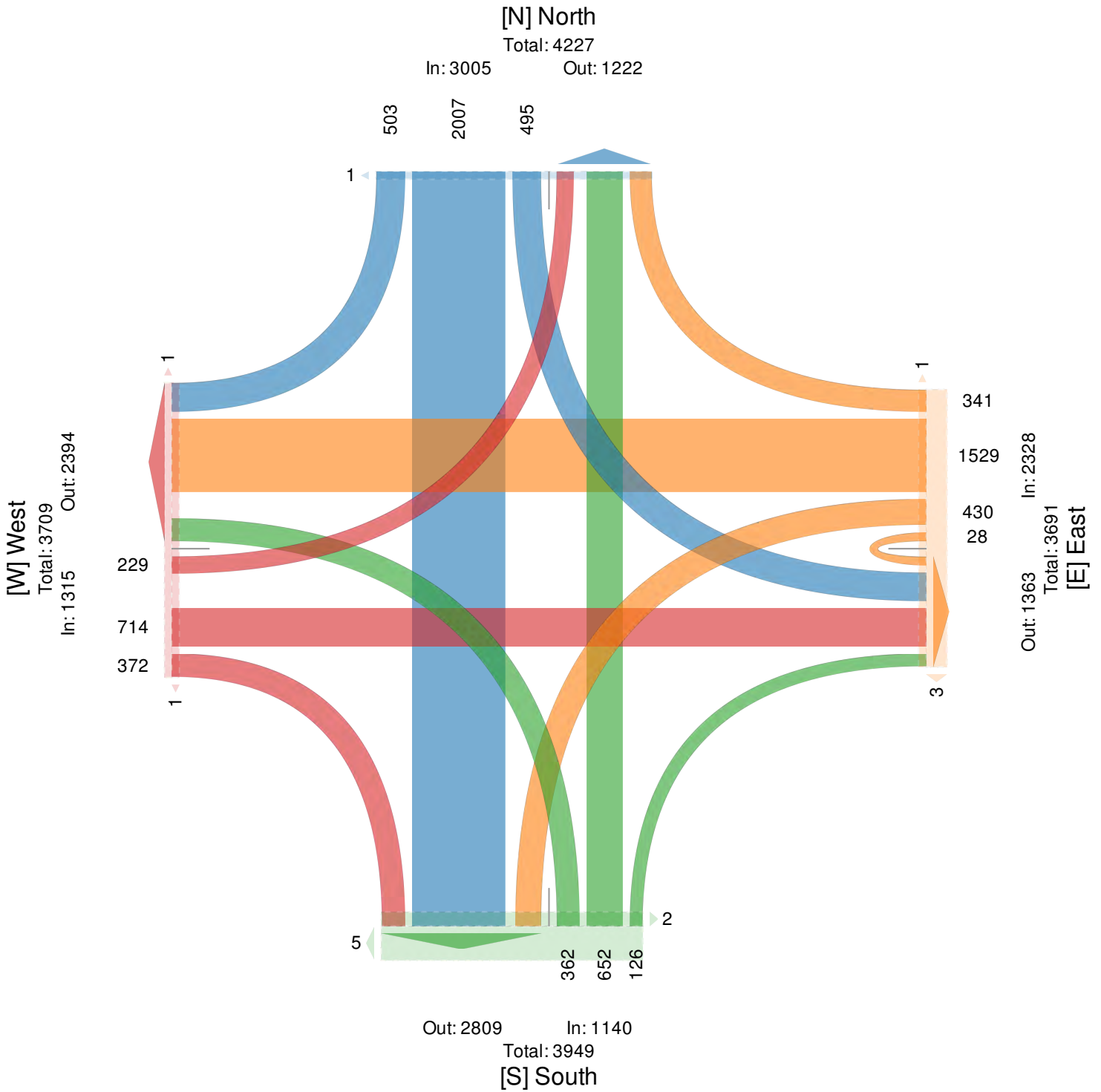
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS
Provided by: IDAX Data
Solutions
1305 N 30th St,
Renton, WA, 98056, US



08 S C T H - T M C

Thu Feb 21, 2019

Midday Peak (12 PM - 1 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St, Renton, WA, 98056, US

Leg Direction	North Southbound						East Westbound						South Northbound						West Eastbound						Int
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2019-02-21 12:00PM	45	243	73	2	363	4	36	186	88	10	320	0	42	250	122	0	414	4	63	163	119	0	345	5	1442
12:15PM	51	244	72	2	369	2	57	209	83	23	372	0	48	298	113	0	459	0	71	146	129	0	346	3	1546
12:30PM	78	238	99	2	417	6	52	182	67	12	313	1	74	304	110	0	488	0	78	180	115	2	375	7	1593
12:45PM	66	256	84	2	408	0	75	180	64	8	327	0	76	274	122	1	473	0	73	183	97	2	355	1	1563
Total	240	981	328	8	1557	12	220	757	302	53	1332	1	240	1126	467	1	1834	4	285	672	460	4	1421	16	6144
% Approach	15.4%	63.0%	21.1%	0.5%	-	-	16.5%	56.8%	22.7%	4.0%	-	-	13.1%	61.4%	25.5%	0.1%	-	-	20.1%	47.3%	32.4%	0.3%	-	-	-
% Total	3.9%	16.0%	5.3%	0.1%	25.3%	-	3.6%	12.3%	4.9%	0.9%	21.7%	-	3.9%	18.3%	7.6%	0%	29.9%	-	4.6%	10.9%	7.5%	0.1%	23.1%	-	-
PHF	0.769	0.958	0.828	1.000	0.933	-	0.733	0.906	0.858	0.576	0.895	-	0.789	0.927	0.957	0.250	0.940	-	0.913	0.918	0.891	0.500	0.947	-	0.965
Lights and Motorcycles	235	973	316	8	1532	-	215	726	298	52	1291	-	239	1098	452	1	1790	-	278	646	456	4	1384	-	5997
% Lights and Motorcycles	97.9%	99.2%	96.3%	100%	98.4%	-	97.7%	95.9%	98.7%	98.1%	96.9%	-	99.6%	97.5%	96.8%	100%	97.6%	-	97.5%	96.1%	99.1%	100%	97.4%	-	97.6%
Heavy	5	8	12	0	25	-	5	31	4	1	41	-	1	26	15	0	42	-	7	26	4	0	37	-	145
% Heavy	2.1%	0.8%	3.7%	0%	1.6%	-	2.3%	4.1%	1.3%	1.9%	3.1%	-	0.4%	2.3%	3.2%	0%	2.3%	-	2.5%	3.9%	0.9%	0%	2.6%	-	2.4%
Pedestrians	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Pedestrians	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	2	0	0	2	-	0	0	0	0	0	-	2
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.2%	0%	0%	0.1%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	12	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	16	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	75.0%	-	-	-	-	-	100%	
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	25.0%	-	-	-	-	-	0%	

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

08 SCTH - TMC

Thu Feb 21, 2019

Midday Peak (12 PM - 1 PM)

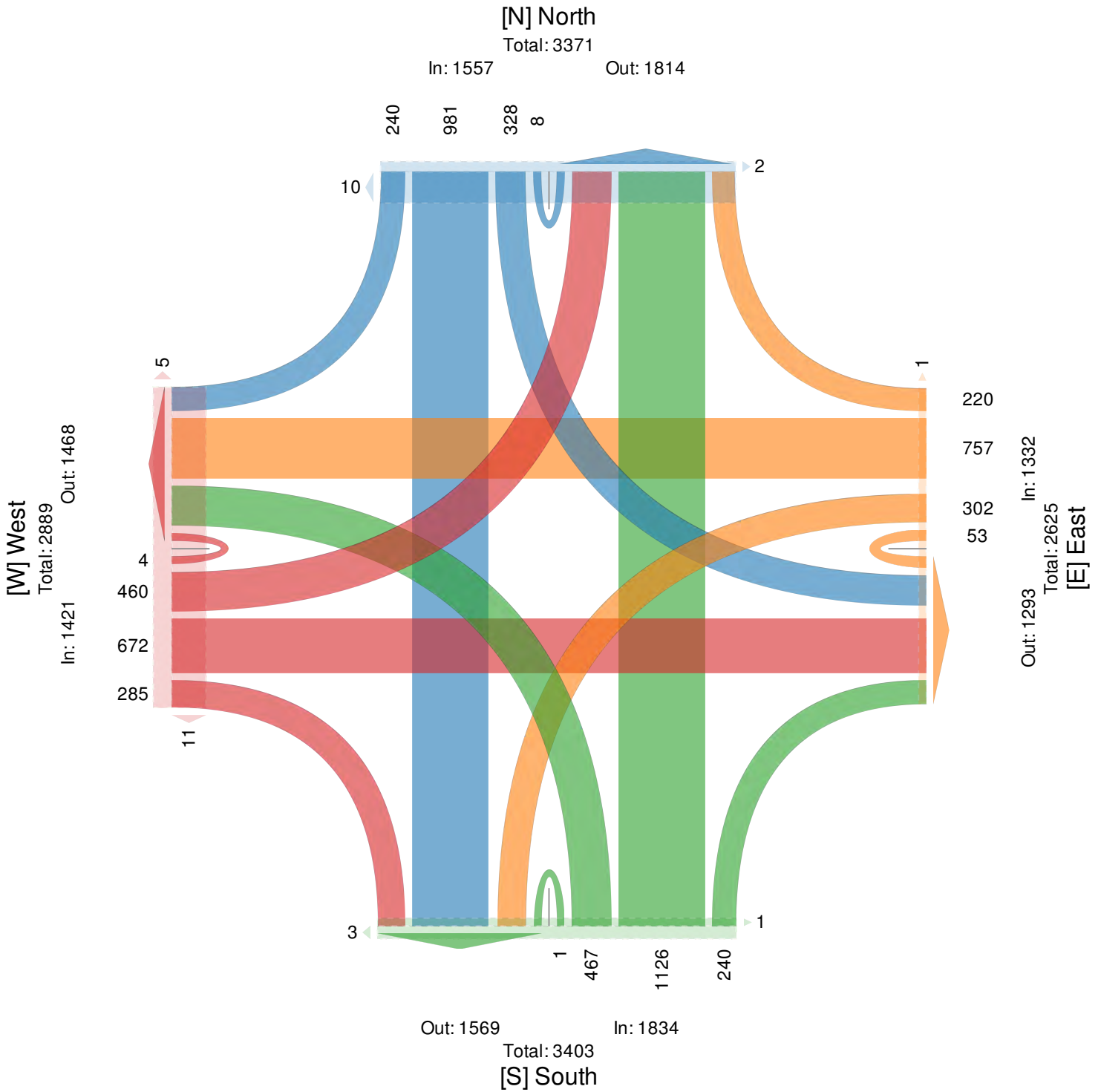
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS
 Provided by: IDAX Data
 Solutions
 1305 N 30th St,
 Renton, WA, 98056, US



08 S C T H - T M C

Thu Feb 21, 2019

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St, Renton, WA, 98056, US

Leg Direction	North Southbound						East Westbound						South Northbound						West Eastbound						Int
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2019-02-21 4:45PM	58	278	86	0	422	0	83	239	88	12	422	0	77	377	127	0	581	1	112	396	173	0	681	0	2106
5:00PM	68	284	86	2	440	0	81	198	65	8	352	1	85	402	136	0	623	0	88	395	189	0	672	0	2087
5:15PM	46	260	89	1	396	1	68	245	102	9	424	0	106	452	132	0	690	3	98	414	173	1	686	1	2196
5:30PM	43	258	96	5	402	2	72	257	68	13	410	0	96	425	127	0	648	0	74	357	191	1	623	0	2083
Total	215	1080	357	8	1660	3	304	939	323	42	1608	1	364	1656	522	0	2542	4	372	1562	726	2	2662	1	8472
% Approach	13.0%	65.1%	21.5%	0.5%	-	-	18.9%	58.4%	20.1%	2.6%	-	-	14.3%	65.1%	20.5%	0%	-	-	14.0%	58.7%	27.3%	0.1%	-	-	-
% Total	2.5%	12.7%	4.2%	0.1%	19.6%	-	3.6%	11.1%	3.8%	0.5%	19.0%	-	4.3%	19.5%	6.2%	0%	30.0%	-	4.4%	18.4%	8.6%	0%	31.4%	-	-
PHF	0.790	0.951	0.930	0.400	0.943	-	0.916	0.913	0.792	0.808	0.948	-	0.858	0.916	0.960	-	0.921	-	0.830	0.943	0.950	0.500	0.970	-	0.964
Lights and Motorcycles	212	1065	351	8	1636	-	304	925	322	42	1593	-	364	1648	513	0	2525	-	359	1546	723	2	2630	-	8384
% Lights and Motorcycles	98.6%	98.6%	98.3%	100%	98.6%	-	100%	98.5%	99.7%	100%	99.1%	-	100%	99.5%	98.3%	0%	99.3%	-	96.5%	99.0%	99.6%	100%	98.8%	-	99.0%
Heavy	3	15	6	0	24	-	0	14	1	0	15	-	0	8	9	0	17	-	13	16	3	0	32	-	88
% Heavy	1.4%	1.4%	1.7%	0%	1.4%	-	0%	1.5%	0.3%	0%	0.9%	-	0%	0.5%	1.7%	0%	0.7%	-	3.5%	1.0%	0.4%	0%	1.2%	-	1.0%
Pedestrians	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Pedestrians	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	1	-
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	75.0%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	25.0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

08 Scth - TMC

Thu Feb 21, 2019

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

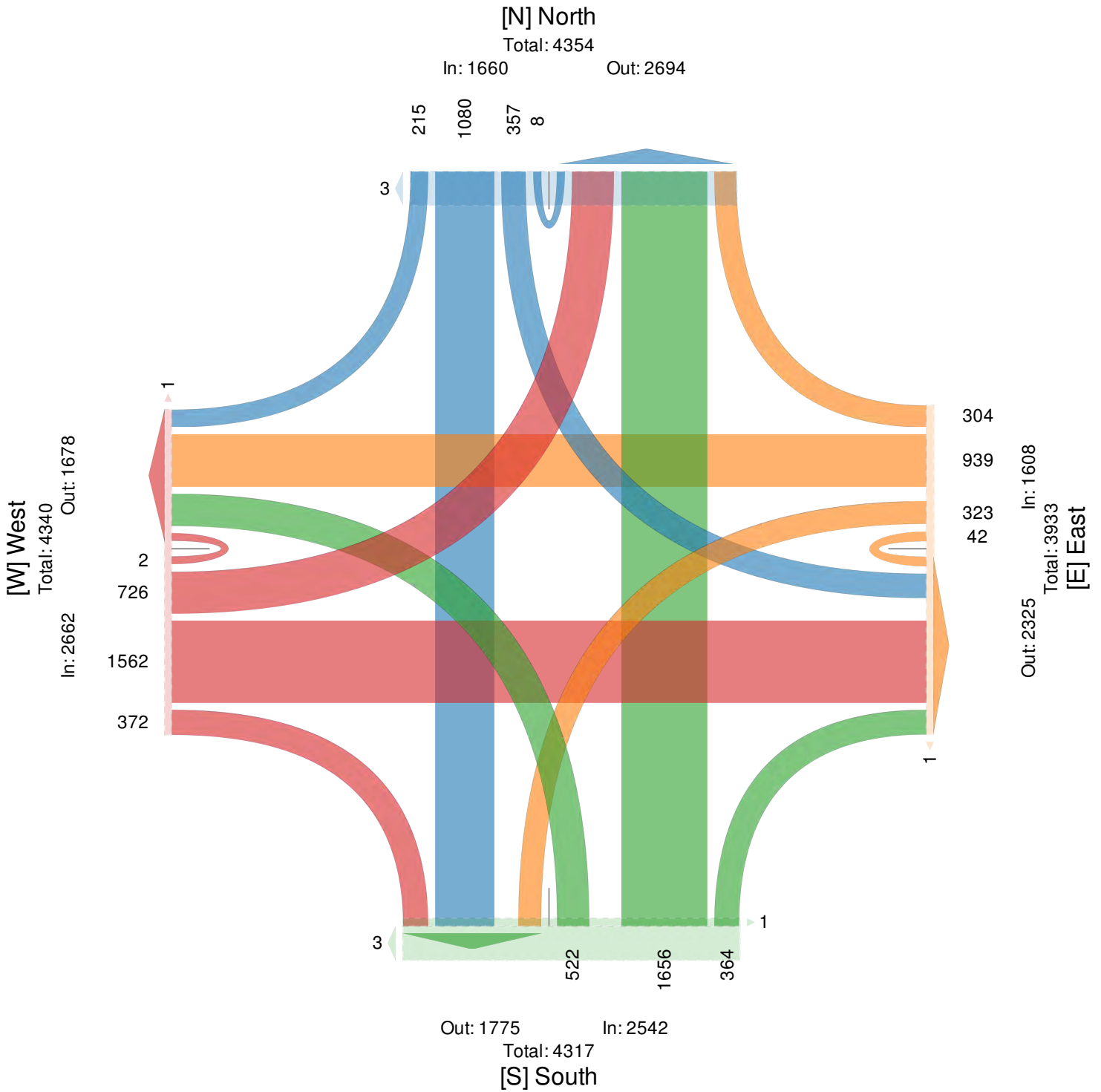
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS
Provided by: IDAX Data
Solutions
1305 N 30th St,
Renton, WA, 98056, US



29 SCTHU - TMC

Thu Jan 24, 2019

Full Length (6 AM-10 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St, Renton, WA, 98056, US

Leg Direction	Bouquet Canyon Rd Southbound						Soledad Canyon Rd Westbound						Bouquet Canyon Rd Northbound						Valencia Blvd Eastbound						Int
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2019-01-24 6:00AM	640	1138	251	0	2029	0	148	702	351	0	1201	3	182	289	15	0	486	1	8	228	100	0	336	0	4052
7:00AM	913	1353	235	0	2501	4	291	1079	524	0	1894	4	307	568	28	0	903	2	8	446	251	0	705	0	6003
8:00AM	844	1221	251	1	2317	2	147	960	359	0	1466	7	285	559	26	0	870	8	10	568	311	0	889	0	5542
9:00AM	627	873	201	0	1701	1	161	811	302	0	1274	13	253	511	30	0	794	11	30	569	338	0	937	0	4706
10:00AM	551	710	200	0	1461	0	206	827	286	2	1321	4	281	572	48	0	901	5	32	711	463	0	1206	0	4889
11:00AM	607	793	235	1	1636	2	236	855	309	0	1400	8	309	689	49	0	1047	7	29	799	576	0	1404	0	5487
12:00PM	604	806	255	0	1665	6	260	798	303	0	1361	13	397	831	51	0	1279	7	41	874	706	0	1621	1	5926
1:00PM	546	665	221	0	1432	2	243	754	295	0	1292	6	420	858	51	0	1329	10	45	915	743	0	1703	0	5756
2:00PM	689	869	289	0	1847	3	236	749	382	0	1367	3	422	919	49	0	1390	4	42	1051	753	0	1846	1	6450
3:00PM	608	833	338	0	1779	2	239	849	322	0	1410	11	458	1039	38	0	1535	1	15	1252	944	0	2211	0	6935
4:00PM	550	821	321	0	1692	2	260	653	364	1	1278	12	510	1082	33	0	1625	0	20	1267	887	0	2174	0	6769
5:00PM	628	963	356	0	1947	6	296	782	401	0	1479	13	508	1179	25	0	1712	12	26	1334	1137	0	2497	0	7635
6:00PM	489	620	263	2	1374	4	302	688	346	1	1337	3	448	1020	24	0	1492	6	35	1107	1015	0	2157	2	6360
7:00PM	419	508	193	1	1121	1	273	414	224	1	912	6	296	953	30	0	1279	0	23	811	812	0	1646	0	4958
8:00PM	288	408	142	1	839	1	131	337	151	1	620	2	211	636	24	0	871	4	10	625	523	0	1158	0	3488
9:00PM	196	330	98	1	625	7	117	224	134	0	475	1	164	563	21	0	748	1	10	489	427	0	926	2	2774
Total	9199	12911	3849	7	25966	43	3546	11482	5053	6	20087	109	5451	12268	542	0	18261	79	384	13046	9986	0	23416	6	87730
% Approach	35.4%	49.7%	14.8%	0%	-	-	17.7%	57.2%	25.2%	0%	-	-	29.9%	67.2%	3.0%	0%	-	-	1.6%	55.7%	42.6%	0%	-	-	-
% Total	10.5%	14.7%	4.4%	0%	29.6%	-	4.0%	13.1%	5.8%	0%	22.9%	-	6.2%	14.0%	0.6%	0%	20.8%	-	0.4%	14.9%	11.4%	0%	26.7%	-	-
Lights and Motorcycles	9125	12707	3754	7	25593	-	3437	11302	4885	6	19630	-	5270	12003	522	0	17795	-	379	12836	9922	0	23137	-	86155
% Lights and Motorcycles	99.2%	98.4%	97.5%	100%	98.6%	-	96.9%	98.4%	96.7%	100%	97.7%	-	96.7%	97.8%	96.3%	0%	97.4%	-	98.7%	98.4%	99.4%	0%	98.8%	-	98.2%
Heavy	73	204	94	0	371	-	109	179	167	0	455	-	181	264	20	0	465	-	5	209	63	0	277	-	1568
% Heavy	0.8%	1.6%	2.4%	0%	1.4%	-	3.1%	1.6%	3.3%	0%	2.3%	-	3.3%	2.2%	3.7%	0%	2.5%	-	1.3%	1.6%	0.6%	0%	1.2%	-	1.8%
Bicycles on Road	1	0	1	0	2	-	0	1	1	0	2	-	0	1	0	0	1	-	0	1	1	0	2	-	7
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	41	-	-	-	-	-	105	-	-	-	-	-	73	-	-	-	-	-	6	-
% Pedestrians	-	-	-	-	-	95.3%	-	-	-	-	-	96.3%	-	-	-	-	-	92.4%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	6	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	4.7%	-	-	-	-	-	3.7%	-	-	-	-	-	7.6%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

29 SCTHU - TMC

Thu Jan 24, 2019

Full Length (6 AM-10 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

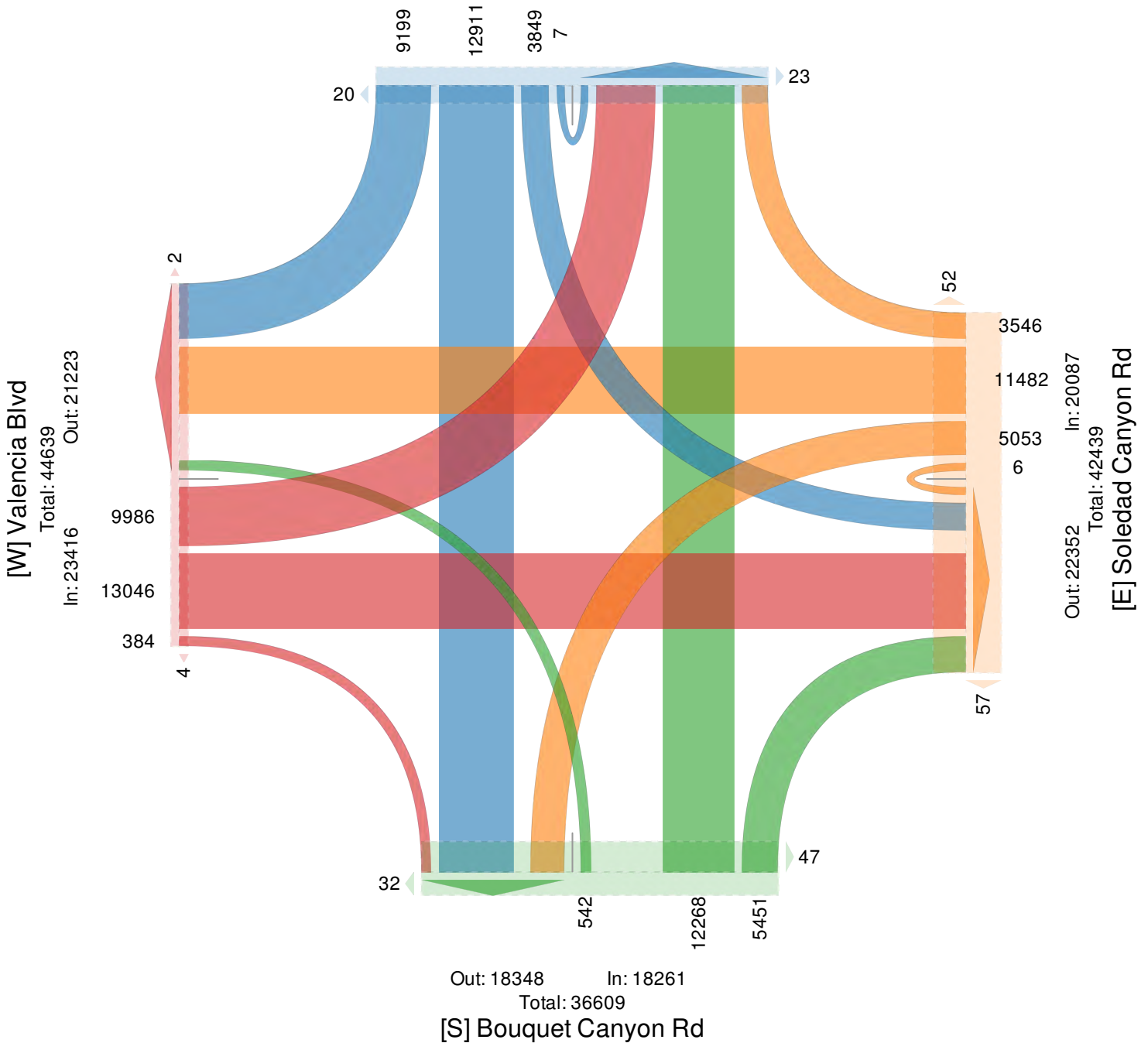
Renton, WA, 98056, US

[N] Bouquet Canyon Rd

Total: 51773

In: 25966

Out: 25807



29 SCTHU - TMC

Thu Jan 24, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St, Renton, WA, 98056, US

Leg Direction	Bouquet Canyon Rd Southbound							Soledad Canyon Rd Westbound							Bouquet Canyon Rd Northbound							Valencia Blvd Eastbound									
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2019-01-24 7:15AM	228	327	43	0	598	2	71	260	146	0	477	1	68	136	9	0	213	1	1	100	61	0	162	0	1450						
7:30AM	218	374	70	0	662	0	103	289	126	0	518	1	77	150	4	0	231	0	2	134	66	0	202	0	1613						
7:45AM	258	318	97	0	673	0	60	294	135	0	489	2	98	159	9	0	266	1	4	131	88	0	223	0	1651						
8:00AM	239	307	91	0	637	0	40	257	112	0	409	3	103	159	10	0	272	4	2	160	76	0	238	0	1556						
Total	943	1326	301	0	2570	2	274	1100	519	0	1893	7	346	604	32	0	982	6	9	525	291	0	825	0	6270						
% Approach	36.7%	51.6%	11.7%	0%	-	-	14.5%	58.1%	27.4%	0%	-	-	35.2%	61.5%	3.3%	0%	-	-	1.1%	63.6%	35.3%	0%	-	-	-	-	-	-	-	-	-
% Total	15.0%	21.1%	4.8%	0%	41.0%	-	4.4%	17.5%	8.3%	0%	30.2%	-	5.5%	9.6%	0.5%	0%	15.7%	-	0.1%	8.4%	4.6%	0%	13.2%	-	-	-	-	-	-	-	-
PHF	0.914	0.886	0.776	-	0.955	-	0.665	0.935	0.889	-	0.914	-	0.840	0.950	0.800	-	0.903	-	0.563	0.820	0.827	-	0.867	-	0.949						
Lights and Motorcycles	935	1310	294	0	2539	-	266	1086	500	0	1852	-	331	587	30	0	948	-	8	505	286	0	799	-	6138						
% Lights and Motorcycles	99.2%	98.8%	97.7%	0%	98.8%	-	97.1%	98.7%	96.3%	0%	97.8%	-	95.7%	97.2%	93.8%	0%	96.5%	-	88.9%	96.2%	98.3%	0%	96.8%	-	97.9%						
Heavy	8	16	7	0	31	-	8	14	19	0	41	-	15	17	2	0	34	-	1	20	5	0	26	-	132						
% Heavy	0.8%	1.2%	2.3%	0%	1.2%	-	2.9%	1.3%	3.7%	0%	2.2%	-	4.3%	2.8%	6.3%	0%	3.5%	-	11.1%	3.8%	1.7%	0%	3.2%	-	2.1%						
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0						
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%						
Pedestrians	-	-	-	-	-	2	-	-	-	-	-	7	-	-	-	-	-	6	-	-	-	-	-	0	-						
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	0	-						
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-						
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0	-						

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

29 SCTHU - TMC

Thu Jan 24, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

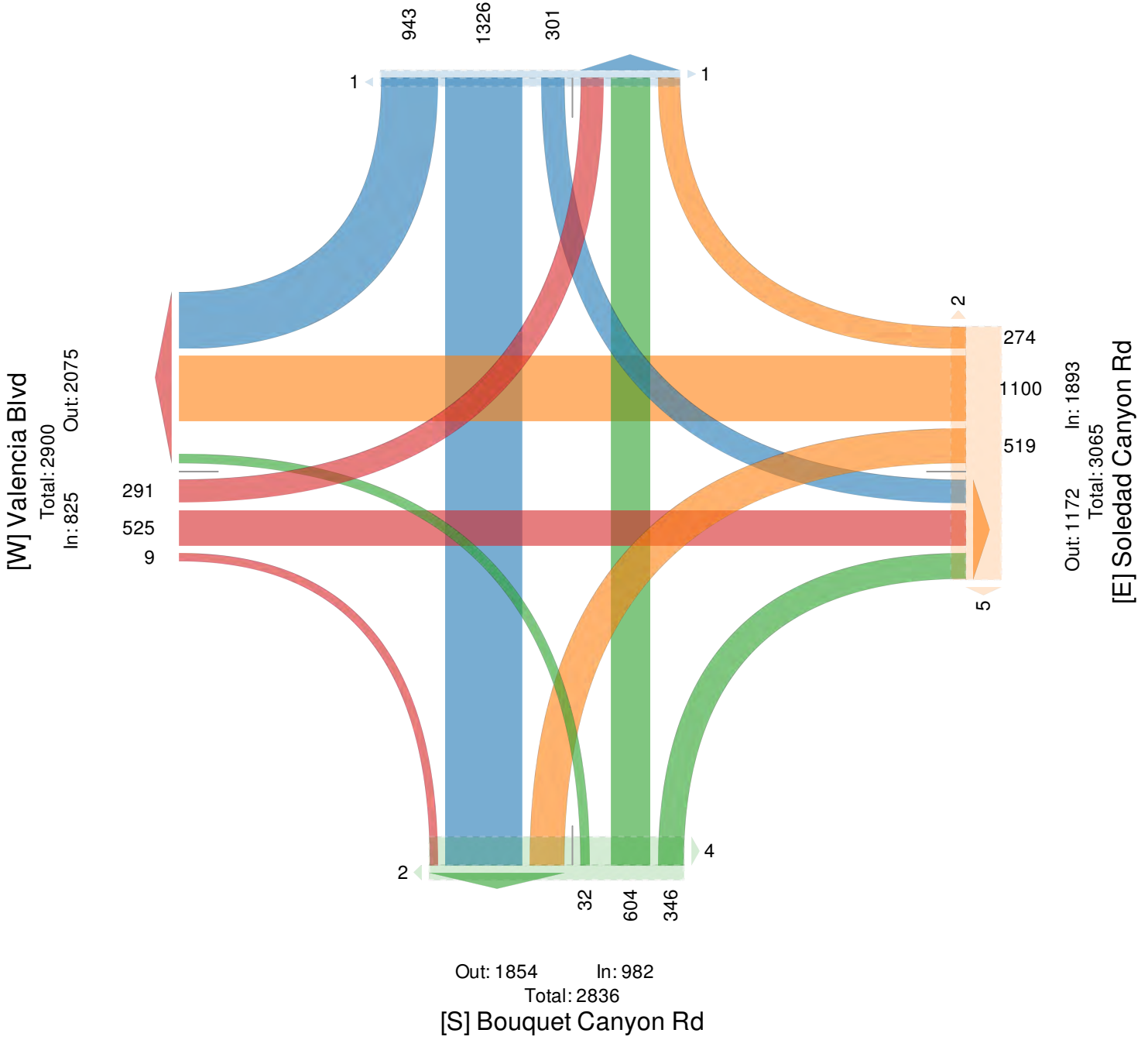
Renton, WA, 98056, US

[N] Bouquet Canyon Rd

Total: 3739

In: 2570

Out: 1169



29 SCTHU - TMC

Thu Jan 24, 2019

Midday Peak (11:45 AM - 12:45 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St, Renton, WA, 98056, US

Leg Direction	Bouquet Canyon Rd Southbound						Soledad Canyon Rd Westbound						Bouquet Canyon Rd Northbound						Valencia Blvd Eastbound						Int
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2019-01-24 11:45AM	191	231	66	0	488	0	61	218	90	0	369	1	58	188	16	0	262	0	7	209	140	0	356	0	1475
12:00PM	160	209	73	0	442	2	61	173	76	0	310	5	100	206	11	0	317	3	11	226	181	0	418	0	1487
12:15PM	138	211	64	0	413	1	69	211	84	0	364	2	106	238	12	0	356	2	7	203	182	0	392	1	1525
12:30PM	153	206	57	0	416	2	60	176	76	0	312	3	101	197	13	0	311	1	14	225	172	0	411	0	1450
Total	642	857	260	0	1759	5	251	778	326	0	1355	11	365	829	52	0	1246	6	39	863	675	0	1577	1	5937
% Approach	36.5%	48.7%	14.8%	0%	-	-	18.5%	57.4%	24.1%	0%	-	-	29.3%	66.5%	4.2%	0%	-	-	2.5%	54.7%	42.8%	0%	-	-	-
% Total	10.8%	14.4%	4.4%	0%	29.6%	-	4.2%	13.1%	5.5%	0%	22.8%	-	6.1%	14.0%	0.9%	0%	21.0%	-	0.7%	14.5%	11.4%	0%	26.6%	-	-
PHF	0.840	0.927	0.890	-	0.901	-	0.909	0.892	0.906	-	0.918	-	0.861	0.871	0.813	-	0.875	-	0.696	0.955	0.927	-	0.943	-	0.973
Lights and Motorcycles	632	834	252	0	1718	-	239	767	317	0	1323	-	353	812	44	0	1209	-	39	849	673	0	1561	-	5811
% Lights and Motorcycles	98.4%	97.3%	96.9%	0%	97.7%	-	95.2%	98.6%	97.2%	0%	97.6%	-	96.7%	97.9%	84.6%	0%	97.0%	-	100%	98.4%	99.7%	0%	99.0%	-	97.9%
Heavy	10	23	8	0	41	-	12	11	9	0	32	-	12	17	8	0	37	-	0	14	2	0	16	-	126
% Heavy	1.6%	2.7%	3.1%	0%	2.3%	-	4.8%	1.4%	2.8%	0%	2.4%	-	3.3%	2.1%	15.4%	0%	3.0%	-	0%	1.6%	0.3%	0%	1.0%	-	2.1%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	5	-	-	-	-	-	11	-	-	-	-	-	5	-	-	-	-	-	1	-
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	83.3%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	16.7%	-	-	-	-	-	0%	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

29 SCTHU - TMC

Thu Jan 24, 2019

Midday Peak (11:45 AM - 12:45 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

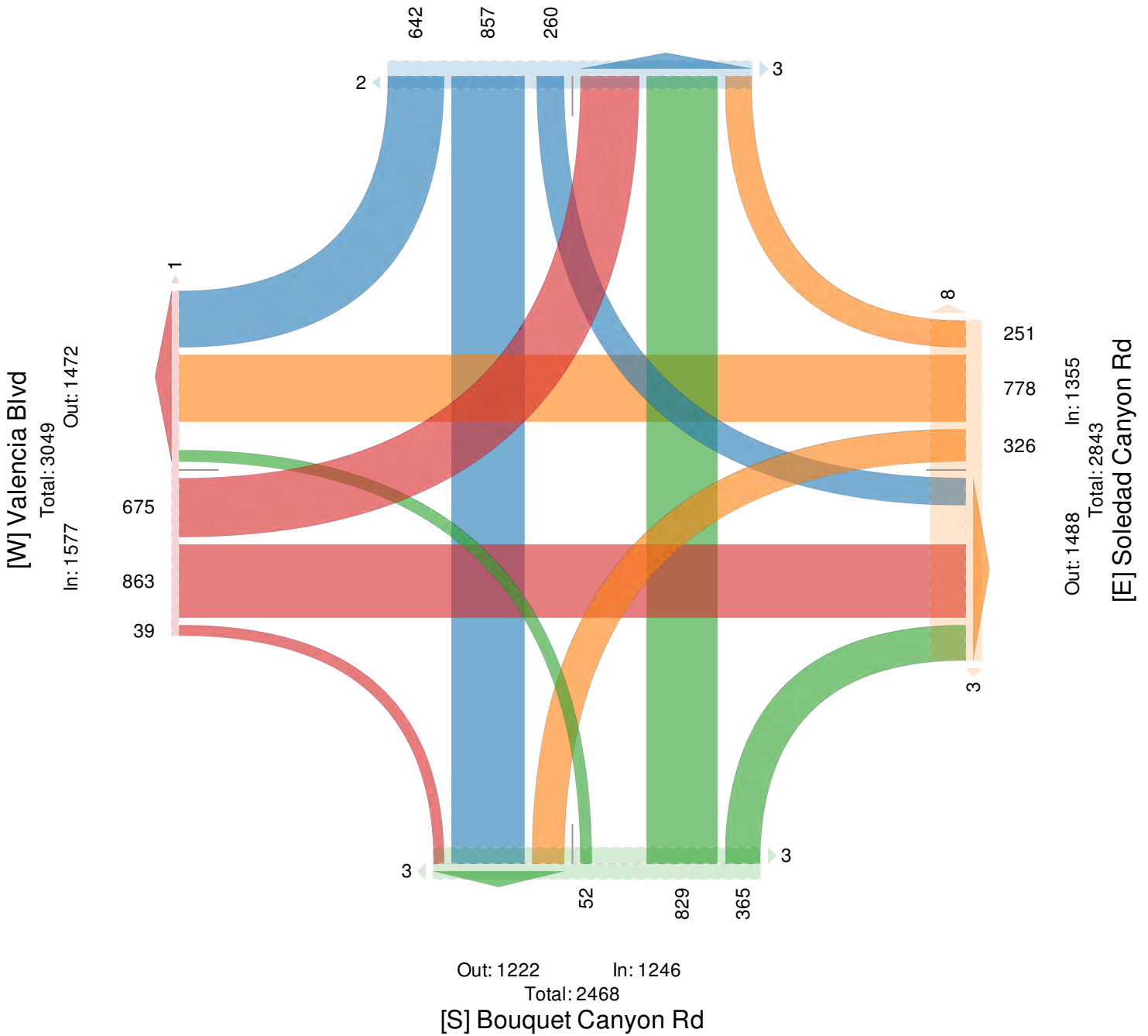
Renton, WA, 98056, US

[N] Bouquet Canyon Rd

Total: 3514

In: 1759

Out: 1755



29 SCTHU - TMC

Thu Jan 24, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions
1305 N 30th St, Renton, WA, 98056, US

Leg Direction	Bouquet Canyon Rd Southbound						Soledad Canyon Rd Westbound						Bouquet Canyon Rd Northbound						Valencia Blvd Eastbound						Int
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2019-01-24 5:00PM	155	273	92	0	520	2	69	216	97	0	382	6	108	268	9	0	385	4	9	246	289	0	544	0	1831
5:15PM	163	213	89	0	465	1	64	199	106	0	369	3	125	275	7	0	407	1	5	380	297	0	682	0	1923
5:30PM	154	224	90	0	468	1	65	187	96	0	348	0	148	321	3	0	472	5	3	335	250	0	588	0	1876
5:45PM	156	253	85	0	494	2	98	180	102	0	380	4	127	315	6	0	448	2	9	373	301	0	683	0	2005
Total	628	963	356	0	1947	6	296	782	401	0	1479	13	508	1179	25	0	1712	12	26	1334	1137	0	2497	0	7635
% Approach	32.3%	49.5%	18.3%	0%	-	-	20.0%	52.9%	27.1%	0%	-	-	29.7%	68.9%	1.5%	0%	-	-	1.0%	53.4%	45.5%	0%	-	-	-
% Total	8.2%	12.6%	4.7%	0%	25.5%	-	3.9%	10.2%	5.3%	0%	19.4%	-	6.7%	15.4%	0.3%	0%	22.4%	-	0.3%	17.5%	14.9%	0%	32.7%	-	-
PHF	0.963	0.882	0.967	-	0.936	-	0.755	0.905	0.946	-	0.968	-	0.858	0.918	0.694	-	0.907	-	0.722	0.878	0.944	-	0.914	-	0.952
Lights and Motorcycles	628	949	350	0	1927	-	291	771	383	0	1445	-	501	1174	25	0	1700	-	26	1326	1136	0	2488	-	7560
% Lights and Motorcycles	100%	98.5%	98.3%	0%	99.0%	-	98.3%	98.6%	95.5%	0%	97.7%	-	98.6%	99.6%	100%	0%	99.3%	-	100%	99.4%	99.9%	0%	99.6%	-	99.0%
Heavy	0	14	6	0	20	-	5	11	18	0	34	-	7	5	0	0	12	-	0	8	1	0	9	-	75
% Heavy	0%	1.5%	1.7%	0%	1.0%	-	1.7%	1.4%	4.5%	0%	2.3%	-	1.4%	0.4%	0%	0%	0.7%	-	0%	0.6%	0.1%	0%	0.4%	-	1.0%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	6	-	-	-	-	-	13	-	-	-	-	-	12	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

29 SCTHU - TMC

Thu Jan 24, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

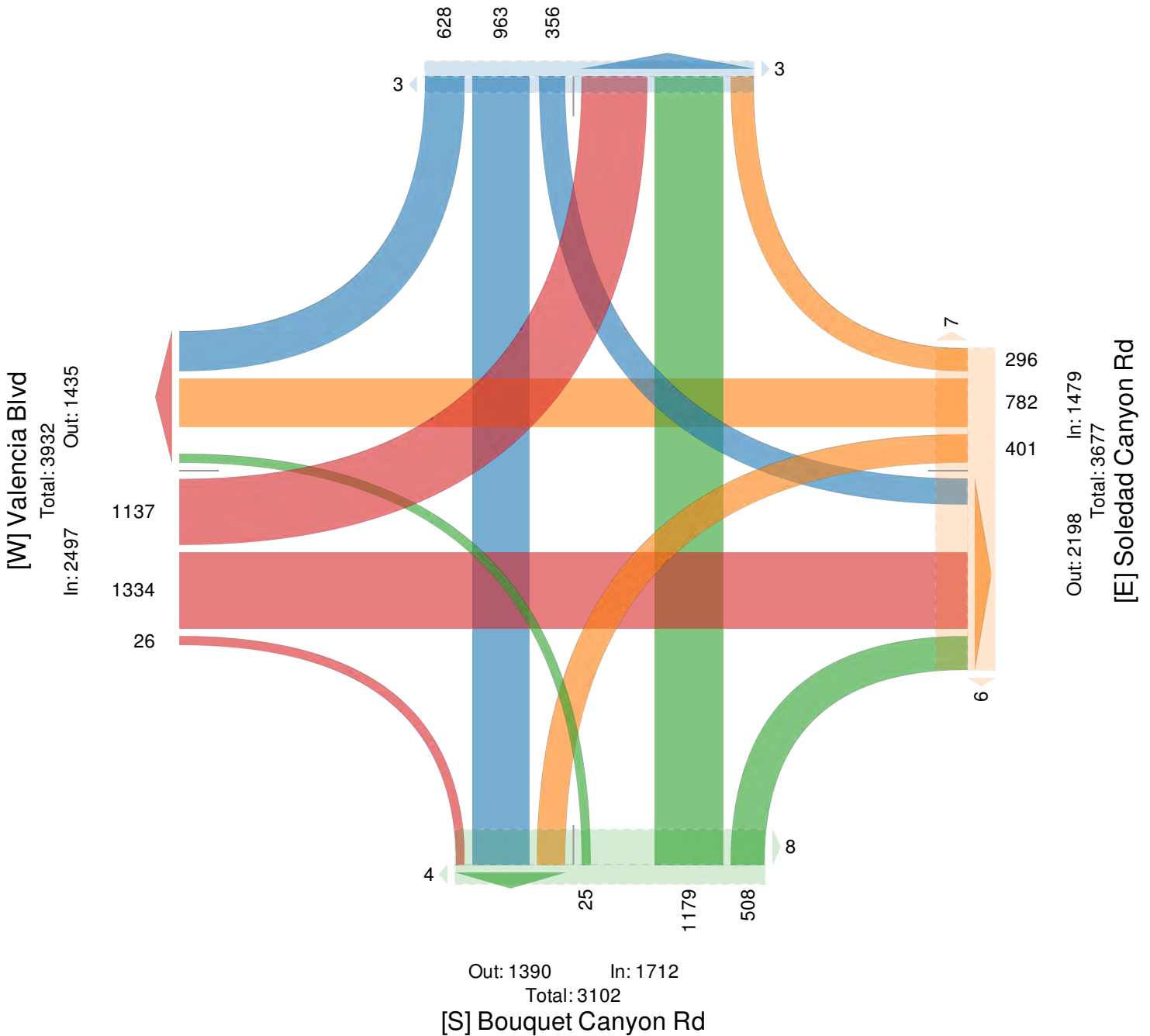
Renton, WA, 98056, US

[N] Bouquet Canyon Rd

Total: 4559

In: 1947

Out: 2612



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION: Santa Clarita
NORTH & SOUTH: Railroad
EAST & WEST: Magic Mountain

PROJECT #: SC2177
LOCATION #: 11
CONTROL: SIGNAL

NOTES:

AM	▲ N	▶ E
PM		
MD	▼ S	◀ W
OTHER		
OTHER		

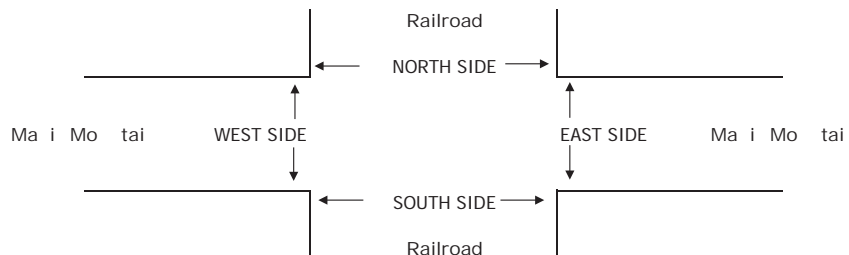
Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Railroad			Railroad			Ma ic Mountain			Ma ic Mountain			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	2	X	X	2	1	2	X	2	X	X	X	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	5	0	5
0	0	5	0	5
0	0	9	0	9
0	0	12	0	12
0	0	7	0	7
0	0	11	0	11
0	0	14	0	14
0	0	68	0	68

AM	7:00 AM	58	158	0	0	378	21	10	0	30	0	0	0	655
	7:15 AM	44	233	0	0	395	36	18	0	48	0	0	0	774
	7:30 AM	86	235	0	0	433	31	16	0	55	0	0	0	856
	7:45 AM	120	297	0	0	373	41	18	0	62	0	0	0	911
	8:00 AM	70	270	0	0	366	39	29	0	50	0	0	0	824
	8:15 AM	83	247	0	0	384	49	32	0	70	0	0	0	865
	8:30 AM	82	243	0	0	343	49	42	0	69	0	0	0	828
	8:45 AM	95	255	0	0	361	54	31	0	62	0	0	0	858
	VOLUMES	638	1,938	0	0	3,033	320	196	0	446	0	0	0	6,571
	APPROACH %	25%	75%	0%	0%	90%	10%	31%	0%	69%	0%	0%	0%	
APP/DEPART	2,576	/	2,066	3,353	/	3,479	642	/	0	0	/	1,026	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	359	1,049	0	0	1,556	160	95	0	237	0	0	0	3,456	
APPROACH %	25%	75%	0%	0%	91%	9%	29%	0%	71%	0%	0%	0%		
PEAK HR FACTOR	0.844			0.925			0.814			0.000			0.948	
APP/DEPART	1,408	/	1,111	1,716	/	1,793	332	/	0	0	/	552	0	
PM	4:00 PM	107	368	0	0	284	67	86	0	133	0	0	0	1,045
	4:15 PM	98	380	0	0	292	45	84	0	141	0	0	0	1,040
	4:30 PM	122	392	0	0	291	58	67	0	122	0	0	0	1,052
	4:45 PM	101	399	0	0	331	51	54	0	137	0	0	0	1,073
	5:00 PM	91	332	0	0	331	45	80	0	131	0	0	0	1,010
	5:15 PM	95	410	0	0	318	57	80	0	173	0	0	0	1,133
	5:30 PM	123	387	0	0	269	74	72	0	138	0	0	0	1,063
	5:45 PM	116	345	0	0	272	66	55	0	130	0	0	0	984
	VOLUMES	853	3,013	0	0	2,388	463	578	0	1,105	0	0	0	8,400
	APPROACH %	22%	78%	0%	0%	84%	16%	34%	0%	66%	0%	0%	0%	
APP/DEPART	3,866	/	3,474	2,851	/	3,493	1,683	/	0	0	/	1,433	0	
BEGIN PEAK HR	4:45 PM													
VOLUMES	410	1,528	0	0	1,249	227	286	0	579	0	0	0	4,279	
APPROACH %	21%	79%	0%	0%	85%	15%	33%	0%	67%	0%	0%	0%		
PEAK HR FACTOR	0.950			0.966			0.855			0.000			0.944	
APP/DEPART	1,938	/	1,753	1,476	/	1,828	865	/	0	0	/	698	0	

0	0	14	0	14
0	0	16	0	16
0	0	10	0	10
0	0	12	0	12
0	0	24	0	24
0	0	11	0	11
0	0	14	0	14
0	0	16	0	16
0	0	117	0	117



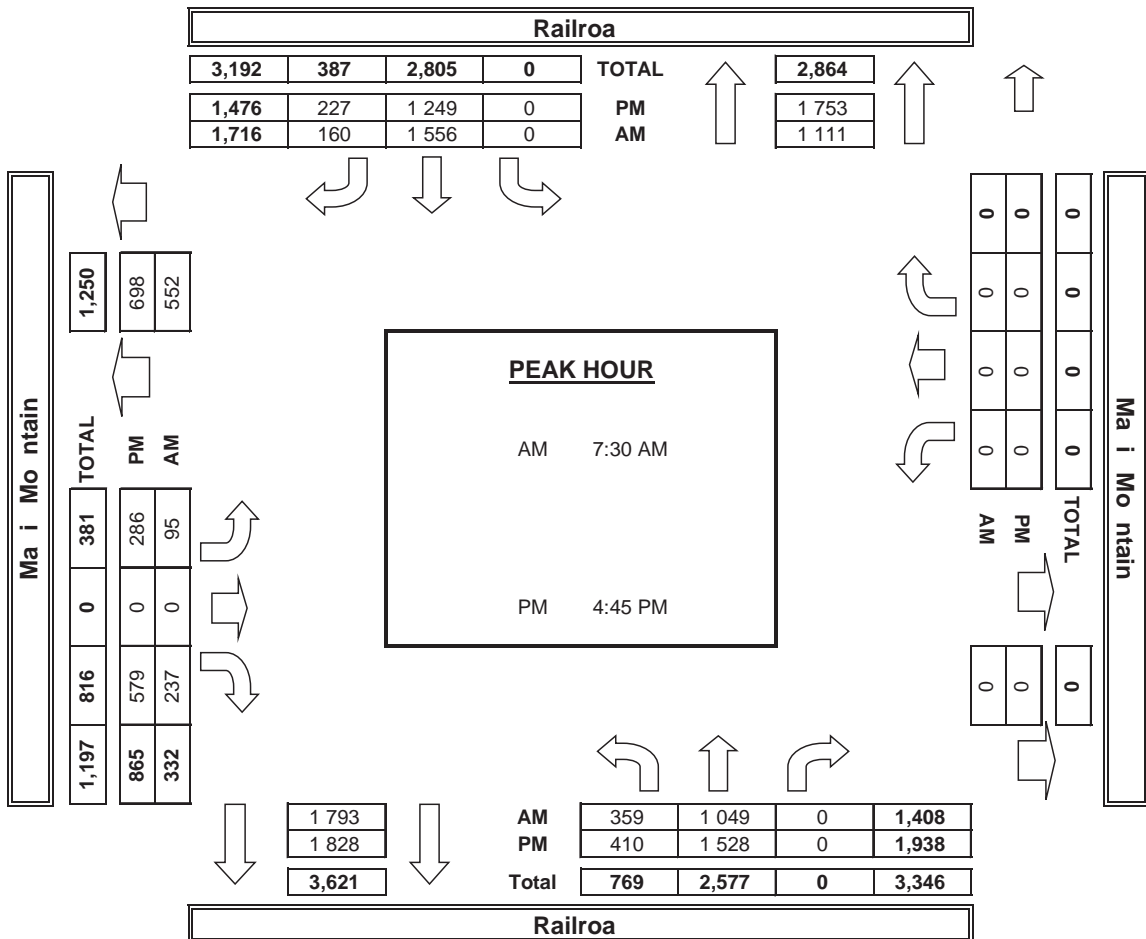
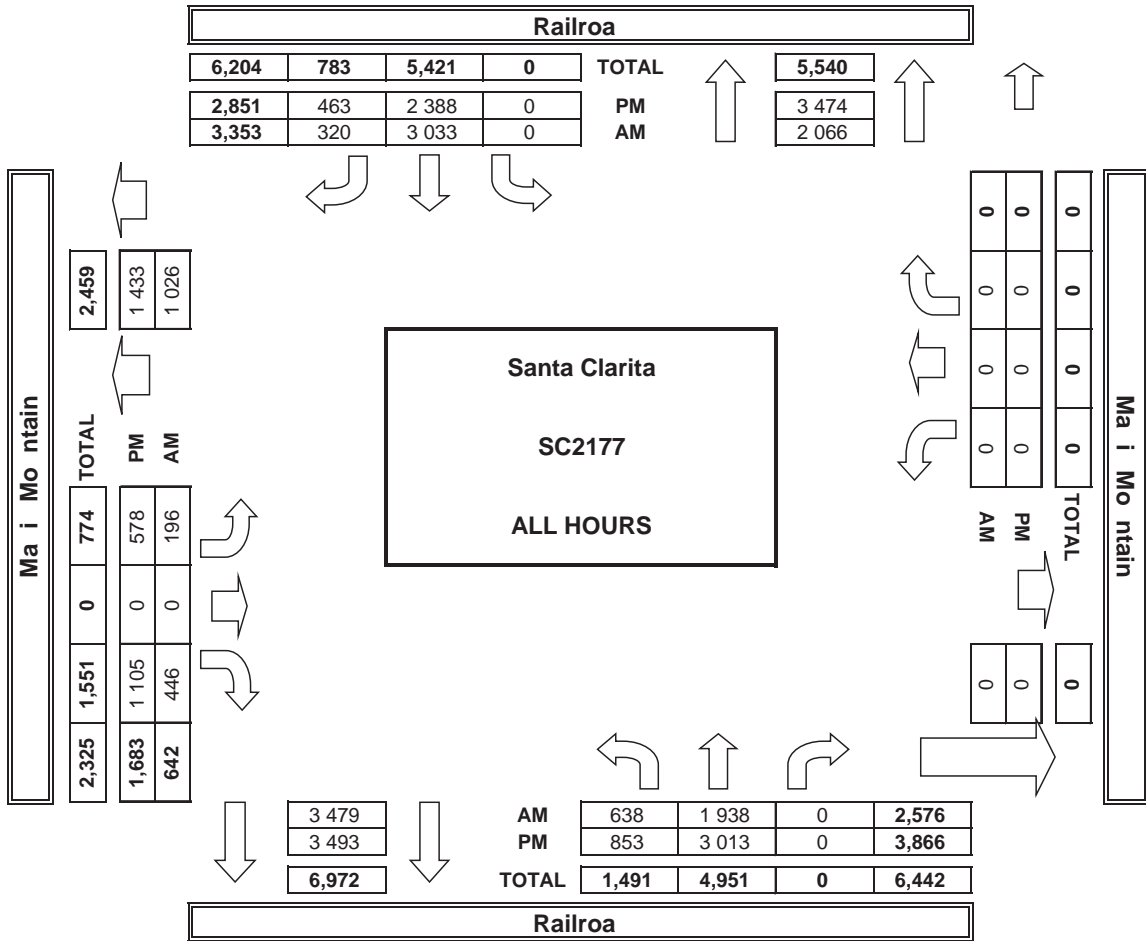
AM	7:00 AM	0	0	0	1	1
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	3	3
	7:45 AM	0	0	0	1	1
	8:00 AM	0	0	0	3	3
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	2	2
	8:45 AM	0	0	0	1	1
TOTAL	0	0	0	11	11	
AM BEGIN PEAK HR	7:30 AM					
PM	4:00 PM	0	0	0	2	2
	4:15 PM	0	0	0	5	5
	4:30 PM	0	0	1	2	3
	4:45 PM	0	0	0	2	2
	5:00 PM	0	0	0	3	3
	5:15 PM	0	0	0	1	1
	5:30 PM	0	0	0	3	3
	5:45 PM	0	0	0	4	4
TOTAL	0	0	1	22	23	
PM BEGIN PEAK HR	4:45 PM					

PEDESTRIAN + BIKE CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
0	0	0	1	1	
0	0	0	0	0	
0	0	0	3	3	
0	0	0	1	1	
0	0	0	3	3	
0	0	0	0	0	
0	0	0	2	2	
0	0	0	1	1	
0	0	0	11	11	
0	0	0	2	2	
0	0	0	5	5	
0	0	1	2	3	
0	0	0	2	2	
0	0	0	3	3	
0	0	0	1	1	
0	0	0	3	3	
0	0	0	4	4	
0	0	1	22	23	
0	0	0	4	4	
0	0	0	5	5	

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	2	2
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	5	5
0	0	0	4	4
0	0	0	1	1
0	0	0	2	2
0	0	0	2	2
0	0	0	0	0
0	0	0	2	2
0	0	0	1	1
0	0	0	2	2
0	0	0	4	4
0	0	0	14	14
0	0	0	5	5

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	2	2
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	1	1
0	0	0	6	6
0	0	0	1	1
0	0	0	3	3
0	0	1	0	1
0	0	0	2	2
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	1	8	9

AimTD LLC
TURNING MOVEMENT COUNTS



75 SCTUE - TMC

Tue Jan 29, 2019

Full Length (6 AM-9 AM, 2 PM-9 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 619557, Location: 34.400527, -118.538621



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US

Leg Direction	Railroad Ave Southbound					Oak Ridge Dr Westbound					Railroad Ave Northbound					Int
	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	
2019-01-29 6:00AM	1181	154	0	1335	0	142	53	0	195	0	17	561	0	578	0	2108
7:00AM	1356	271	4	1631	0	357	77	0	434	0	43	951	0	994	0	3059
8:00AM	1150	270	3	1423	3	332	61	0	393	0	44	866	0	910	0	2726
2:00PM	1005	251	5	1261	4	324	40	0	364	0	63	1093	0	1156	0	2781
3:00PM	1107	329	5	1441	0	410	41	1	452	0	69	1300	0	1369	0	3262
4:00PM	1197	342	1	1540	8	399	44	0	443	0	67	1316	0	1383	0	3366
5:00PM	1085	364	4	1453	0	424	23	0	447	0	65	1281	0	1346	0	3246
6:00PM	914	331	2	1247	3	340	35	0	375	0	42	1031	0	1073	0	2695
7:00PM	614	213	2	829	0	231	22	0	253	0	51	888	0	939	0	2021
8:00PM	460	192	4	656	1	143	14	0	157	0	30	607	0	637	0	1450
Total	10069	2717	30	12816	19	3102	410	1	3513	0	491	9894	0	10385	0	26714
% Approach	78.6%	21.2%	0.2%	-	-	88.3%	11.7%	0%	-	-	4.7%	95.3%	0%	-	-	-
% Total	37.7%	10.2%	0.1%	48.0%	-	11.6%	1.5%	0%	13.2%	-	1.8%	37.0%	0%	38.9%	-	-
Lights and Motorcycles	9861	2685	30	12576	-	3062	405	1	3468	-	479	9621	0	10100	-	26144
% Lights and Motorcycles	97.9%	98.8%	100%	98.1%	-	98.7%	98.8%	100%	98.7%	-	97.6%	97.2%	0%	97.3%	-	97.9%
Heavy	201	32	0	233	-	38	5	0	43	-	12	270	0	282	-	558
% Heavy	2.0%	1.2%	0%	1.8%	-	1.2%	1.2%	0%	1.2%	-	2.4%	2.7%	0%	2.7%	-	2.1%
Bicycles on Road	7	0	0	7	-	2	0	0	2	-	0	3	0	3	-	12
% Bicycles on Road	0.1%	0%	0%	0.1%	-	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	17	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	89.5%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	10.5%	-	-	-	-	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

75 SCTUE - TMC

Tue Jan 29, 2019

Full Length (6 AM-9 AM, 2 PM-9 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 619557, Location: 34.400527, -118.538621

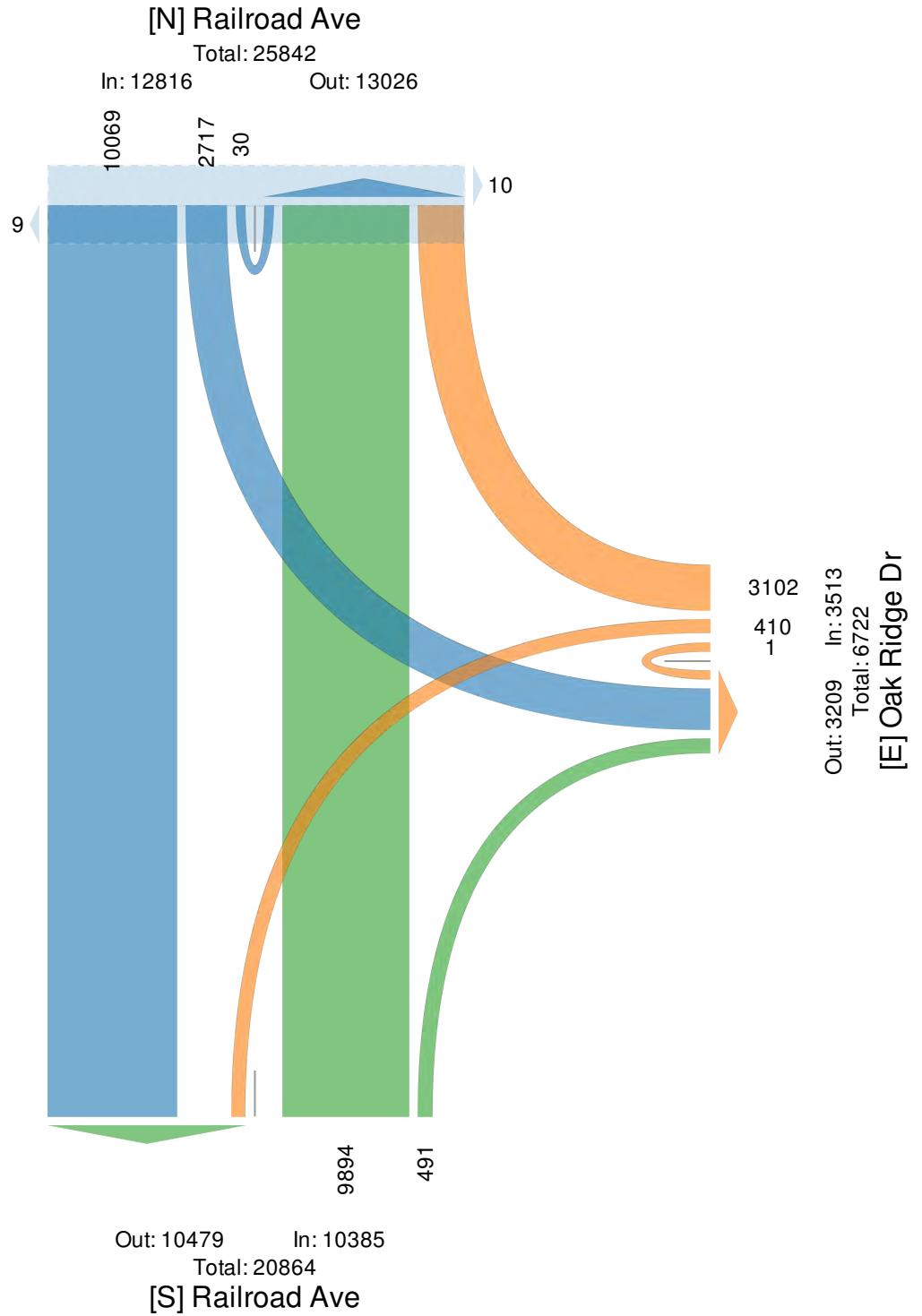


DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US



75 SCTUE - TMC

Tue Jan 29, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 619557, Location: 34.400527, -118.538621



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US

Leg Direction	Railroad Ave Southbound					Oak Ridge Dr Westbound					Railroad Ave Northbound					Int
	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	
2019-01-29 7:15AM	326	78	0	404	0	65	11	0	76	0	8	196	0	204	0	684
7:30AM	346	71	1	418	0	108	32	0	140	0	11	292	0	303	0	861
7:45AM	332	75	1	408	0	125	22	0	147	0	18	296	0	314	0	869
8:00AM	301	67	1	369	1	91	18	0	109	0	19	265	0	284	0	762
Total	1305	291	3	1599	1	389	83	0	472	0	56	1049	0	1105	0	3176
% Approach	81.6%	18.2%	0.2%	-	-	82.4%	17.6%	0%	-	-	5.1%	94.9%	0%	-	-	-
% Total	41.1%	9.2%	0.1%	50.3%	-	12.2%	2.6%	0%	14.9%	-	1.8%	33.0%	0%	34.8%	-	-
PHF	0.942	0.933	0.750	0.956	-	0.778	0.648	-	0.803	-	0.737	0.885	-	0.879	-	0.914
Lights and Motorcycles	1277	289	3	1569	-	386	82	0	468	-	54	1012	0	1066	-	3103
% Lights and Motorcycles	97.9%	99.3%	100%	98.1%	-	99.2%	98.8%	0%	99.2%	-	96.4%	96.5%	0%	96.5%	-	97.7%
Heavy	27	2	0	29	-	3	1	0	4	-	2	36	0	38	-	71
% Heavy	2.1%	0.7%	0%	1.8%	-	0.8%	1.2%	0%	0.8%	-	3.6%	3.4%	0%	3.4%	-	2.2%
Bicycles on Road	1	0	0	1	-	0	0	0	0	-	0	1	0	1	-	2
% Bicycles on Road	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	-	0%	0.1%	0%	0.1%	-	0.1%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

75 SCTUE - TMC

Tue Jan 29, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 619557, Location: 34.400527, -118.538621

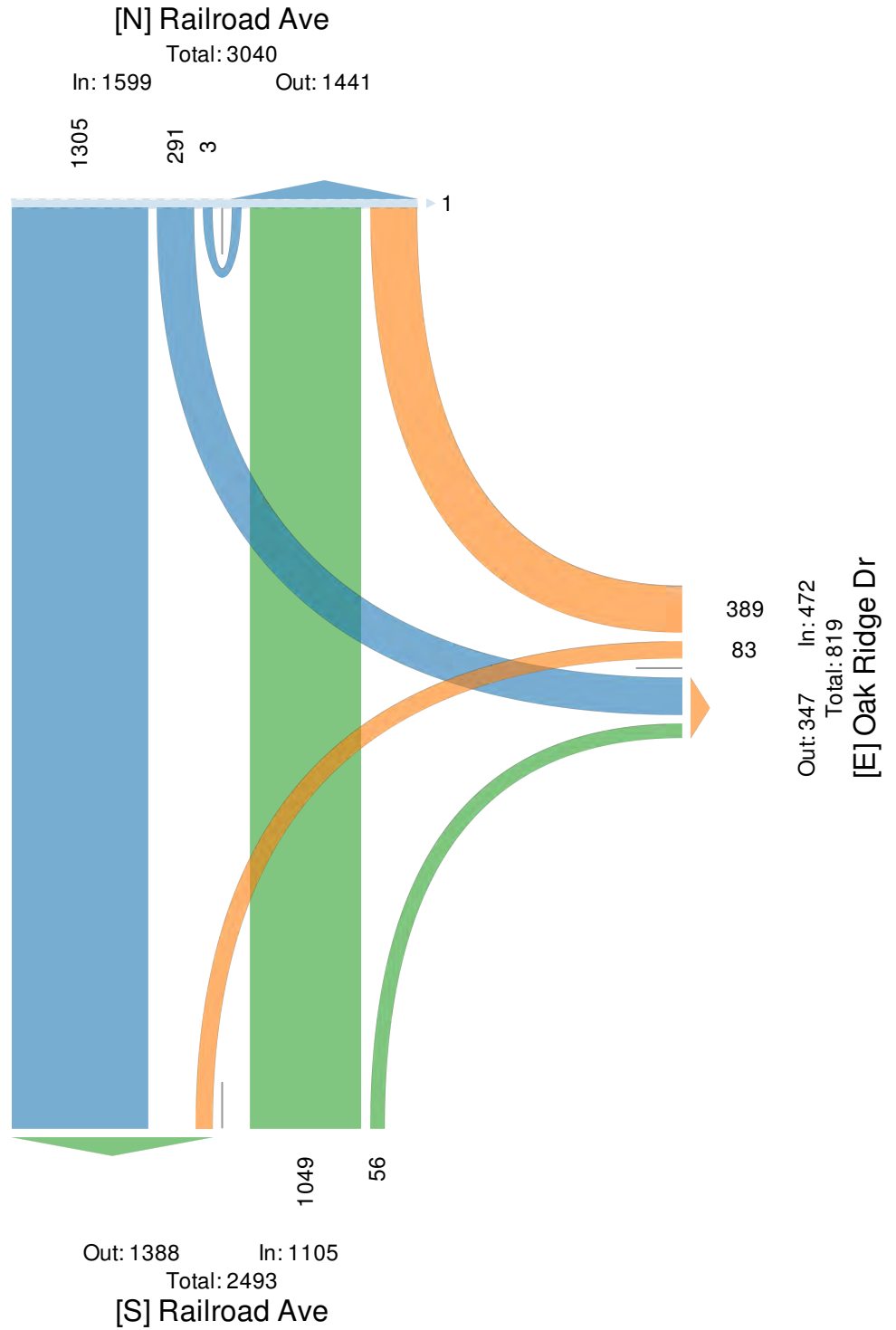


DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US



75 SCTUE - TMC

Tue Jan 29, 2019

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 619557, Location: 34.400527, -118.538621



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US

Leg Direction	Railroad Ave Southbound					Oak Ridge Dr Westbound					Railroad Ave Northbound					Int
	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	
2019-01-29 4:30PM	262	77	1	340	4	116	10	0	126	0	18	345	0	363	0	829
4:45PM	313	94	0	407	0	107	17	0	124	0	17	329	0	346	0	877
5:00PM	313	78	2	393	0	112	6	0	118	0	16	368	0	384	0	895
5:15PM	321	117	2	440	0	105	9	0	114	0	15	306	0	321	0	875
Total	1209	366	5	1580	4	440	42	0	482	0	66	1348	0	1414	0	3476
% Approach	76.5%	23.2%	0.3%	-	-	91.3%	8.7%	0%	-	-	4.7%	95.3%	0%	-	-	-
% Total	34.8%	10.5%	0.1%	45.5%	-	12.7%	1.2%	0%	13.9%	-	1.9%	38.8%	0%	40.7%	-	-
PHF	0.941	0.782	0.625	0.897	-	0.948	0.618	-	0.956	-	0.917	0.914	-	0.919	-	0.970
Lights and Motorcycles	1192	364	5	1561	-	437	42	0	479	-	66	1321	0	1387	-	3427
% Lights and Motorcycles	98.6%	99.5%	100%	98.8%	-	99.3%	100%	0%	99.4%	-	100%	98.0%	0%	98.1%	-	98.6%
Heavy	16	2	0	18	-	3	0	0	3	-	0	25	0	25	-	46
% Heavy	1.3%	0.5%	0%	1.1%	-	0.7%	0%	0%	0.6%	-	0%	1.9%	0%	1.8%	-	1.3%
Bicycles on Road	1	0	0	1	-	0	0	0	0	-	0	2	0	2	-	3
% Bicycles on Road	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	-	0%	0.1%	0%	0.1%	-	0.1%
Pedestrians	-	-	-	-	4	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

75 SCTUE - TMC

Tue Jan 29, 2019

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 619557, Location: 34.400527, -118.538621

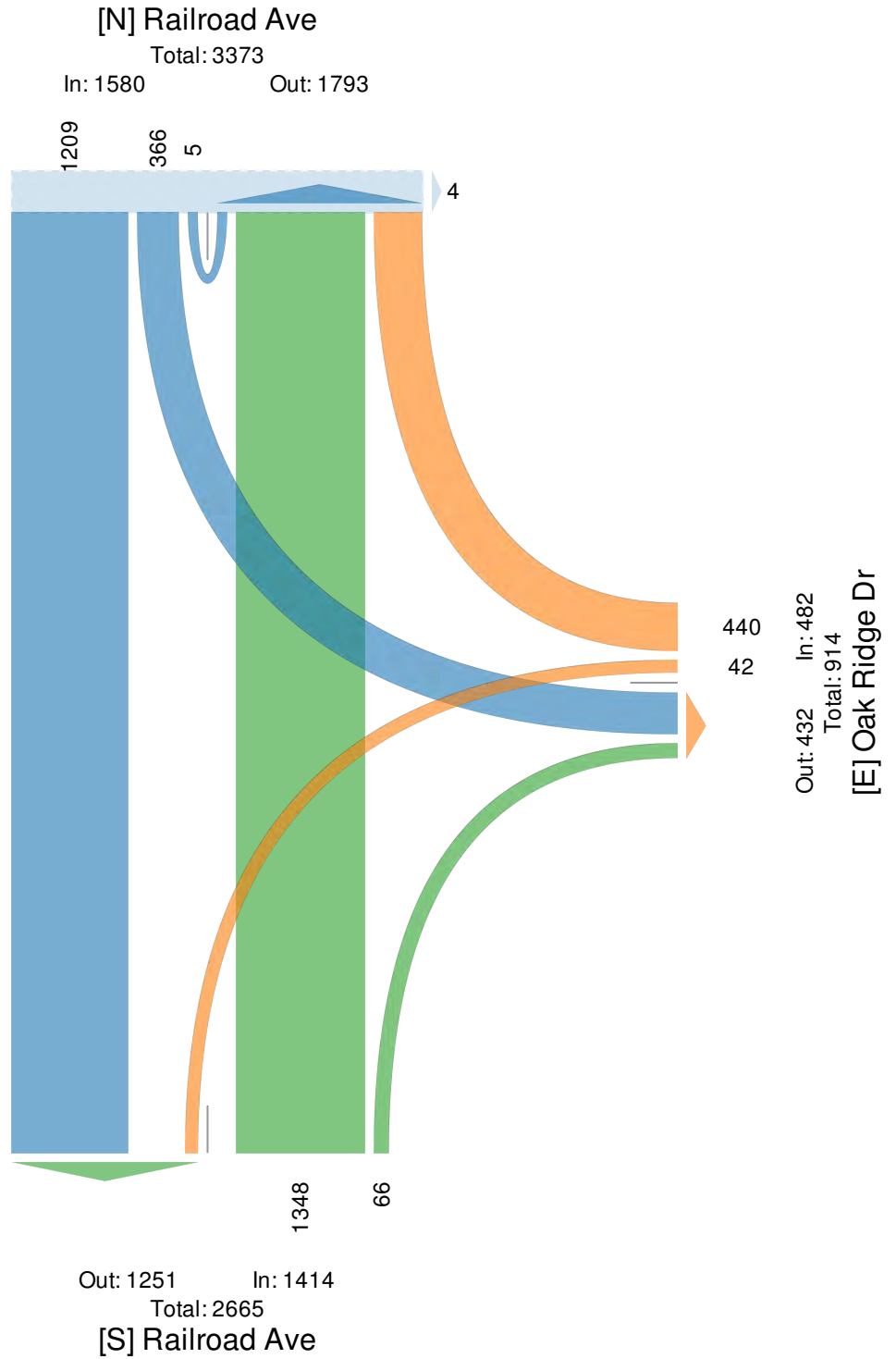


DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION:
Santa Clarita
Railroad
13th

PROJECT #: SC2177
LOCATION #: 5
CONTROL: SIGNAL

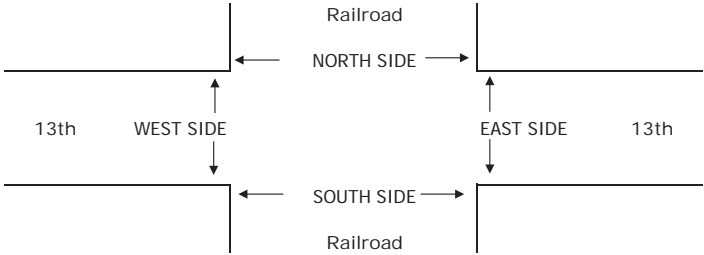
NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼	
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Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	Railroad			Railroad			13th			13th				
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0		
AM	7:00 AM	2	174	16	17	338	1	3	0	3	23	0	17	594
	7:15 AM	2	181	26	24	357	0	1	0	1	25	0	25	642
	7:30 AM	2	246	35	21	366	4	4	0	2	33	0	33	746
	7:45 AM	3	297	44	25	328	5	0	2	0	20	0	41	765
	8:00 AM	1	211	39	33	347	3	3	0	3	15	0	22	677
	8:15 AM	5	160	30	28	302	3	1	0	0	25	0	28	582
	8:30 AM	0	177	18	25	324	0	1	0	2	21	0	29	597
	8:45 AM	0	197	31	21	322	6	1	0	2	21	0	26	627
	VOLUMES	15	1,643	239	194	2,684	22	14	2	13	183	0	221	5,230
	APPROACH %	1%	87%	13%	7%	93%	1%	48%	7%	45%	45%	0%	55%	
APP/DEPART	1,897	/	1,887	2,900	/	2,880	29	/	426	404	/	37	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	8	935	144	103	1,398	12	8	2	6	93	0	121	2,830	
APPROACH %	1%	86%	13%	7%	92%	1%	50%	13%	38%	43%	0%	57%		
PEAK HR FACTOR	0.790			0.967			0.667			0.811			0.925	
APP/DEPART	1,087	/	1,065	1,513	/	1,497	16	/	248	214	/	20	0	
PM	4:00 PM	4	265	36	38	249	0	1	0	1	44	0	38	676
	4:15 PM	1	284	28	37	300	0	0	0	1	34	0	34	719
	4:30 PM	0	319	51	41	291	0	0	0	0	41	0	30	773
	4:45 PM	0	255	48	44	281	1	1	0	0	42	0	28	700
	5:00 PM	0	322	40	47	328	1	0	0	0	42	0	44	824
	5:15 PM	2	319	45	47	295	3	0	0	0	35	0	51	797
	5:30 PM	0	298	37	36	263	2	0	0	0	32	0	53	721
	5:45 PM	0	289	37	40	272	0	1	0	0	30	0	30	699
	VOLUMES	7	2,351	322	330	2,279	7	3	0	2	300	0	308	5,909
	APPROACH %	0%	88%	12%	13%	87%	0%	60%	0%	40%	49%	0%	51%	
APP/DEPART	2,680	/	2,681	2,616	/	2,582	5	/	633	608	/	13	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	2	1,215	184	179	1,195	5	1	0	0	160	0	153	3,094	
APPROACH %	0%	87%	13%	13%	87%	0%	100%	0%	0%	51%	0%	49%		
PEAK HR FACTOR	0.947			0.917			0.250			0.910			0.939	
APP/DEPART	1,401	/	1,378	1,379	/	1,355	1	/	354	313	/	7	0	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	4	0	0	4
0	1	0	0	1
0	3	0	0	3
0	9	0	0	9

1	3	0	0	4
0	6	0	0	6
0	1	0	0	1
0	5	0	0	5
0	1	0	0	1
0	2	0	0	2
0	0	0	0	0
0	1	0	0	1
1	19	0	0	20

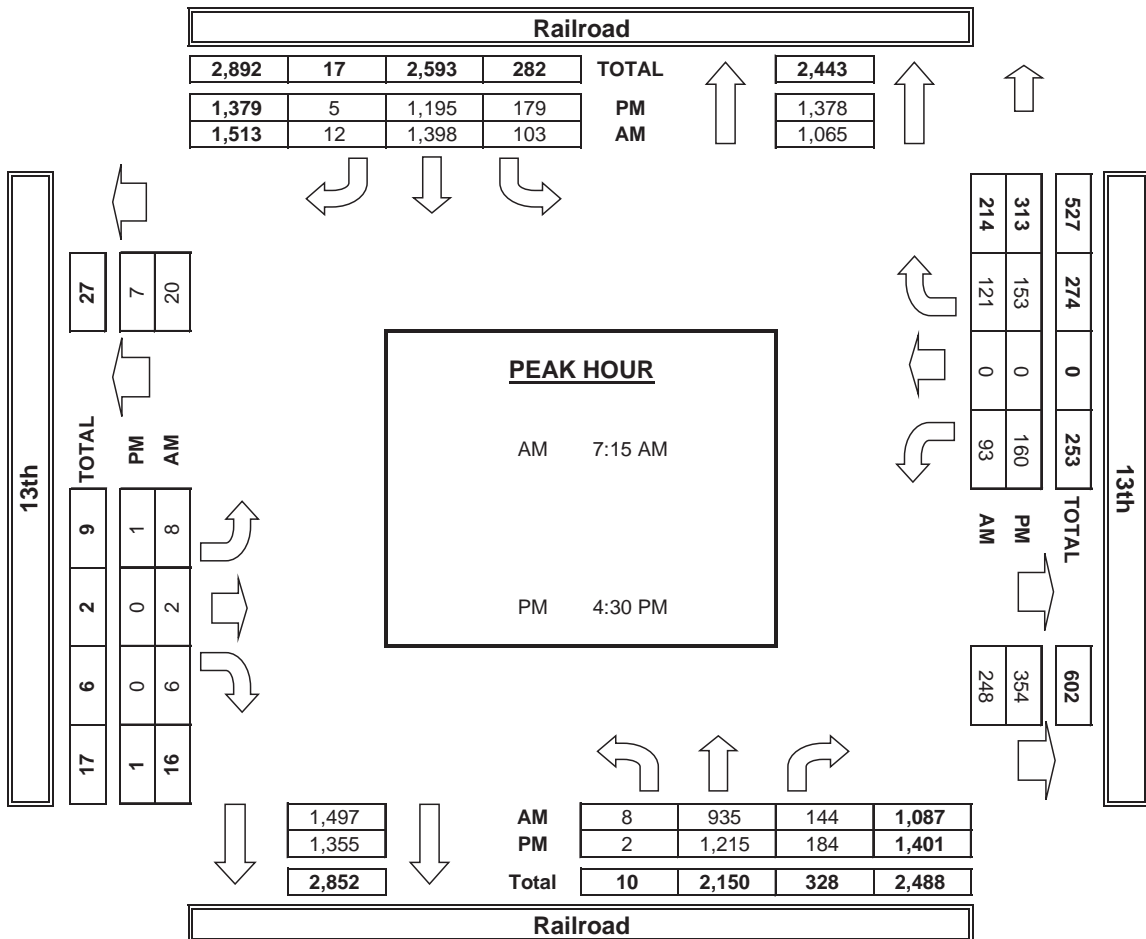
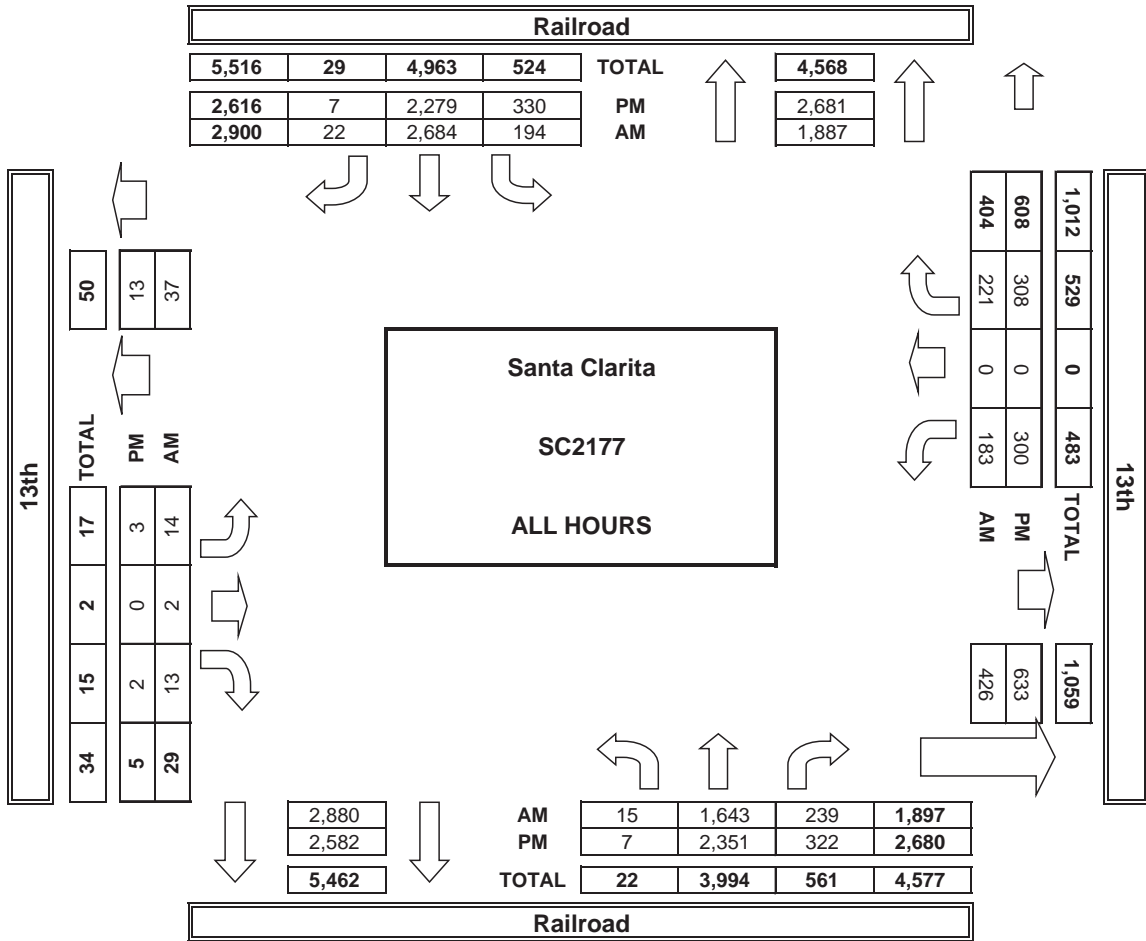


	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	4	0	0	5	9
7:15 AM	5	0	5	4	14
7:30 AM	4	0	15	1	20
7:45 AM	15	0	2	7	24
8:00 AM	4	0	3	0	7
8:15 AM	1	0	1	0	2
8:30 AM	0	0	0	0	0
8:45 AM	2	0	1	0	3
TOTAL	35	0	27	17	79
AM BEGIN PEAK HR	7:15 AM				
4:00 PM	4	0	2	3	9
4:15 PM	2	0	2	0	4
4:30 PM	1	0	2	3	6
4:45 PM	0	0	0	1	1
5:00 PM	6	0	4	2	12
5:15 PM	2	0	0	3	5
5:30 PM	1	0	2	0	3
5:45 PM	2	0	0	2	4
TOTAL	18	0	12	14	44
PM BEGIN PEAK HR	4:30 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	4	0	0	5	9
7:15 AM	5	0	5	4	14
7:30 AM	4	0	15	1	20
7:45 AM	15	0	2	7	24
8:00 AM	4	0	3	0	7
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	1	0	1	0	2
TOTAL	33	0	26	17	76
AM BEGIN PEAK HR	28	0	25	12	65
4:00 PM	4	0	2	3	9
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	2	2
4:45 PM	0	0	0	1	1
5:00 PM	6	0	3	2	11
5:15 PM	0	0	0	0	0
5:30 PM	1	0	2	0	3
5:45 PM	0	0	0	2	2
TOTAL	11	0	7	10	28
PM BEGIN PEAK HR	6	0	3	5	14

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	1	0	1	0	2
8:30 AM	0	0	0	0	0
8:45 AM	1	0	0	0	1
TOTAL	2	0	1	0	3
AM BEGIN PEAK HR	0	0	0	0	0
4:00 PM	2	0	2	0	4
4:15 PM	1	0	2	1	4
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	1	0	1
5:15 PM	2	0	0	3	5
5:30 PM	0	0	0	0	0
5:45 PM	2	0	0	0	2
TOTAL	7	0	5	4	16
PM BEGIN PEAK HR	0	0	0	0	0

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION:
NORTH & SOUTH: Santa Clarita
Railroad Avenue
EAST & WEST: Lyons Avenue

PROJECT #: SC2177
LOCATION #: 4
CONTROL: SIGNAL

NOTES:	AM PM MD OTHER OTHER	▲ N ▼	◀ W E ▶	
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Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Railroad			Railroad			Lyons			Lyons			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	2	X	X	2	1	2	X	1	X	X	X	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

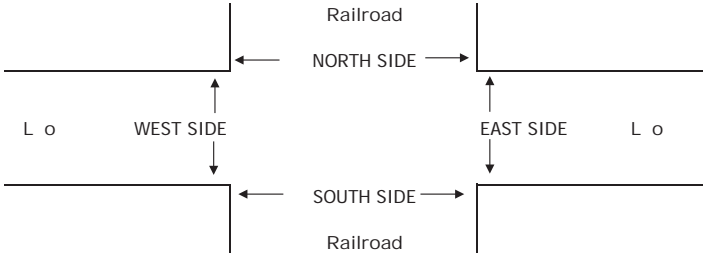
AM	7:00 AM	42	151	0	0	288	52	28	0	17	0	0	0	578	0	0	0	0	0
	7:15 AM	40	194	0	0	297	72	42	0	17	0	0	0	662	0	0	0	0	0
	7:30 AM	82	210	0	0	312	124	56	0	21	0	0	0	805	0	0	0	0	0
	7:45 AM	97	239	0	0	269	72	86	0	29	0	0	0	792	0	0	0	0	0
	8:00 AM	77	212	0	0	278	63	72	0	19	0	0	0	721	0	0	0	0	0
	8:15 AM	70	154	0	0	264	75	63	0	16	0	0	0	642	0	0	0	0	0
	8:30 AM	56	151	0	0	259	97	53	0	14	0	0	0	630	0	0	0	0	0
	8:45 AM	47	165	0	0	226	98	65	0	13	0	0	0	614	0	0	0	0	0

VOLUMES	511	1,476	0	0	2,193	653	465	0	146	0	0	0	5,444	0	0	0	0	0
APPROACH %	26%	74%	0%	0%	77%	23%	76%	0%	24%	0%	0%	0%		0	0	0	0	0
APP/DEPART	1,987	/	1,941	2,846	/	2,339	611	/	0	0	/	1,164	0	0	0	0	0	0

PM	BEGIN PEAK HR	7:15 AM																	
	VOLUMES	296	855	0	0	1,156	331	256	0	86	0	0	0	2,980	0	0	0	0	0
	APPROACH %	26%	74%	0%	0%	78%	22%	75%	0%	25%	0%	0%	0%		0	0	0	0	0
	PEAK HR FACTOR	0.856			0.853			0.743			0.000			0.925	0	0	0	0	0
	APP/DEPART	1,151	/	1,111	1,487	/	1,242	342	/	0	0	/	627	0	0	0	0	0	0

VOLUMES	484	1,861	0	0	1,903	693	881	0	273	0	0	0	6,095	0	0	0	0	0
APPROACH %	21%	79%	0%	0%	73%	27%	76%	0%	24%	0%	0%	0%		0	0	0	0	0
APP/DEPART	2,345	/	2,742	2,596	/	2,176	1,154	/	0	0	/	1,177	0	0	0	0	0	0

PM	4:00 PM	50	209	0	0	206	88	106	0	42	0	0	0	701	0	0	0	0	0
	4:15 PM	68	217	0	0	213	106	118	0	26	0	0	0	748	0	0	0	0	0
	4:30 PM	61	239	0	0	279	80	113	0	23	0	0	0	795	0	0	0	0	0
	4:45 PM	63	220	0	0	236	86	104	0	35	0	0	0	744	0	0	0	0	0
	5:00 PM	49	227	0	0	262	77	138	0	40	0	0	0	793	0	0	0	0	0
	5:15 PM	54	237	0	0	262	85	129	0	30	0	0	0	797	0	0	0	0	0
	5:30 PM	61	226	0	0	213	81	92	0	40	0	0	0	713	0	0	0	0	0
	5:45 PM	78	286	0	0	232	90	81	0	37	0	0	0	804	0	0	0	0	0



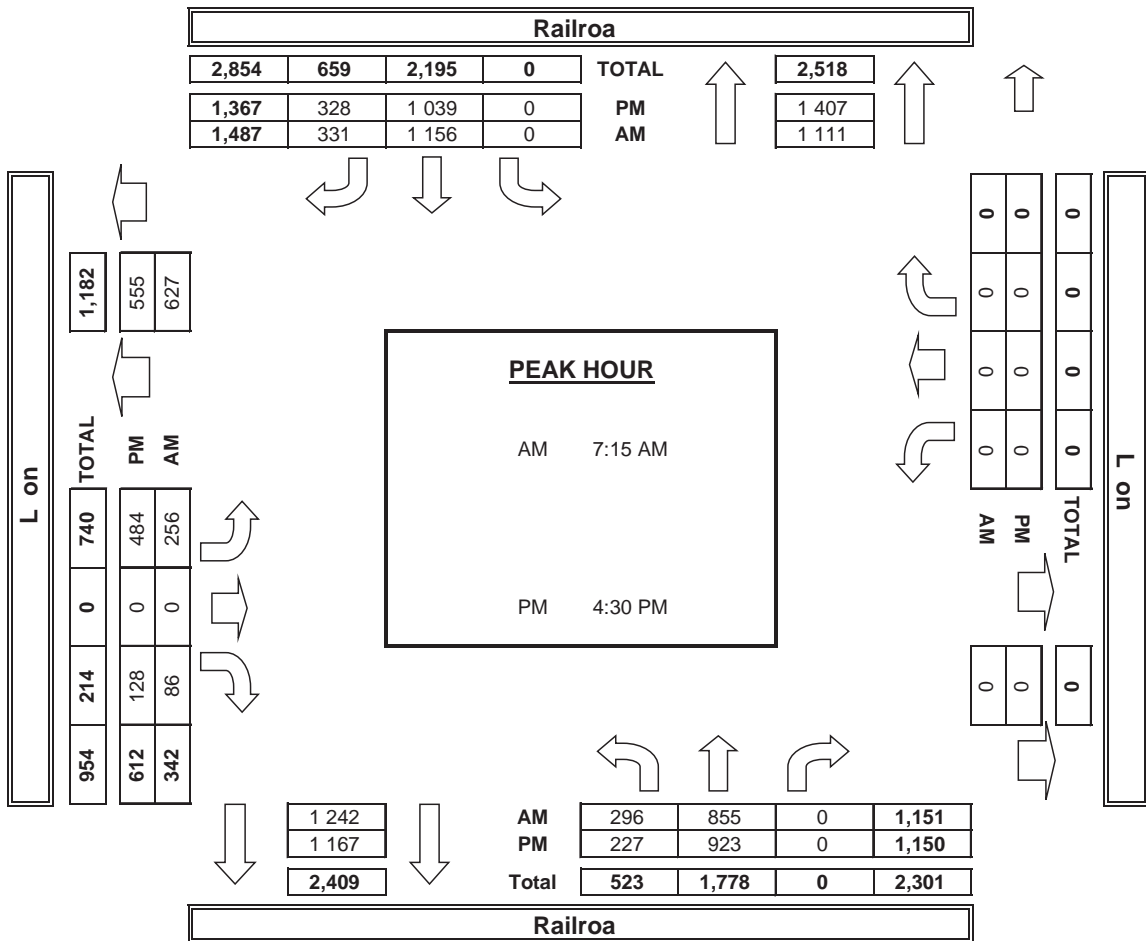
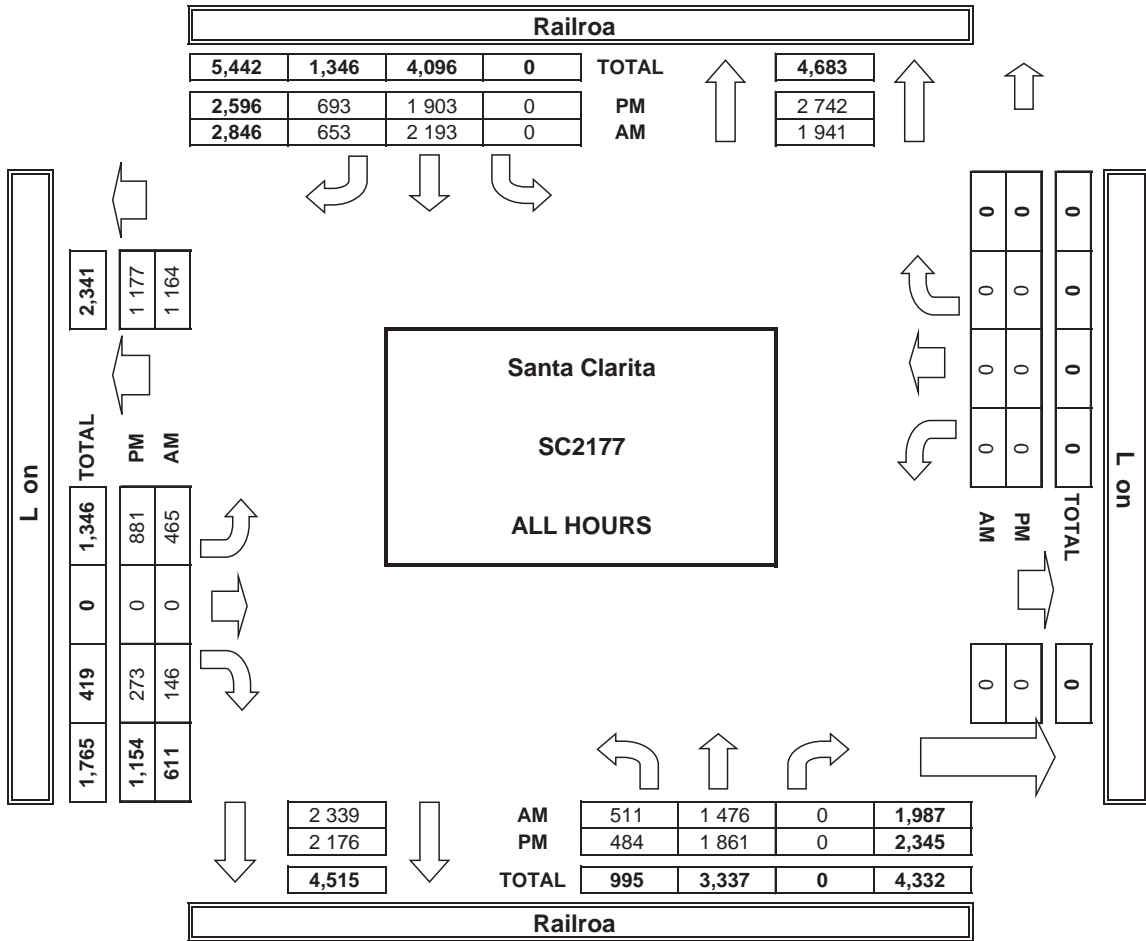
AM	7:00 AM	1	0	0	0	1	2	0	1	0	3
	7:15 AM	1	0	0	0	1	2	0	4	0	6
	7:30 AM	0	0	0	0	0	0	0	0	0	0
	7:45 AM	1	0	0	0	1	1	0	3	0	4
	8:00 AM	0	0	0	1	1	0	0	0	1	1
	8:15 AM	2	0	0	0	2	0	0	1	1	2
	8:30 AM	1	0	0	1	2	0	0	1	0	1
	8:45 AM	1	0	0	0	1	2	0	3	0	5
TOTAL	7	0	0	2	9	7	0	13	2	22	
AM BEGIN PEAK HR	7:15 AM										
PM	4:00 PM	2	0	1	0	3	2	0	1	0	3
	4:15 PM	2	0	4	0	6	2	0	1	0	3
	4:30 PM	0	0	0	0	0	0	0	0	0	0
	4:45 PM	1	0	3	0	4	0	0	0	0	0
	5:00 PM	0	0	0	1	1	0	0	0	0	0
	5:15 PM	0	0	1	1	2	0	0	0	0	0
	5:30 PM	0	0	1	0	1	0	0	1	0	1
	5:45 PM	2	0	3	0	5	2	0	3	0	5
TOTAL	7	0	13	2	22	6	0	6	0	12	
PM BEGIN PEAK HR	4:30 PM										

PEDESTRIAN + BIKE CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
1	0	0	0	1	
1	0	0	0	1	
0	0	0	0	0	
1	0	0	0	1	
0	0	0	1	1	
2	0	0	0	2	
1	0	0	1	2	
1	0	0	0	1	
7	0	0	2	9	
7:15 AM					
2	0	1	0	3	
2	0	4	0	6	
0	0	0	0	0	
1	0	3	0	4	
0	0	0	1	1	
0	0	1	1	2	
0	0	1	0	1	
2	0	3	0	5	
7	0	13	2	22	
4:30 PM					

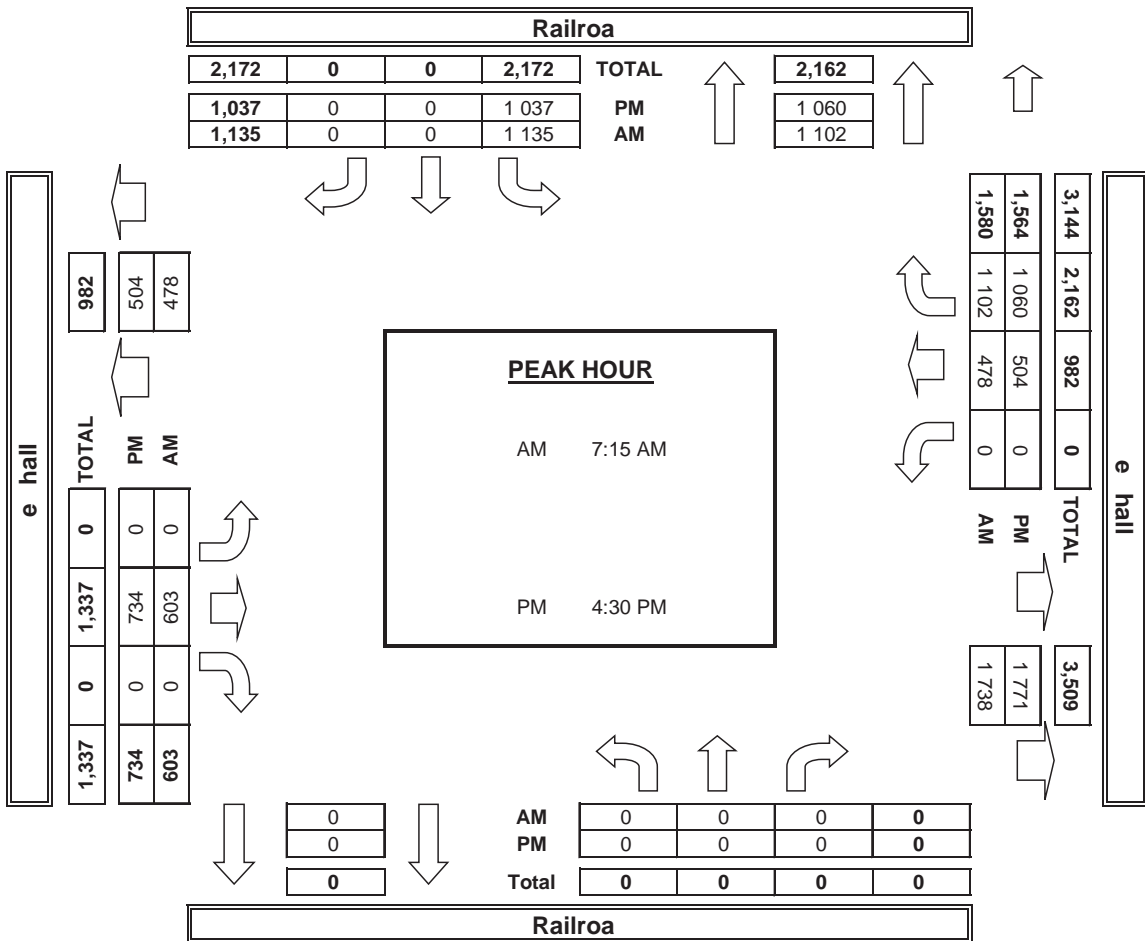
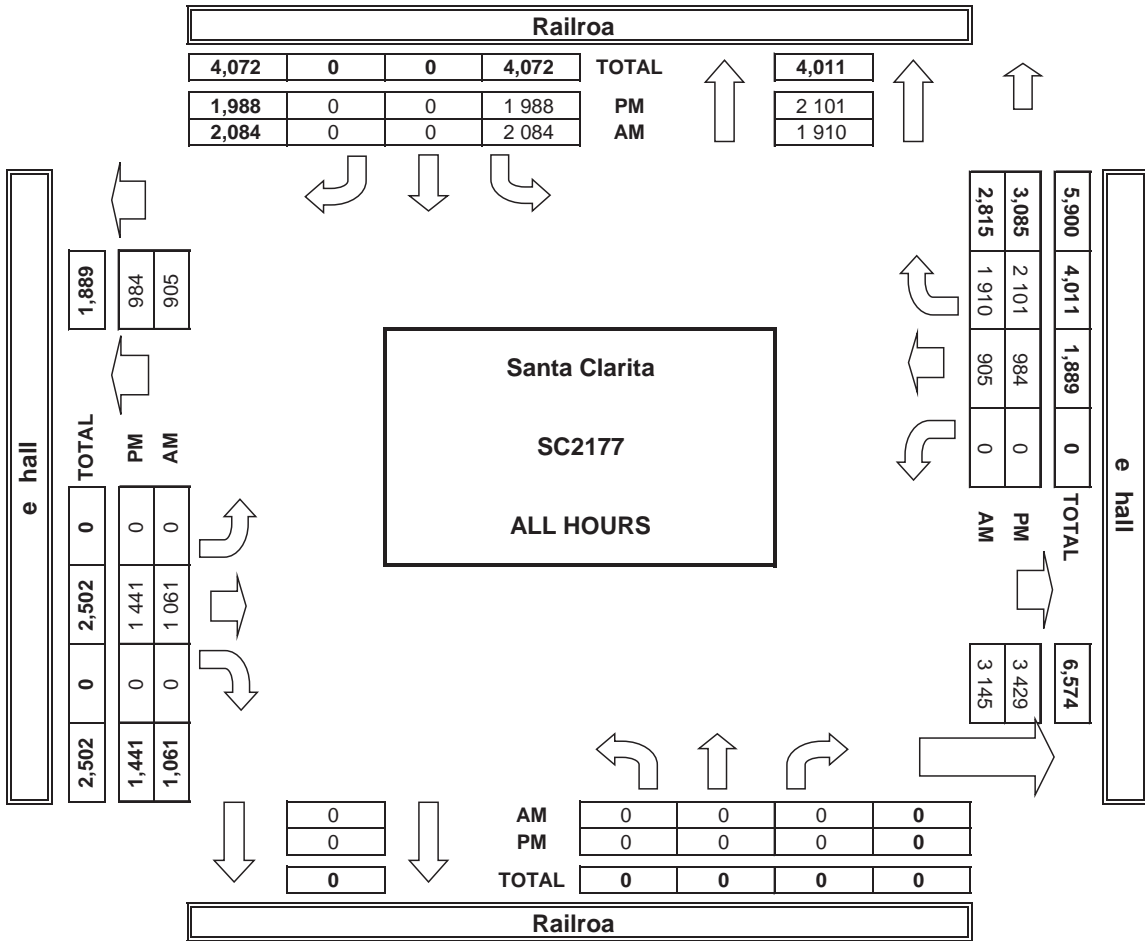
PEDESTRIAN CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
1	0	0	0	1	
1	0	0	0	1	
0	0	0	0	0	
1	0	0	0	1	
0	0	0	1	1	
1	0	0	0	1	
1	0	0	1	2	
1	0	0	0	1	
6	0	0	2	8	
2	0	0	1	3	
2	0	1	0	3	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	1	0	1	
2	0	3	0	5	
6	0	6	0	12	
0	0	0	0	0	

BICYCLE CROSSINGS					
NS	SS	ES	WS	TOTAL	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
1	0	0	0	1	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
1	0	3	0	4	
0	0	0	1	1	
0	0	1	1	2	
0	0	0	0	0	
0	0	0	0	0	
1	0	7	2	10	

AimTD LLC
TURNING MOVEMENT COUNTS



AimTD LLC
TURNING MOVEMENT COUNTS



147 SCTUE - TMC

Tue Jan 29, 2019

Full Length (7 AM-9 AM, 11:30 AM-1:30 PM, 4:30 PM-6:30 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 618768, Location: 34.370753, -118.514726



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US

Leg Direction	Valle del Oro Southbound					Newhall Ave Westbound					Newhall Ave Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2019-01-29 7:00AM	295	127	0	422	15	73	1183	0	1256	0	1580	145	0	1725	46	3403
8:00AM	188	105	0	293	8	62	1213	0	1275	0	1396	112	1	1509	8	3077
11:00AM	72	15	0	87	1	17	520	0	537	0	518	58	1	577	2	1201
12:00PM	109	46	0	155	12	34	1082	0	1116	0	1117	112	3	1232	15	2503
1:00PM	62	20	0	82	5	24	533	0	557	0	568	63	1	632	1	1271
4:00PM	60	25	0	85	9	39	734	0	773	0	787	110	1	898	14	1756
5:00PM	174	54	0	228	18	92	1272	0	1364	0	1656	281	0	1937	11	3529
6:00PM	80	29	0	109	7	60	694	0	754	0	696	103	1	800	5	1663
Total	1040	421	0	1461	75	401	7231	0	7632	0	8318	984	8	9310	102	18403
% Approach	71.2%	28.8%	0%	-	-	5.3%	94.7%	0%	-	-	89.3%	10.6%	0.1%	-	-	-
% Total	5.7%	2.3%	0%	7.9%	-	2.2%	39.3%	0%	41.5%	-	45.2%	5.3%	0%	50.6%	-	-
Lights and Motorcycles	1029	415	0	1444	-	390	6961	0	7351	-	8085	976	8	9069	-	17864
% Lights and Motorcycles	98.9%	98.6%	0%	98.8%	-	97.3%	96.3%	0%	96.3%	-	97.2%	99.2%	100%	97.4%	-	97.1%
Heavy	10	6	0	16	-	11	269	0	280	-	233	8	0	241	-	537
% Heavy	1.0%	1.4%	0%	1.1%	-	2.7%	3.7%	0%	3.7%	-	2.8%	0.8%	0%	2.6%	-	2.9%
Bicycles on Road	1	0	0	1	-	0	1	0	1	-	0	0	0	0	-	2
% Bicycles on Road	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	72	-	-	-	-	0	-	-	-	-	102	-
% Pedestrians	-	-	-	-	96.0%	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	4.0%	-	-	-	-	-	-	-	-	-	0%	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

147 SCTUE - TMC

Tue Jan 29, 2019

Full Length (7 AM-9 AM, 11:30 AM-1:30 PM, 4:30 PM-6:30 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 618768, Location: 34.370753, -118.514726



DATA SOLUTIONS

Provided by: IDAX Data Solutions

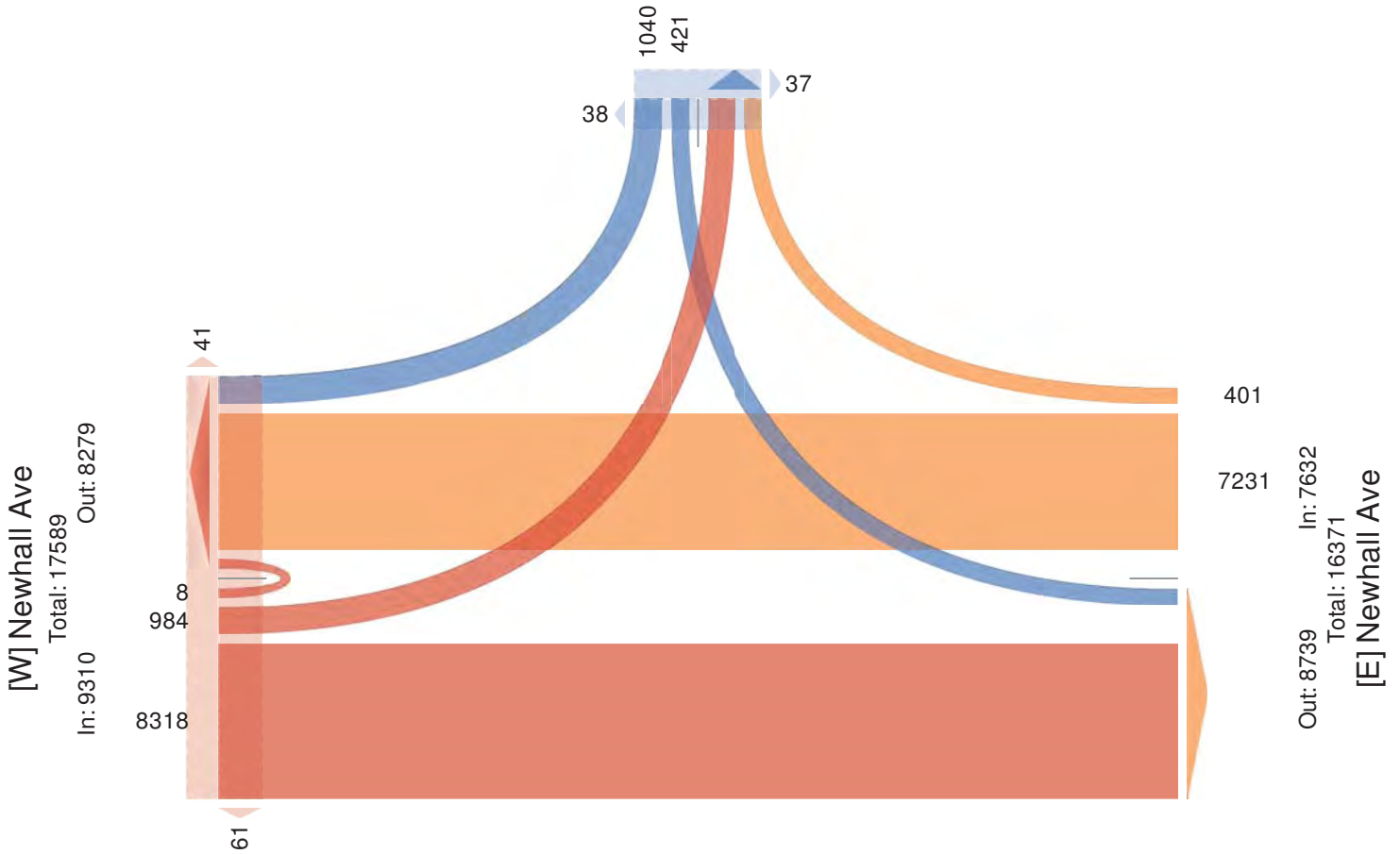
1305 N 30th St,

Renton, WA, 98056, US

[N] Valle del Oro

Total: 2846

In: 1461 Out: 1385



147 SCTUE - TMC

Tue Jan 29, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 618768, Location: 34.370753, -118.514726



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US

Leg Direction	Valle del Oro Southbound					Newhall Ave Westbound					Newhall Ave Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2019-01-29 7:15AM	64	23	0	87	3	15	228	0	243	0	464	30	0	494	3	824
7:30AM	96	38	0	134	5	27	386	0	413	0	336	45	0	381	12	928
7:45AM	94	42	0	136	4	24	383	0	407	0	336	47	0	383	30	926
8:00AM	76	51	0	127	1	27	271	0	298	0	366	42	0	408	3	833
Total	330	154	0	484	13	93	1268	0	1361	0	1502	164	0	1666	48	3511
% Approach	68.2%	31.8%	0%	-	-	6.8%	93.2%	0%	-	-	90.2%	9.8%	0%	-	-	-
% Total	9.4%	4.4%	0%	13.8%	-	2.6%	36.1%	0%	38.8%	-	42.8%	4.7%	0%	47.5%	-	-
PHF	0.859	0.755	-	0.890	-	0.861	0.821	-	0.824	-	0.809	0.872	-	0.843	-	0.946
Lights and Motorcycles	329	152	0	481	-	92	1223	0	1315	-	1461	162	0	1623	-	3419
% Lights and Motorcycles	99.7%	98.7%	0%	99.4%	-	98.9%	96.5%	0%	96.6%	-	97.3%	98.8%	0%	97.4%	-	97.4%
Heavy	1	2	0	3	-	1	45	0	46	-	41	2	0	43	-	92
% Heavy	0.3%	1.3%	0%	0.6%	-	1.1%	3.5%	0%	3.4%	-	2.7%	1.2%	0%	2.6%	-	2.6%
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	12	-	-	-	-	0	-	-	-	-	48	-
% Pedestrians	-	-	-	-	92.3%	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	7.7%	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

147 SCTUE - TMC

Tue Jan 29, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 618768, Location: 34.370753, -118.514726



DATA SOLUTIONS

Provided by: IDAX Data Solutions

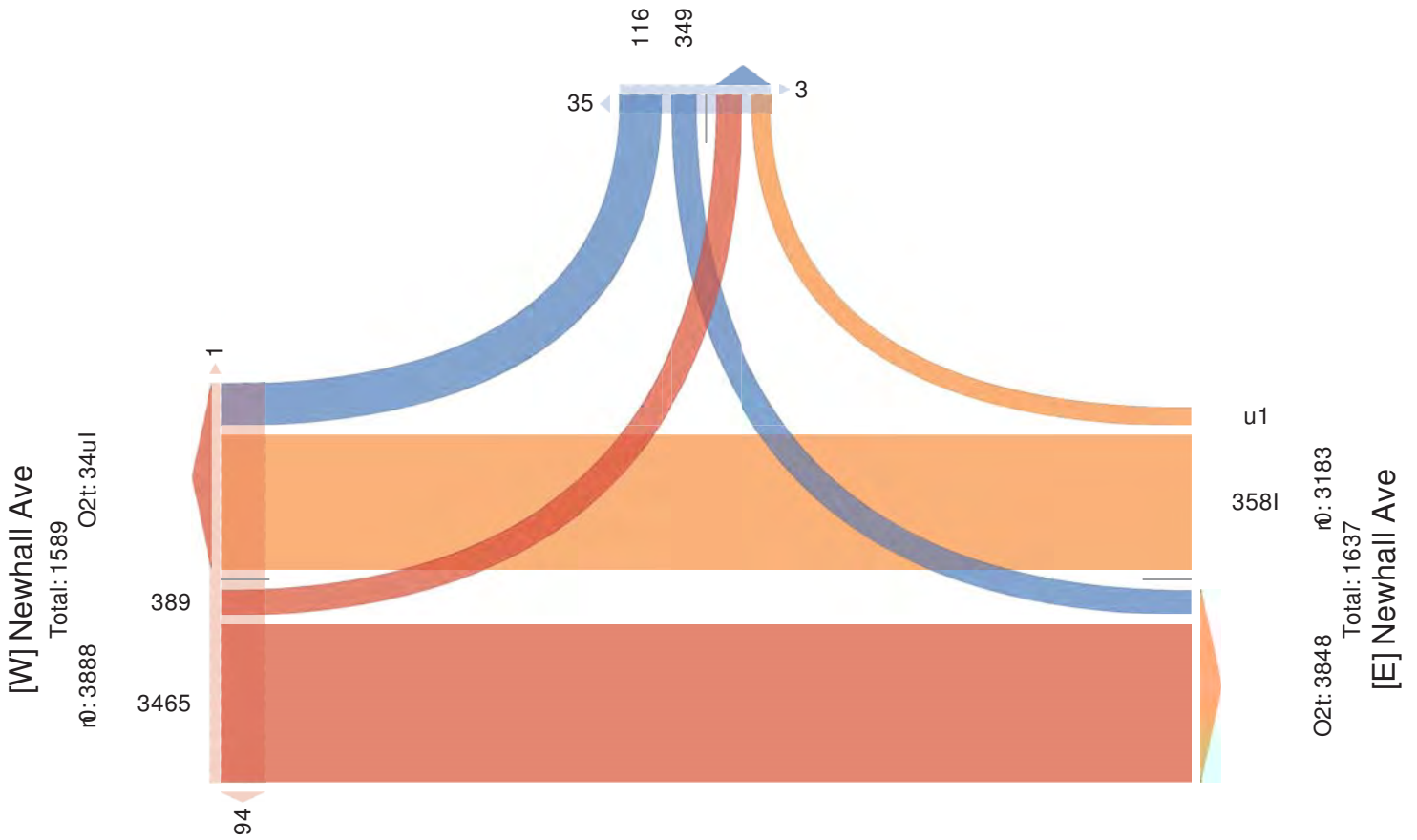
1305 N 30th St,

Renton, WA, 98056, US

[N] Valle del Oro

Total: 793

r0: 91 9 O2t: 547



147 SCTUE - TMC

Tue Jan 29, 2019

AMPak (ea7:115 8) A l 125 8 (AC

) sLsaiiei :gMt d anP Aodrckcsei, yeaHk, (ePeidMni, vMkcsei on BoaP, vMkcsei on Lroi i Ras7C

) sAoHewend

ni 5DI63D6, gocadn5- .430384, l116.81- 32D



DATA SOLUTIONS
(roHMeP bk5ni) X I ad SoudMni
1408 N 40d Sd
Bendn, W) , 9608D, US

geh I Me cdMn	Vasse Pes Oro Soud bounP					Ne Rt ass) Hē Wei dounP					Ne Rt ass) Hē Eai dounP					
TMe	B	g	U	App (eP*		B	T	U	App (eP*		T	g	U	App (eP*		Int
2019101129 115 8) A	43	10	0	87	1	11	24D	0	287	0	233	26	1	439	2	933
1250(A	44	18	0	81	4	9	292	0	436	0	281	40	0	216	4	943
12518(A	41	14	0	88	2	6	234	0	216	0	241	26	2	296	2	019
12540(A	22	9	0	46	8	14	28D	0	29T	0	4D9	44	0	832	1	732
o atl 5	124	- 3	0	673	11	- 1	1083	0	63T1	0	1126	119	4	6203	6	2061
% Appral ch	32.- %	23.D%	0%	-	1	4.3%	9D.4%	0%	-	1	90.2%	9.8%	0.2%	-	1	1
% o atl 5	- .9%	1.9%	0%	9.1%	1	1.D%	- 2.0%	0%	84.9%	1	-- .6%	-.3%	0.1%	8T.9%	1	1
PHF	0.641	0.364	1	3.110	1	0.366	0.908	1	3.T62	1	0.3D-	0.902	0.438	3.777	1	0.693
Lights l nd Matarcyc 5es	121	- 3	0	691	1	49	1010	0	638 T	1	103-	119	4	66T9	1	2- 14
% Lights l nd Matarcyc 5es	96.- %	100%	0%	T1.1%	1	98.1%	98.D%	0%	T0.0%	1	98.2%	100%	100%	T0.7%	1	98.6%
Hel vy	2	0	0	2	1	2	- 3	0	8 T	1	8-	0	0	08	1	108
% Hel vy	1.D%	0%	0%	6.2%	1	- .9%	- .-	0%	8.0%	1	-.6%	0%	0%	8.4%	1	-.2%
Bicyc 5es an Ral d	0	0	0	3	1	0	0	0	3	1	0	0	0	3	1	0
% Bicyc 5es an Ral d	0%	0%	0%	3%	1	0%	0%	0%	3%	1	0%	0%	0%	3%	1	0%
(ePeidMni	1	1	1	1	11	1	1	1	1	0	1	1	1	1	1	6
% (ePeidMni	1	1	1	1	100%	1	1	1	1	1	1	1	1	1	1	100%
v Mkcsei on Lroi i Ras7	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	
% v Mkcsei on Lroi i Ras7	1	1	1	1	0%	1	1	1	1	1	1	1	1	1	0%	1

*(ePeidMni anP vMkcsei on Lroi i Ras7. g5gef d B5B Mt d T5Tt ru, U5UITurn

147 SCTUE - TMC

Tue Jan 29, 2019

AMPak (ea7:115 8) A l 125 8 (AC

) sLsaiiei :gMt d anP Aodrcksei, yeahk, (ePeidmi, vMkcei on BoaP, vMkcei on Lroii Ras7C

) sAoHewend

m 5Dl63D6, gocadn54- .430384, l116.81-32D



DATA SOLUTIONS

(roHMeP bk5m) X I ad Sosudmi

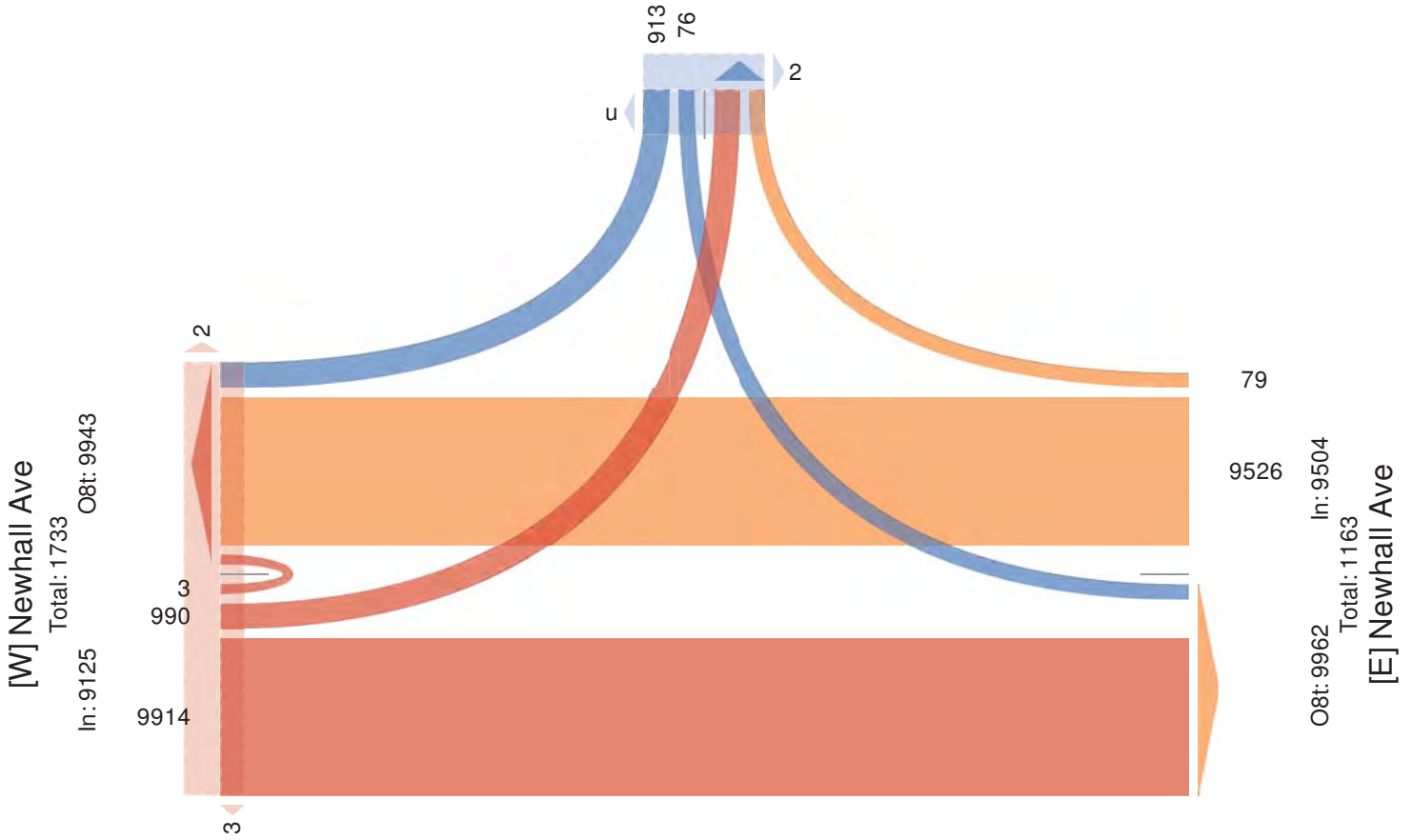
1408 N 40th St

Benon, W) , 9608D, US

[N] Valle del Oro

Total: 335

In: 965 O8t: 9u5



147 SCTUE - TMC

Tue Jan 29, 2019

AM AeaPk (7: AM 5: 7: AM- 58) el aC AeaPs Lul

i Cg Ahheh kt đr ch any MLdLHVHh, s ea) v, Aeyehd đnh, BđHVHh Ln RLay, BđHVHh Ln glLhhwaP-

i CML) emendh

ID7613463, t LHcdLn7. (b 404: . , 5l13b 1(426



DATA SOLUTIONS

AL) đey Xv7IDI S Dac NLcdLn

1. 0: W. 0α Nc

RenLn, Ui , 930: 6, VN

teo DdeHdLn	OaCē yeC8 lL NLuα XLuny	Wē wr aCī)e UehcXLuny	Wē wr aCī)e EahcXLuny	
Tdme	R t V App Aey*	R T V App Aey*	T t V App Aey*	Int
2019Đ1Đ9 (7: AM	24 14 0 88 9	13 . (3 0 722 0	(06 61 0 824 :	344
: 700AM	: 0 14 0 24 0	20 . 41 0 791 0	(. 9 : 2 0 891 0	989
: 7: AM	((1: 0 69 (	( 20 296 0 712 0	. 96 31 0 844 :	360
: 7. 0AM	(2 10 0 60 (	( . 0 . 03 0 773 0	(. 0 3: 0 616 .	9T6
o ad 5	16. : 9 0 000 14	33 1. 2. 0 18 11 0	1641 249 0 196T 1.	7637
% Appral ch	4. h % 26b% 0% - 5	6b% 9. b% 0% - 5	3: b% 1(b % 0% - 5	5
% o ad 5	(h % 1b% 0% 2.0 % 5	2h % . 6b% 0% 79.8 % 5	(6b% 4b% 0% 68.8 % 5	5
PHF	0b1: 0b63 5 T.303 5	0b. . 0b91 5 T.9T0 5	0b: 2 0b21 5 T.984 5	0b((
Lights l nd Matarcyc 5es	161 : 3 0 019 5	36 1291 0 1744 5	16: 0 244 0 1904 5	. : 2.
% Lights l nd Matarcyc 5es	93b% 93h % 0% 93.2 % 5	94b% 94b% 0% 94.2 % 5	93b% 99h % 0% 93.3 % 5	93h %
Hel vy	2 1 0 7 5	2 . 1 0 77 5	21 2 0 07 5	: 9
% Hel vy	1b% 1b% 0% 1.8 % 5	2b % 2b % 0% 0.7 % 5	1b % 0b% 0% 1.0 % 5	1b%
Bicyc 5es an Ral d	0 0 0 T 5	0 1 0 1 5	0 0 0 T 5	1
% Bicyc 5es an Ral d	0% 0% 0% T% 5	0% 0b1% 0% T.1% 5	0% 0% 0% T% 5	0%
Aeyehd đnh	5 5 5 5 1:	5 5 5 5 0	5 5 5 5 1.	
% Aeyehd đnh	5 5 5 5 33b%	5 5 5 5 5	5 5 5 5 100%	5
BđHVHh Ln glLhhwaP	5 5 5 5 2	5 5 5 5 0	5 5 5 5 0	
% BđHVHh Ln glLhhwaP	5 5 5 5 11b%	5 5 5 5 5	5 5 5 5 0%	5

*Aeyehd đnh any BđHVHh Ln glLhhwaPbt 7t efc, R7Rđr c, T7Tr lu, V7V5Tuln

147 SCTUE - TMC

Tue Jan 29, 2019

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 618768, Location: 34.370753, -118.514726



DATA SOLUTIONS

Provided by: IDAX Data Solutions

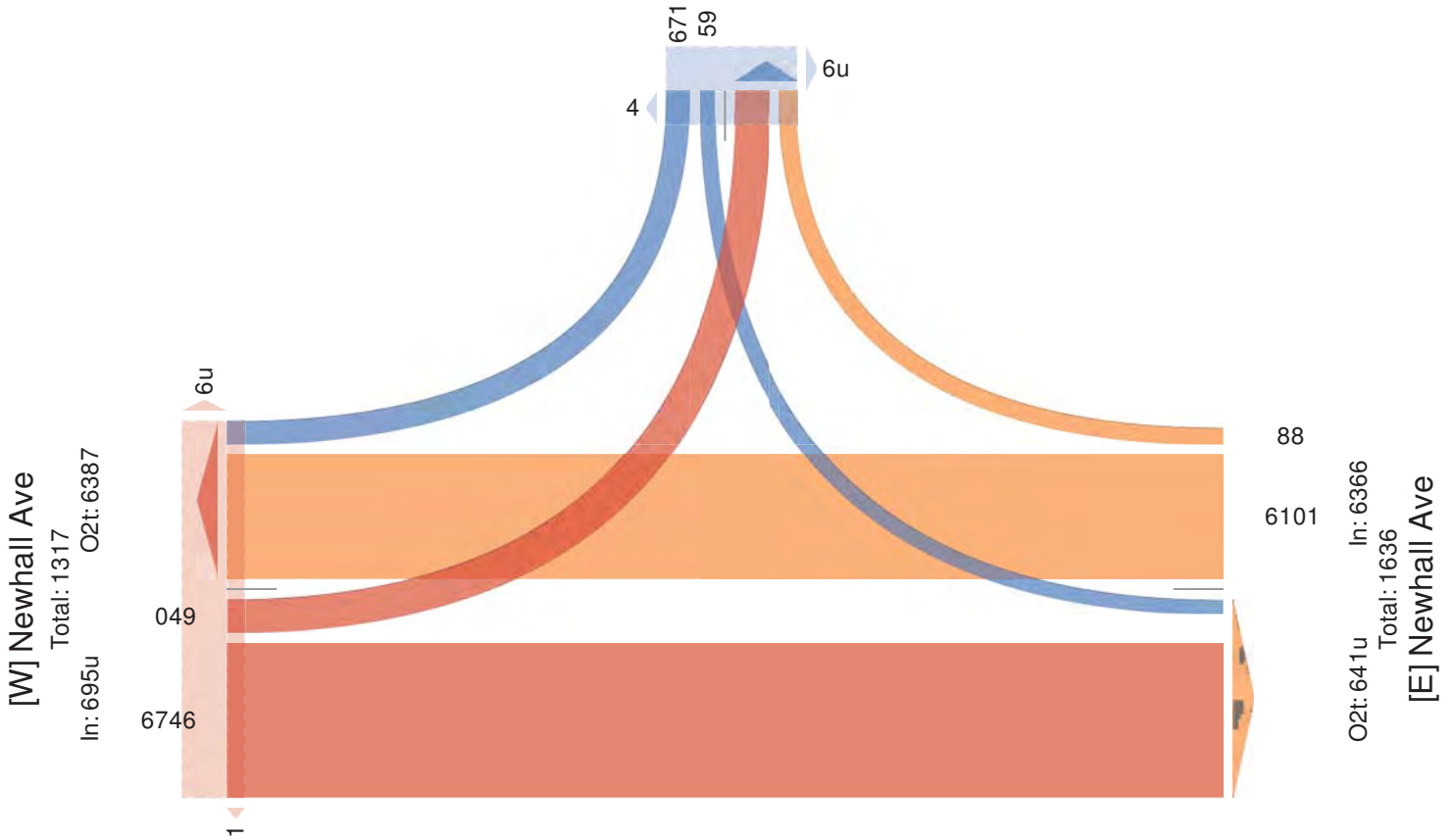
1305 N 30th St,

Renton, WA, 98056, US

[N] Valle del Oro

Total: 589

In: 000 O2t: 174



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION:
NORTH & SOUTH: Santa Clarita
EAST & WEST: Newhall
Sierra

PROJECT #: SC2177
LOCATION #: 8
CONTROL: SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

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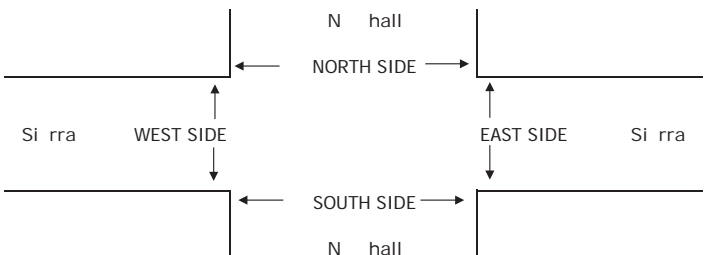
Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Ne hall	Ne hall	Ne hall	Sierra	Sierra	Sierra	Sierra	Sierra	Sierra	Sierra	Sierra		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	1	2	3	1	2	2	0	1	2.5	0.5	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
1	1	0	0	2
0	1	1	0	2
0	0	2	0	2
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
1	2	5	0	8

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Ne hall	Ne hall	Ne hall	Sierra	Sierra	Sierra	Sierra	Sierra	Sierra	Sierra	Sierra		
AM													
7:00 AM	13	130	5	16	354	37	12	11	5	126	264	51	1,024
7:15 AM	21	138	7	35	332	28	19	14	2	108	306	71	1,081
7:30 AM	21	205	14	43	325	52	13	12	4	115	219	110	1,133
7:45 AM	16	213	15	47	332	49	37	13	6	73	171	95	1,067
8:00 AM	14	216	11	52	304	42	20	16	8	78	140	74	975
8:15 AM	9	197	9	27	352	38	23	16	4	42	99	92	908
8:30 AM	10	175	5	25	306	61	15	20	3	32	92	85	829
8:45 AM	24	235	6	31	277	34	23	16	4	40	62	66	818
VOLUMES	128	1,509	72	276	2,582	341	162	118	36	614	1,353	644	7,835
APPROACH %	7%	88%	4%	9%	81%	11%	51%	37%	11%	24%	52%	25%	
APP/DEPART	1,709	/	2,312	3,199	/	3,233	316	/	464	2,611	/	1,826	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	71	686	41	141	1,343	166	81	50	17	422	960	327	4,305
APPROACH %	9%	86%	5%	9%	81%	10%	55%	34%	11%	25%	56%	19%	
PEAK HR FACTOR	0.818			0.964			0.661			0.881			0.950
APP/DEPART	798	/	1,093	1,650	/	1,783	148	/	230	1,709	/	1,199	0
PM													
4:00 PM	14	248	161	87	253	23	59	264	34	11	23	70	1,247
4:15 PM	17	267	153	99	262	14	50	256	28	12	17	67	1,242
4:30 PM	16	270	155	86	296	20	80	255	26	14	14	56	1,288
4:45 PM	17	245	130	72	307	14	72	289	28	12	22	81	1,289
5:00 PM	15	277	166	80	281	18	85	284	26	14	18	71	1,335
5:15 PM	9	260	159	93	298	22	57	286	20	11	20	62	1,297
5:30 PM	19	288	158	103	297	14	75	290	19	11	14	56	1,344
5:45 PM	16	303	180	102	292	24	57	245	19	21	15	68	1,342
VOLUMES	123	2,158	1,262	722	2,286	149	535	2,169	200	106	143	531	10,384
APPROACH %	3%	61%	36%	23%	72%	5%	18%	75%	7%	14%	18%	68%	
APP/DEPART	3,543	/	3,207	3,157	/	2,592	2,904	/	4,150	780	/	435	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	59	1,128	663	378	1,168	78	274	1,105	84	57	67	257	5,318
APPROACH %	3%	61%	36%	23%	72%	5%	19%	76%	6%	15%	18%	67%	
PEAK HR FACTOR	0.927			0.971			0.926			0.916			0.989
APP/DEPART	1,850	/	1,654	1,624	/	1,309	1,463	/	2,144	381	/	211	0

NB	SB	EB	WB	TTL
0	0	0	0	0
1	1	0	0	2
0	1	1	0	2
0	0	2	0	2
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
1	2	5	0	8
0	0	4	0	4
0	1	0	0	1
0	0	5	0	5
0	0	4	0	4
0	1	1	0	2
0	0	2	0	2
0	1	3	0	4
0	0	1	0	1
0	3	20	0	23

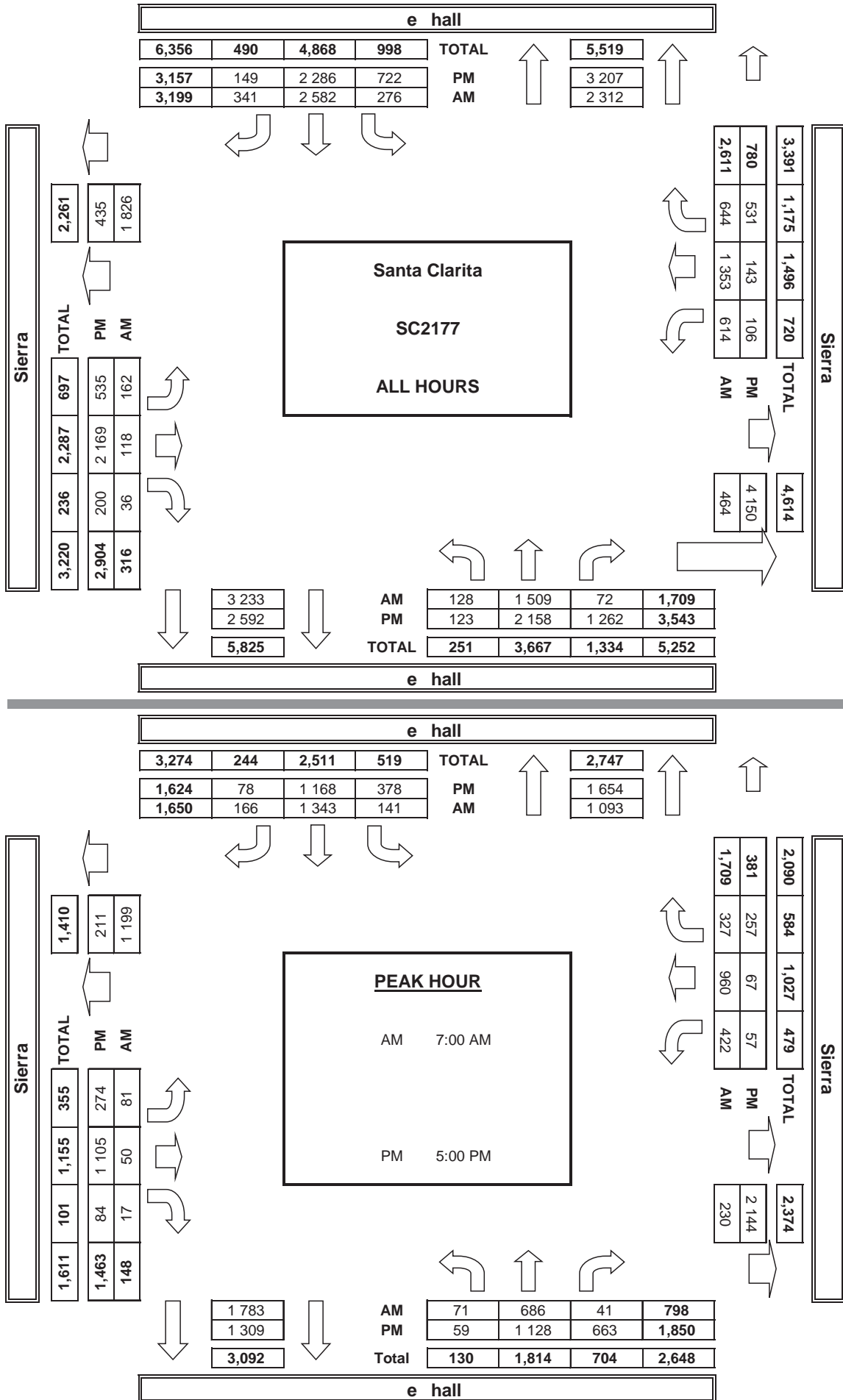


	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	2	0	2
7:15 AM	3	0	2	0	5
7:30 AM	0	0	5	0	5
7:45 AM	0	0	2	0	2
8:00 AM	0	0	0	0	0
8:15 AM	0	0	3	0	3
8:30 AM	1	0	2	0	3
8:45 AM	0	0	2	0	2
TOTAL	4	0	18	0	22
AM BEGIN PEAK HR	7:00 AM				
4:00 PM	1	0	2	0	3
4:15 PM	0	0	1	0	1
4:30 PM	8	0	6	0	14
4:45 PM	3	0	10	0	13
5:00 PM	6	0	7	0	13
5:15 PM	4	0	5	0	9
5:30 PM	23	0	15	0	38
5:45 PM	15	0	3	0	18
TOTAL	60	0	49	0	109
PM BEGIN PEAK HR	5:00 PM				

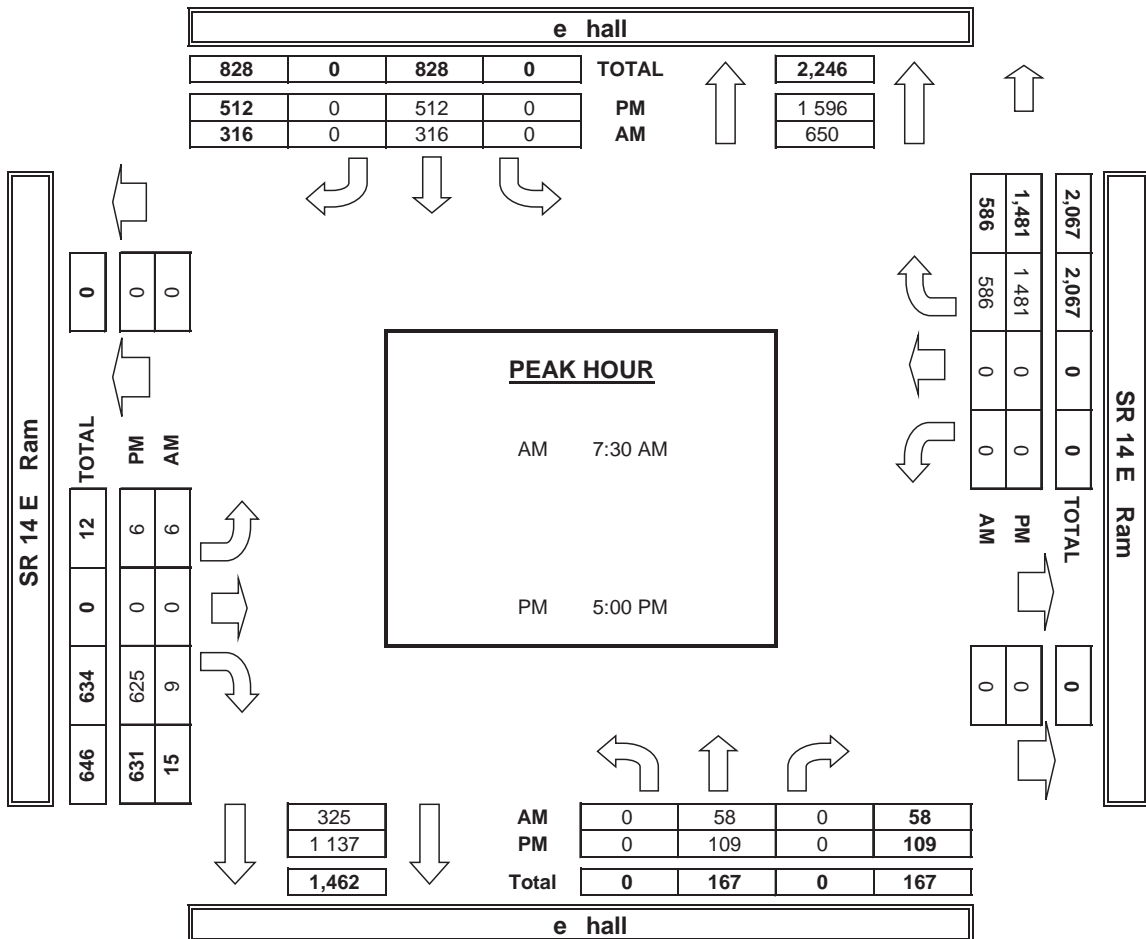
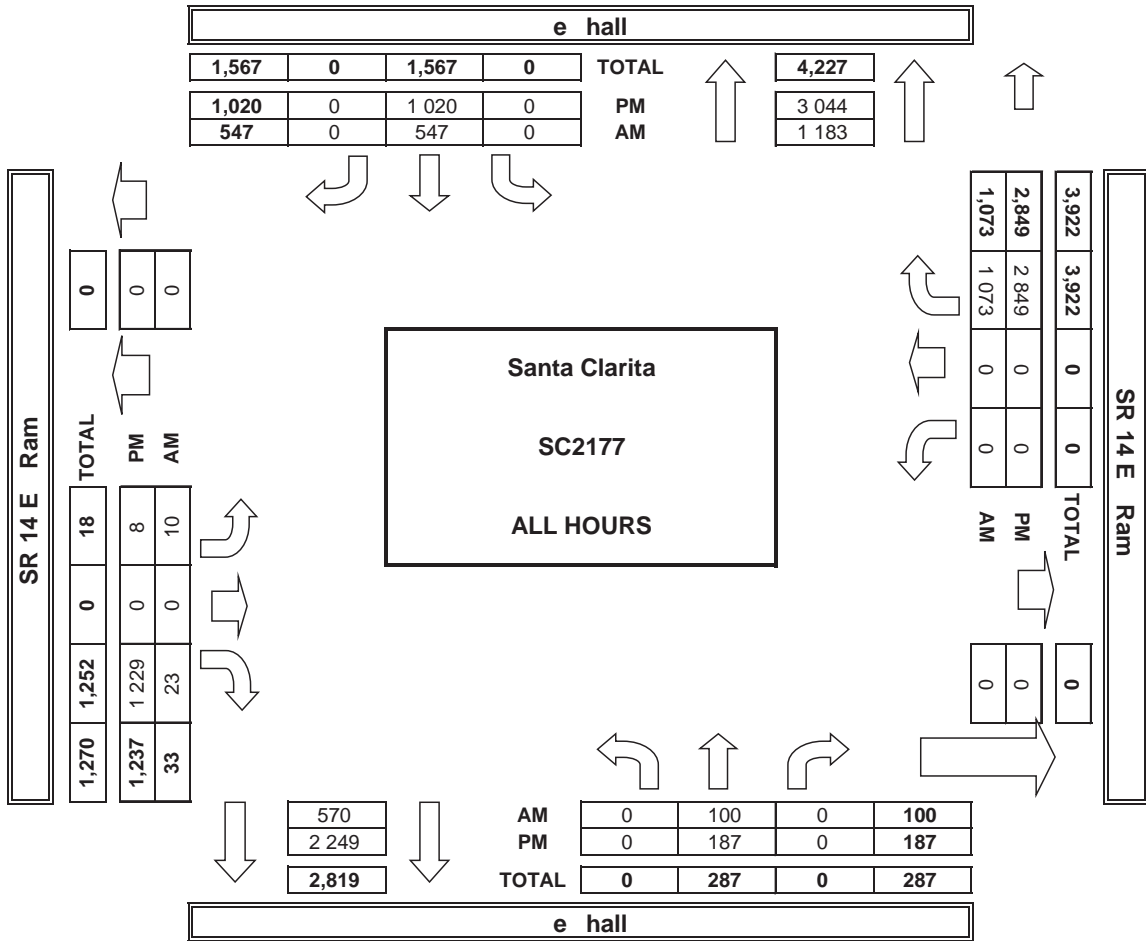
	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	2	0	2
7:15 AM	3	0	2	0	5
7:30 AM	0	0	5	0	5
7:45 AM	0	0	2	0	2
8:00 AM	0	0	0	0	0
8:15 AM	0	0	3	0	3
8:30 AM	1	0	2	0	3
8:45 AM	0	0	2	0	2
TOTAL	4	0	18	0	22
AM BEGIN PEAK HR	7:00 AM				
4:00 PM	1	0	2	0	3
4:15 PM	0	0	1	0	1
4:30 PM	8	0	5	0	13
4:45 PM	3	0	10	0	13
5:00 PM	6	0	7	0	13
5:15 PM	4	0	5	0	9
5:30 PM	21	0	15	0	36
5:45 PM	15	0	3	0	18
TOTAL	58	0	48	0	106
PM BEGIN PEAK HR	5:00 PM				

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:00 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	2	0	0	0	2
5:45 PM	0	0	0	0	0
TOTAL	2	0	1	0	3
PM BEGIN PEAK HR	5:00 PM				

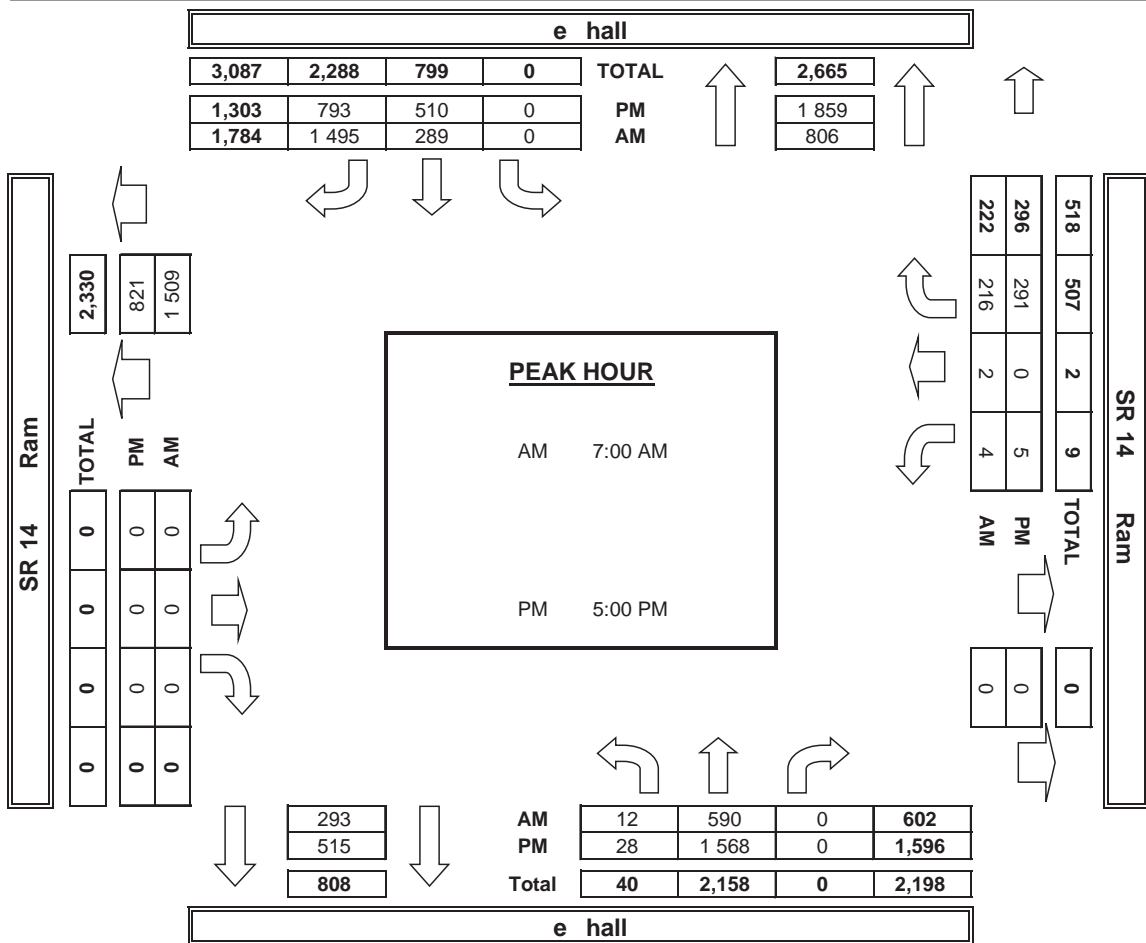
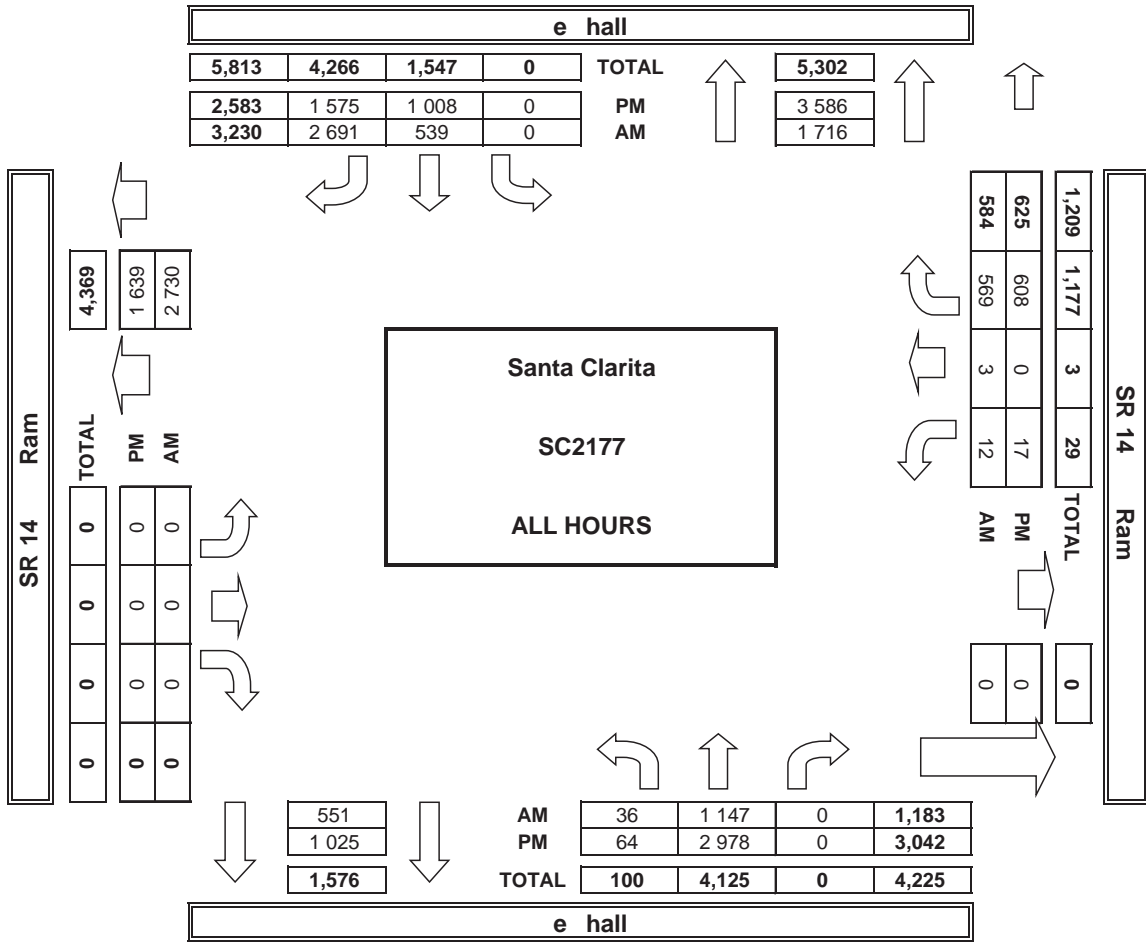
AimTD LLC
TURNING MOVEMENT COUNTS



AimTD LLC
TURNING MOVEMENT COUNTS



AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION: Santa Clarita
NORTH & SOUTH: I 5 NB Ramps
EAST & WEST: Lyons

PROJECT #: SC2177
LOCATION #: 13
CONTROL: SIGNAL

NOTES:	AM PM MD OTHER OTHER	▲ N ▼ S	◀ W E ▶
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Add U-Turns to Left Turns

LANES:	NORTHBOUND I 5 NB Ram s			SOUTHBOUND I 5 NB Ram s			EASTBOUND Lyons			WESTBOUND Lyons			TOTAL
	NL 1.5	NT 0.5	NR 1	SL X	ST X	SR X	EL 1	ET 2	ER X	WL X	WT 3	WR 0	

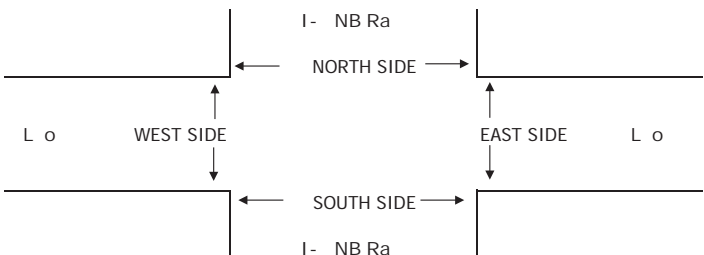
U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL

AM	7:00 AM	54	1	45	0	0	0	14	57	0	0	144	73	388	0	0	0	0	0	
	7:15 AM	77	0	56	0	0	0	23	96	0	0	131	72	455	0	0	0	0	0	
	7:30 AM	69	0	66	0	0	0	42	160	0	0	194	107	638	0	0	0	0	0	
	7:45 AM	73	0	69	0	0	0	51	171	0	0	215	120	699	0	0	0	0	0	
	8:00 AM	78	0	73	0	0	0	39	131	0	0	199	111	631	0	0	0	0	0	
	8:15 AM	66	0	69	0	0	0	35	127	0	0	145	88	530	0	0	0	0	0	0
	8:30 AM	57	0	81	0	0	0	29	143	0	0	126	85	521	0	0	0	0	0	0
	8:45 AM	77	0	78	0	0	0	38	164	0	0	148	76	581	0	0	0	0	0	0
	VOLUMES	551	1	537	0	0	0	271	1,049	0	0	1,302	732	4,443	0	0	0	0	0	0
	APPROACH %	51%	0%	49%	0%	0%	0%	21%	79%	0%	0%	64%	36%							
APP/DEPART	1,089	/	1,004	0	/	0	1,320	/	1,586	2,034	/	1,853	0							

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

PM	4:00 PM	103	0	121	0	0	0	28	195	0	0	192	76	715	0	0	0	0	0	
	4:15 PM	120	1	130	0	0	0	30	252	0	0	205	83	821	0	0	0	0	0	
	4:30 PM	130	0	117	0	0	0	32	233	0	0	189	73	774	0	0	0	0	0	
	4:45 PM	124	0	138	0	0	0	61	246	0	0	226	104	899	0	0	1	0	1	
	5:00 PM	146	0	139	0	0	0	29	204	0	0	191	90	799	0	0	0	0	0	
	5:15 PM	128	0	156	0	0	0	38	245	0	0	199	85	851	0	0	0	0	0	0
	5:30 PM	134	0	154	0	0	0	38	242	0	0	208	74	850	0	0	0	0	0	0
	5:45 PM	127	0	142	0	0	0	38	255	0	0	206	82	850	0	0	0	0	0	0
	VOLUMES	1,012	1	1,097	0	0	0	294	1,872	0	0	1,616	667	6,559	0	0	1	0	1	1
	APPROACH %	48%	0%	52%	0%	0%	0%	14%	86%	0%	0%	71%	29%							
APP/DEPART	2,110	/	961	0	/	0	2,166	/	2,969	2,283	/	2,629	0							

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1



AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	1	0	0	1
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	1	0	0	0	1
	8:30 AM	0	2	0	0	2
	8:45 AM	0	0	0	0	0
TOTAL	1	3	0	0	4	
AM BEGIN PEAK HR	7:30 AM					

PEDESTRIAN + BIKE CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
0	0	0	0	0	
0	0	0	0	0	
0	1	0	0	1	
0	0	0	0	0	
0	0	0	0	0	
1	0	0	0	1	
0	2	0	0	2	
0	0	0	0	0	
0	1	4	0	5	
5	7	9	0	21	
4:45 PM					

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	2	0	0	2
0	1	4	0	5
5	6	9	0	20
2	3	2	0	7

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION: Santa Clarita
NORTH & SOUTH: Wiley Canyon
EAST & WEST: Lyons

PROJECT #: SC2177
LOCATION #: 14
CONTROL: SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

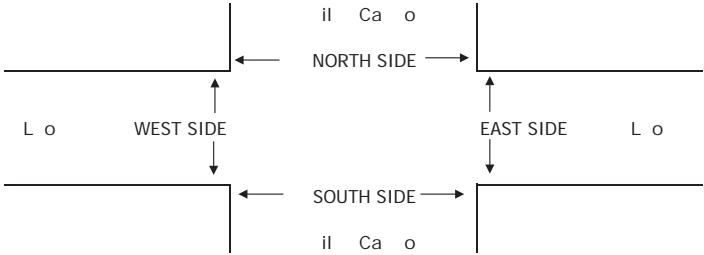
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Add U-Turns to Left Turns

	NORTHBOUND <small>Wiley Canyon</small>			SOUTHBOUND <small>Wiley Canyon</small>			EASTBOUND <small>Lyons</small>			WESTBOUND <small>Lyons</small>			TOTAL
	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 2	ET 2	ER 1	WL 1	WT 3	WR 0	
AM													
7:00 AM	15	26	18	11	119	74	21	62	4	49	113	9	521
7:15 AM	17	37	31	17	105	64	30	99	13	43	126	13	595
7:30 AM	28	67	53	34	76	67	34	158	18	47	182	26	790
7:45 AM	39	58	52	35	132	79	35	137	16	71	238	46	938
8:00 AM	41	55	48	27	102	67	32	137	25	73	192	27	826
8:15 AM	34	38	45	25	87	43	35	118	23	46	150	15	659
8:30 AM	13	55	42	31	78	53	43	151	8	46	134	19	673
8:45 AM	23	41	42	26	59	77	33	163	21	29	149	14	677
VOLUMES	210	377	331	206	758	524	263	1,025	128	404	1,284	169	5,679
APPROACH %	23%	41%	36%	14%	51%	35%	19%	72%	9%	22%	69%	9%	
APP/DEPART	918	/	838	1,488	/	1,288	1,416	/	1,534	1,857	/	2,019	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	142	218	198	121	397	256	136	550	82	237	762	114	3,213
APPROACH %	25%	39%	35%	16%	51%	33%	18%	72%	11%	21%	68%	10%	
PEAK HR FACTOR	0.936			0.787			0.914			0.784			0.856
APP/DEPART	558	/	483	774	/	715	768	/	855	1,113	/	1,160	0
PM													
4:00 PM	23	78	58	35	59	68	65	204	16	30	180	20	836
4:15 PM	29	88	62	33	66	56	76	267	30	44	187	24	962
4:30 PM	29	87	69	51	58	70	95	233	21	38	182	18	951
4:45 PM	29	79	62	33	58	73	71	249	18	39	224	29	964
5:00 PM	27	97	70	40	87	69	103	214	28	42	171	10	958
5:15 PM	29	108	50	49	100	58	100	212	21	39	163	25	954
5:30 PM	33	121	54	42	78	58	87	224	34	36	197	28	992
5:45 PM	31	113	60	43	117	81	109	256	44	60	189	21	1,124
VOLUMES	230	771	485	326	623	533	706	1,859	212	328	1,493	175	7,741
APPROACH %	15%	52%	33%	22%	42%	36%	25%	67%	8%	16%	75%	9%	
APP/DEPART	1,486	/	1,681	1,482	/	1,154	2,777	/	2,650	1,996	/	2,256	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	120	439	234	174	382	266	399	906	127	177	720	84	4,028
APPROACH %	15%	55%	30%	21%	46%	32%	28%	63%	9%	18%	73%	9%	
PEAK HR FACTOR	0.953			0.853			0.875			0.908			0.896
APP/DEPART	793	/	939	822	/	682	1,432	/	1,301	981	/	1,106	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	2	1	0	3
0	2	0	0	2
0	2	0	0	2
0	6	0	1	7
0	4	0	0	4
0	3	0	0	3
0	8	0	0	8
0	3	0	1	4
0	30	1	2	33

0	3	0	0	3
0	1	0	2	3
0	3	0	0	3
0	5	0	3	8
0	3	0	0	3
0	3	0	1	4
0	4	0	1	5
0	7	0	2	9
0	29	0	9	38

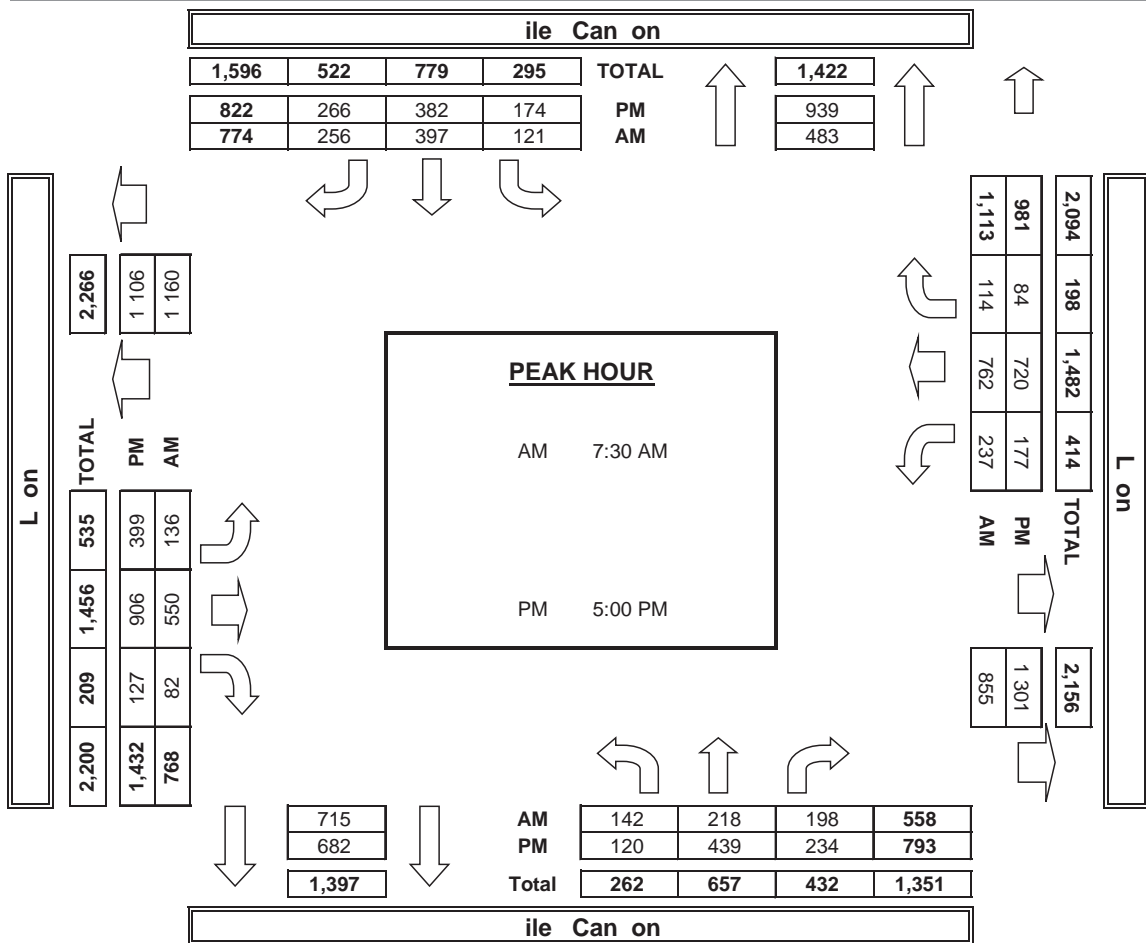
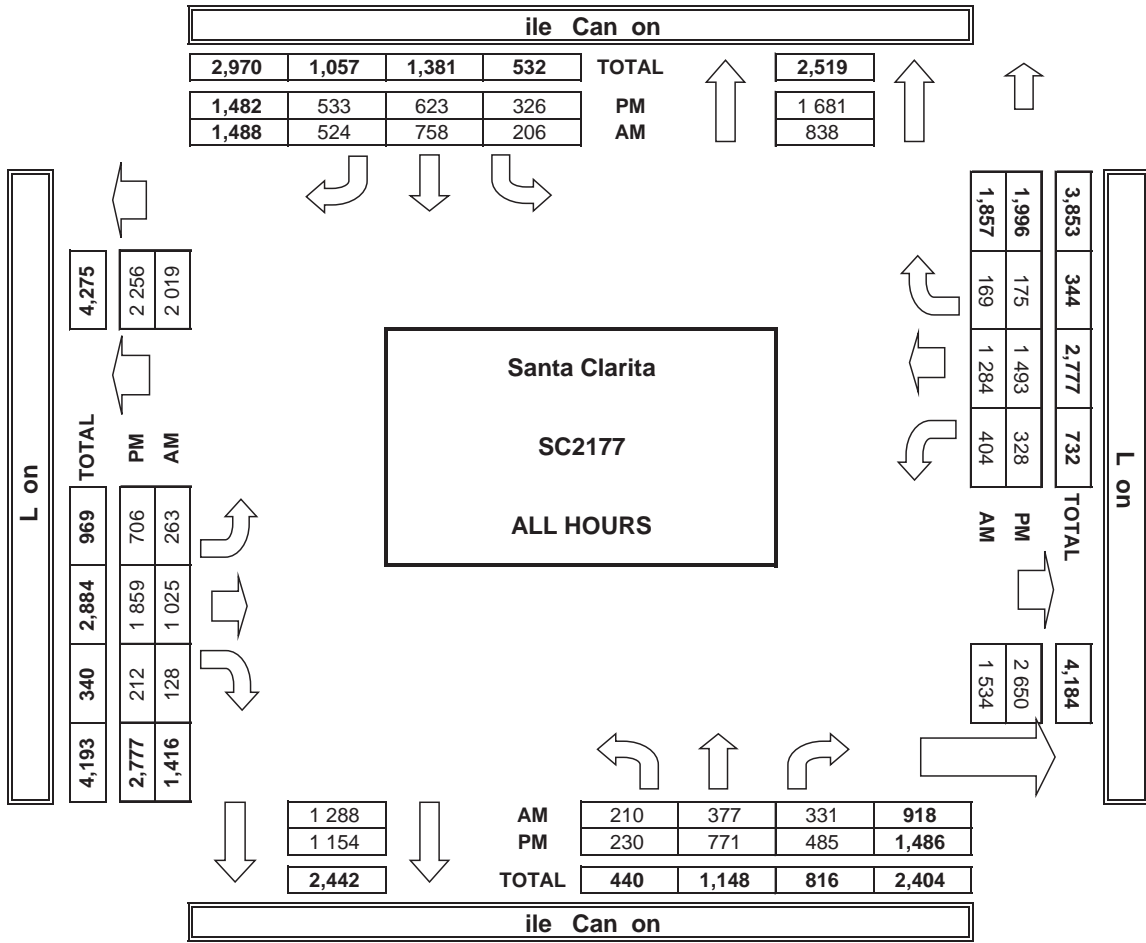


		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	1	1	2
	7:15 AM	1	1	0	1	3
	7:30 AM	1	0	3	0	4
	7:45 AM	0	1	3	0	4
	8:00 AM	0	1	1	2	4
	8:15 AM	1	5	4	0	10
	8:30 AM	0	1	1	1	3
	8:45 AM	1	2	6	1	10
TOTAL		4	11	19	6	40
AM BEGIN PEAK HR	7:30 AM					
PM	4:00 PM	0	4	1	1	6
	4:15 PM	0	3	5	2	10
	4:30 PM	2	4	3	1	10
	4:45 PM	0	1	0	1	2
	5:00 PM	0	1	6	0	7
	5:15 PM	0	6	4	2	12
	5:30 PM	0	4	3	0	7
	5:45 PM	1	0	3	0	4
TOTAL		3	23	25	7	58
PM BEGIN PEAK HR	5:00 PM					

		PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	1	1	2
	7:15 AM	1	1	0	1	3
	7:30 AM	1	0	3	0	4
	7:45 AM	0	1	3	0	4
	8:00 AM	0	1	1	1	3
	8:15 AM	0	4	4	0	8
	8:30 AM	0	0	1	0	1
	8:45 AM	1	2	5	1	9
TOTAL		3	9	18	4	34
AM BEGIN PEAK HR	7:30 AM					
PM	4:00 PM	0	4	1	1	6
	4:15 PM	0	3	5	2	10
	4:30 PM	2	4	3	1	10
	4:45 PM	0	1	0	1	2
	5:00 PM	0	1	6	0	7
	5:15 PM	0	4	4	0	8
	5:30 PM	0	4	1	0	5
	5:45 PM	1	0	3	0	4
TOTAL		3	21	23	5	52
PM BEGIN PEAK HR	5:00 PM					

		BICYCLE CROSSINGS				
		NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	1	1	0	0	2
	8:30 AM	0	1	0	1	2
	8:45 AM	0	0	1	0	1
TOTAL		1	2	1	2	6
AM BEGIN PEAK HR	7:30 AM					
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	2	0	2	4
	5:30 PM	0	0	2	0	2
	5:45 PM	0	0	0	0	0
TOTAL		0	2	2	2	6
PM BEGIN PEAK HR	5:00 PM					

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION: Santa Clarita
Orchard Village
Lyons

PROJECT #: SC2177
LOCATION #: 1
CONTROL: SIGNAL

NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼	
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Add U-Turns to Left Turns

LANES:	NORTHBOUND <small>Orchard Villa e</small>			SOUTHBOUND <small>Orchard Villa e</small>			EASTBOUND <small>Lyons</small>			WESTBOUND <small>Lyons</small>			TOTAL
	NL 1	NT 2	NR 1	SL 2	ST 1	SR 1	EL 2	ET 2	ER 1	WL 1	WT 3	WR 1	

U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL

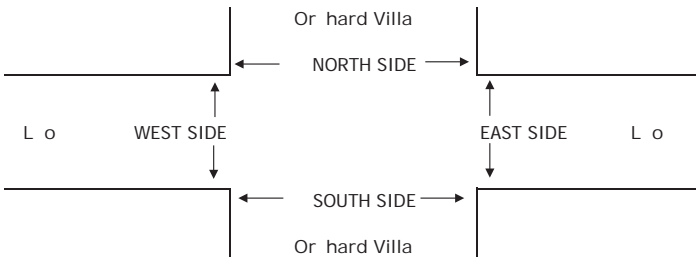
7:00 AM	18	13	13	38	10	17	11	60	8	6	125	32	351
7:15 AM	19	19	6	80	16	40	37	100	6	11	130	51	515
7:30 AM	23	43	21	145	19	53	49	203	16	14	257	103	946
7:45 AM	25	28	33	152	24	67	60	217	17	24	286	133	1,066
8:00 AM	36	20	16	101	35	78	28	131	13	23	196	81	758
8:15 AM	30	24	20	60	22	23	23	109	11	15	158	64	559
8:30 AM	22	18	21	54	21	32	29	108	13	14	147	48	527
8:45 AM	18	19	14	81	32	37	33	151	17	23	169	56	650
VOLUMES	191	184	144	711	179	347	270	1,079	101	130	1,468	568	5,372
APPROACH %	37%	35%	28%	57%	14%	28%	19%	74%	7%	6%	68%	26%	
APP/DEPART	519	/	1,019	1,237	/	410	1,450	/	1,939	2,166	/	2,004	0

0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
2	0	0	4	6
0	0	1	0	1
1	0	1	0	2
0	0	1	0	1
1	0	0	1	2
5	0	3	5	13

BEGIN PEAK HR	7:30 AM												
VOLUMES	114	115	90	458	100	221	160	660	57	76	897	381	3,329
APPROACH %	36%	36%	28%	59%	13%	28%	18%	75%	6%	6%	66%	28%	
PEAK HR FACTOR	0.917			0.801			0.746			0.764			0.781
APP/DEPART	319	/	654	779	/	233	877	/	1,212	1,354	/	1,230	0

4:00 PM	27	33	25	85	46	48	65	235	24	32	217	72	909
4:15 PM	26	29	20	80	36	47	72	215	33	17	237	75	887
4:30 PM	33	38	26	102	48	54	74	211	34	23	178	63	884
4:45 PM	26	35	34	103	37	51	64	239	29	20	232	70	940
5:00 PM	22	40	17	91	36	44	73	234	26	28	200	91	902
5:15 PM	26	34	19	94	45	52	71	239	27	19	224	67	917
5:30 PM	29	46	17	103	40	54	75	234	37	24	230	71	960
5:45 PM	25	40	21	85	37	60	61	249	25	25	233	84	945
VOLUMES	214	295	179	743	325	410	555	1,856	235	188	1,751	593	7,344
APPROACH %	31%	43%	26%	50%	22%	28%	21%	70%	9%	7%	69%	23%	
APP/DEPART	688	/	1,435	1,478	/	740	2,646	/	2,793	2,532	/	2,376	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	102	160	74	373	158	210	280	956	115	96	887	313	3,724
APPROACH %	30%	48%	22%	50%	21%	28%	21%	71%	9%	7%	68%	24%	
PEAK HR FACTOR	0.913			0.940			0.976			0.947			0.970
APP/DEPART	336	/	747	741	/	366	1,351	/	1,409	1,296	/	1,202	0

0	0	0	6	6
2	0	0	0	2
2	0	1	1	4
0	0	1	2	3
1	0	2	2	5
0	0	0	0	0
2	0	2	3	7
0	0	2	1	3
7	0	8	15	30



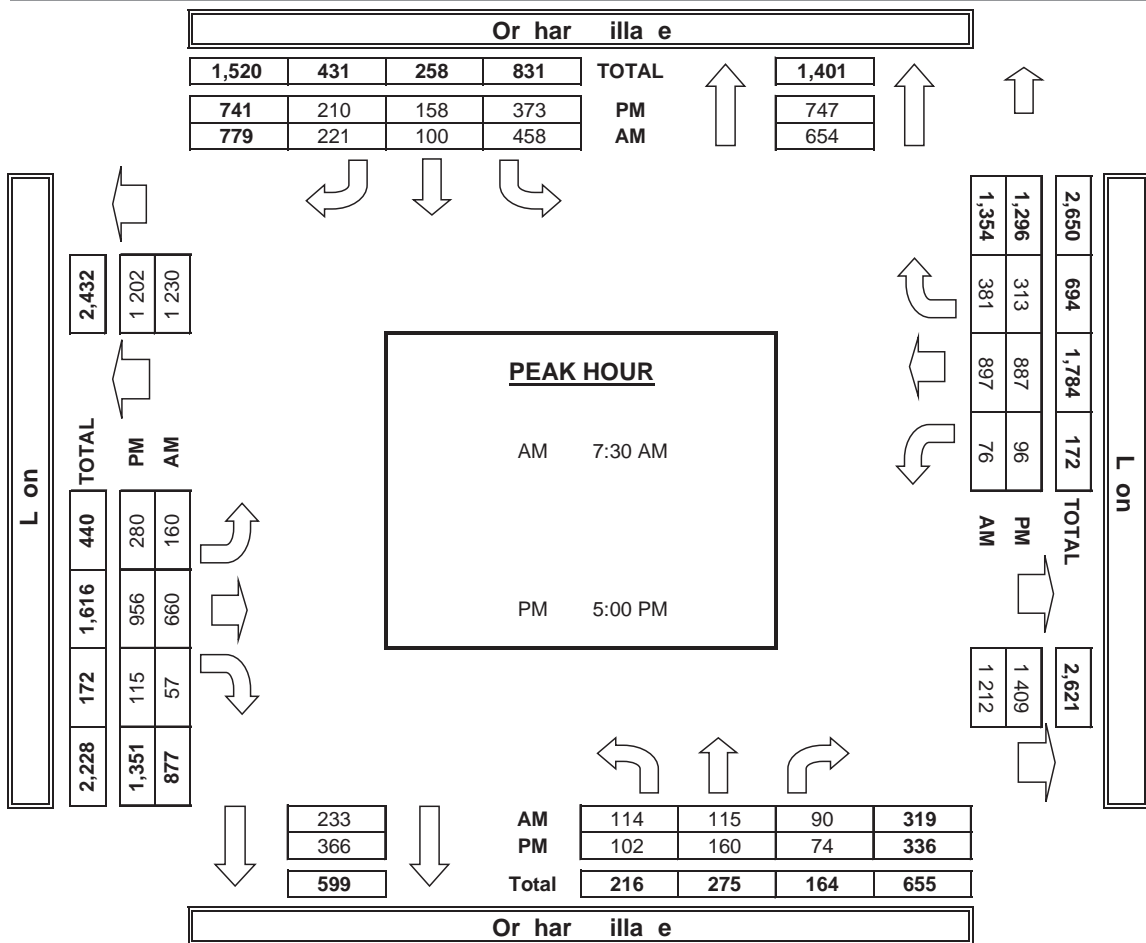
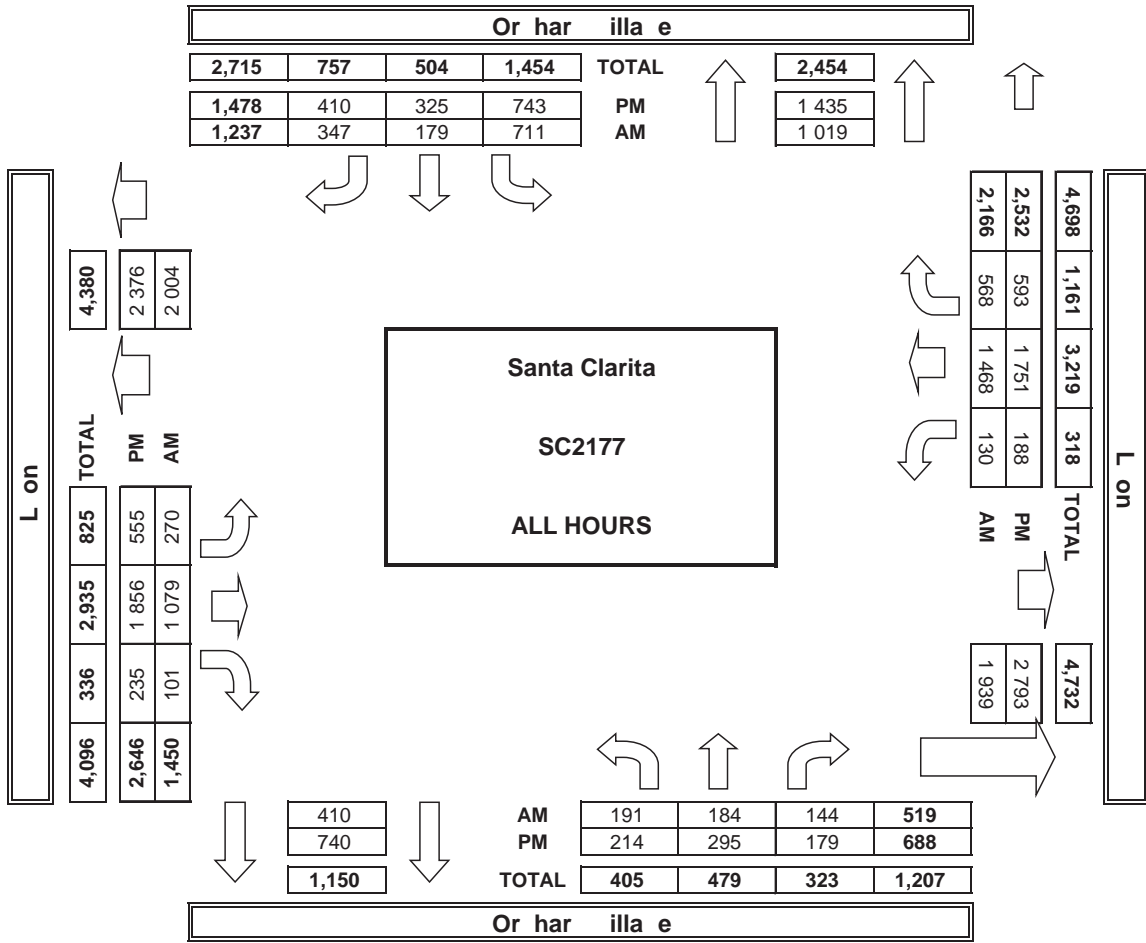
7:00 AM	1	2	3	0	6
7:15 AM	0	2	2	0	4
7:30 AM	2	1	1	0	4
7:45 AM	7	2	4	0	13
8:00 AM	1	2	1	3	7
8:15 AM	0	1	1	1	3
8:30 AM	2	0	0	1	3
8:45 AM	5	0	1	3	9
TOTAL	18	10	13	8	49
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	1	3	2	1	7
4:15 PM	3	5	0	1	9
4:30 PM	5	6	1	2	14
4:45 PM	9	2	2	7	20
5:00 PM	10	4	0	0	14
5:15 PM	7	1	0	0	8
5:30 PM	4	2	0	0	6
5:45 PM	1	5	1	2	9
TOTAL	40	28	6	13	87
PM BEGIN PEAK HR	5:00 PM				

PEDESTRIAN + BIKE CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
1	2	3	0	6	
0	2	2	0	4	
2	1	1	0	4	
7	2	4	0	13	
1	2	1	3	7	
0	1	1	1	3	
2	0	0	1	3	
5	0	1	3	9	
18	10	13	8	49	
1	3	2	1	7	
3	5	0	1	9	
5	6	1	2	14	
9	2	2	7	20	
10	4	0	0	14	
7	1	0	0	8	
4	2	0	0	6	
1	5	1	2	9	
40	28	6	13	87	
				5:00 PM	

PEDESTRIAN CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
1	1	2	0	4	
0	2	2	0	4	
2	0	1	0	3	
7	1	2	0	10	
1	1	1	2	5	
0	1	1	1	3	
2	0	0	0	2	
4	0	1	1	6	
17	6	10	4	37	
10	3	5	3	21	
1	2	0	1	4	
2	4	0	0	6	
4	5	1	2	12	
9	2	2	7	20	
9	4	0	0	13	
6	1	0	0	7	
4	2	0	0	6	
0	3	0	1	4	
35	23	3	11	72	
19	10	0	1	30	

BICYCLE CROSSINGS					
NS	SS	ES	WS	TOTAL	
0	1	1	0	2	
0	0	0	0	0	
0	1	0	0	1	
0	1	2	0	3	
0	1	0	1	2	
0	0	0	0	0	
0	0	0	1	1	
1	0	0	2	3	
1	4	3	4	12	
0	1	2	0	3	
1	1	0	1	3	
1	1	0	0	2	
0	0	0	0	0	
1	0	0	0	1	
1	0	0	0	1	
0	0	0	0	0	
1	2	1	1	5	
5	5	3	2	15	

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Tue, Apr 30, 19

LOCATION: Santa Clarita
Newhall Avenue
Lyons Avenue

PROJECT #: SC2177
LOCATION #: 2
CONTROL: SIGNAL

<p>NOTES:</p>	AM PM MD OTHER OTHER	▲ N ▼ S	◀ W E ▶
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Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL 2	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 2	ER 1	WL 1	WT 2	WR 1	

U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL

AM	7:00 AM	40	15	2	0	43	19	7	61	60	4	92	2	345	0	0	0	0	0
	7:15 AM	88	20	4	4	31	19	13	53	64	12	122	8	438	0	0	0	3	3
	7:30 AM	102	39	11	3	40	43	41	68	108	5	163	7	630	0	0	1	0	1
	7:45 AM	102	50	7	19	48	64	46	106	112	10	151	10	725	0	0	3	1	4
	8:00 AM	99	15	7	10	48	37	18	97	101	21	134	8	595	0	0	1	0	1
	8:15 AM	84	8	10	6	16	24	15	90	89	10	109	1	462	0	0	2	0	2
	8:30 AM	81	9	8	2	20	17	8	90	81	3	133	4	456	0	0	2	0	2
	8:45 AM	88	12	6	3	15	9	7	81	93	10	164	4	492	0	0	1	0	1

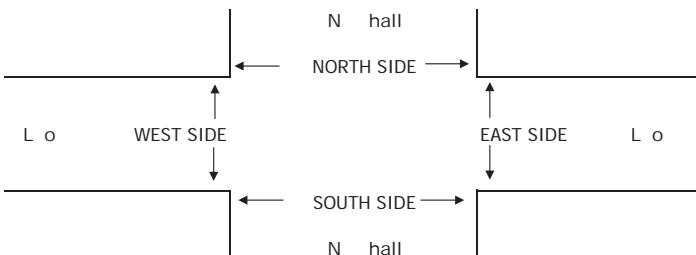
0	0	0	0	0
0	0	0	3	3
0	0	1	0	1
0	0	3	1	4
0	0	1	0	1
0	0	2	0	2
0	0	2	0	2
0	0	1	0	1
0	0	10	4	14

VOLUMES	684	168	55	47	261	232	155	646	708	75	1,068	44	4,143
APPROACH %	75%	19%	6%	9%	48%	43%	10%	43%	47%	6%	90%	4%	
APP/DEPART	907	/	357	540	/	1,040	1,509	/	752	1,187	/	1,994	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	387	112	35	38	152	168	120	361	410	46	557	26	2,412
APPROACH %	72%	21%	7%	11%	42%	47%	13%	41%	46%	7%	89%	4%	
PEAK HR FACTOR	0.840			0.683			0.844			0.899			0.832
APP/DEPART	534	/	251	358	/	607	891	/	435	629	/	1,119	0

PM	4:00 PM	114	25	7	5	19	20	19	158	120	13	133	6	639	0	0	7	1	8
	4:15 PM	100	27	9	4	38	24	19	135	138	9	131	5	639	0	0	2	1	3
	4:30 PM	90	25	19	6	19	25	31	143	163	10	142	7	680	0	0	9	0	9
	4:45 PM	112	24	10	6	23	31	20	133	173	14	153	9	708	0	0	5	0	5
	5:00 PM	104	23	6	3	27	25	32	186	169	10	128	2	715	0	0	11	0	11
	5:15 PM	101	21	10	3	25	20	22	124	155	6	131	10	628	0	0	9	0	9
	5:30 PM	107	31	5	4	23	20	30	135	153	7	141	4	660	0	0	7	0	7
	5:45 PM	84	31	3	4	19	21	24	129	147	4	144	6	616	0	0	5	0	5

0	0	7	1	8
0	0	2	1	3
0	0	9	0	9
0	0	5	0	5
0	0	11	0	11
0	0	9	0	9
0	0	7	0	7
0	0	5	0	5
0	0	55	2	57

VOLUMES	812	207	69	35	193	186	197	1,143	1,218	73	1,103	49	5,285
APPROACH %	75%	19%	6%	8%	47%	45%	8%	45%	48%	6%	90%	4%	
APP/DEPART	1,088	/	398	414	/	1,482	2,558	/	1,249	1,225	/	2,156	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	406	99	44	19	107	105	102	597	643	43	554	23	2,742
APPROACH %	74%	18%	8%	8%	46%	45%	8%	44%	48%	7%	89%	4%	
PEAK HR FACTOR	0.940			0.875			0.867			0.881			0.959
APP/DEPART	549	/	197	231	/	792	1,342	/	661	620	/	1,092	0



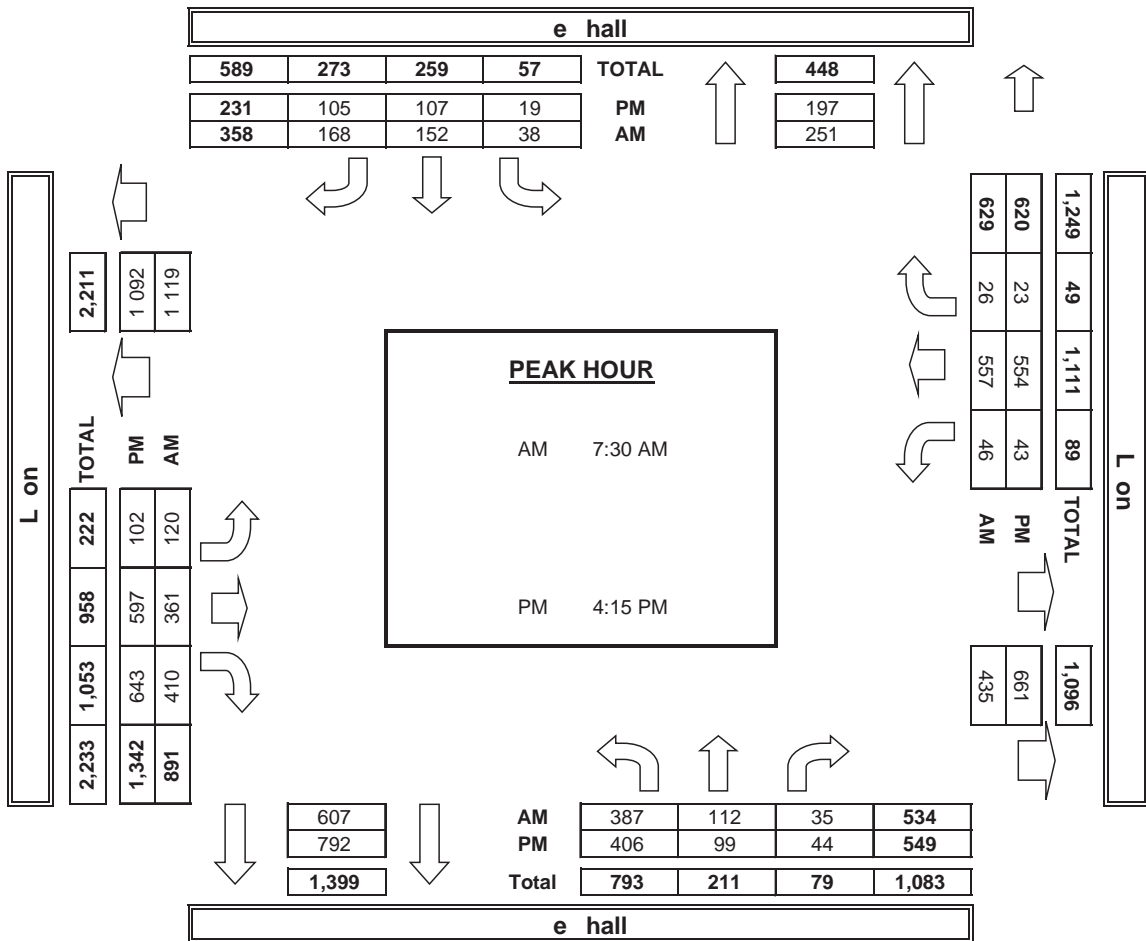
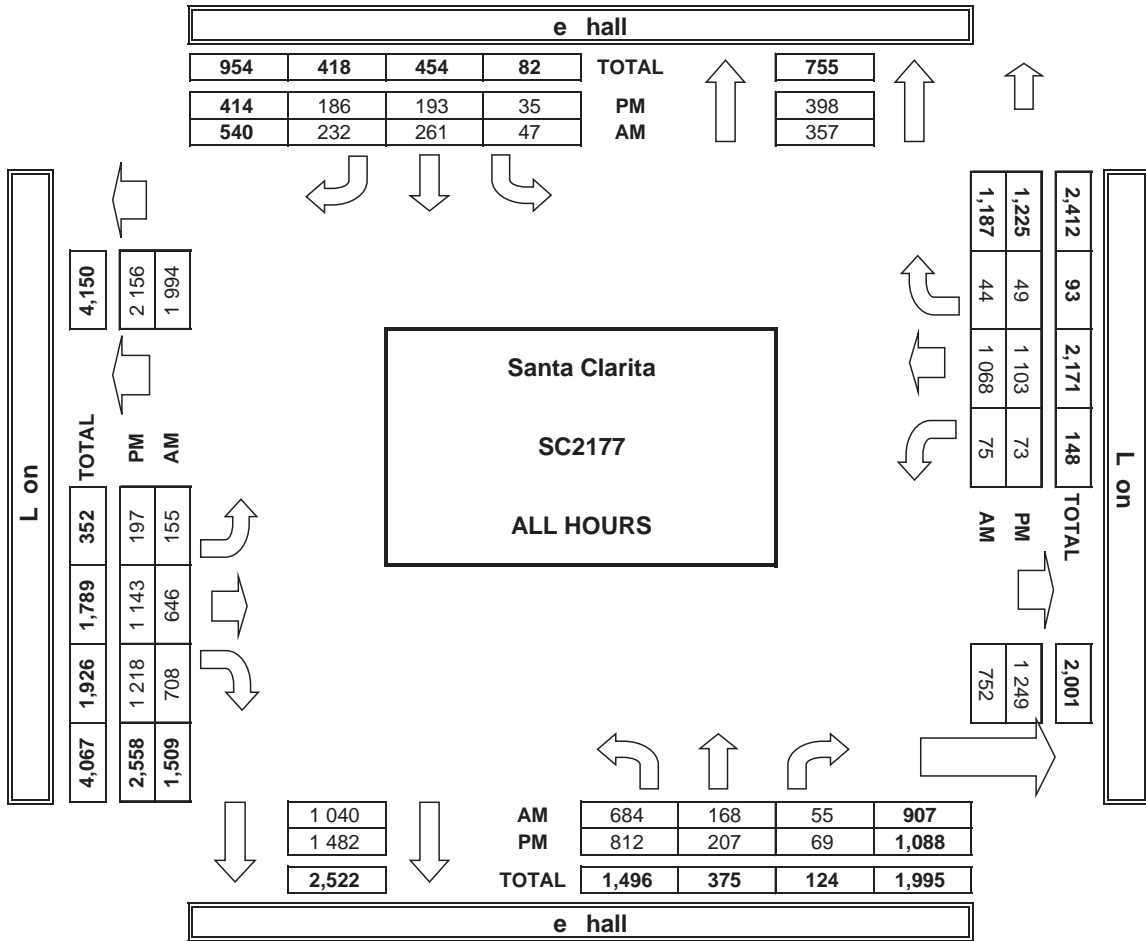
AM	7:00 AM	3	0	1	4	8
	7:15 AM	1	6	1	4	12
	7:30 AM	4	2	3	6	15
	7:45 AM	3	1	14	14	32
	8:00 AM	4	6	11	0	21
	8:15 AM	1	1	1	2	5
	8:30 AM	1	2	0	0	3
	8:45 AM	1	2	1	1	5
TOTAL	18	20	32	31	101	
AM BEGIN PEAK HR	7:30 AM					
PM	4:00 PM	2	8	0	6	16
	4:15 PM	8	4	1	8	21
	4:30 PM	9	2	4	6	21
	4:45 PM	5	5	4	6	20
	5:00 PM	2	4	1	2	9
	5:15 PM	0	1	1	4	6
	5:30 PM	2	1	3	8	14
	5:45 PM	3	1	1	3	8
TOTAL	31	26	15	43	115	
PM BEGIN PEAK HR	4:15 PM					

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
3	0	1	4	8
1	6	1	4	12
4	2	3	6	15
3	1	14	14	32
4	6	11	0	21
1	1	1	2	5
1	2	0	0	3
1	2	1	1	5
18	20	32	31	101
7:30 AM				
2	8	0	6	16
8	4	1	8	21
9	2	4	6	21
5	5	4	6	20
2	4	1	2	9
0	1	1	4	6
2	1	3	8	14
3	1	1	3	8
31	26	15	43	115
4:15 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
3	0	0	4	7
1	5	1	4	11
4	2	3	6	15
3	1	14	14	32
4	6	11	0	21
1	1	1	1	4
1	2	0	0	3
1	2	0	1	4
18	19	30	30	97
12	10	29	21	72
2	8	0	6	16
8	4	1	7	20
9	2	4	4	19
3	5	3	6	17
2	4	1	2	9
0	1	0	2	3
2	1	3	8	14
2	1	1	2	6
28	26	13	37	104
22	15	9	19	65

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	1	0	1
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	1	0	1
0	0	1	0	1
0	1	2	1	4
0	0	0	0	0
0	0	0	1	1
0	0	0	2	2
2	0	1	0	3
0	0	0	0	0
0	0	1	2	3
0	0	0	0	0
1	0	0	1	2
3	0	2	6	11

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

T218

DATE:
Tue, Se 10, 19

LOCATION:
NORTH & SOUTH: Santa Clarita
EAST & WEST: Valle del Oro Dockweiler

PROJECT #: SC2341
LOCATION #: 1
CONTROL: STOP N/S

NOTES:

AM	▲ N
PM	
MD	◀ W E ▶
OTHER	
OTHER	▼ S

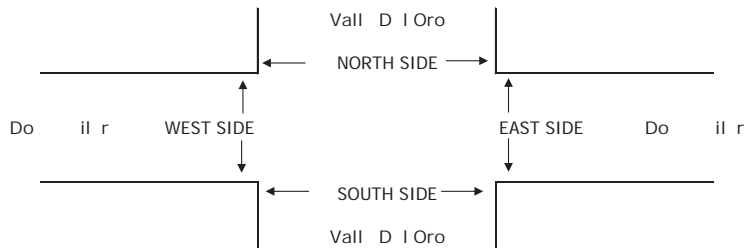
Add U-Turns to Left Turns

LANES:	NORTHBOUND <small>Valle Del Oro</small>			SOUTHBOUND <small>Valle Del Oro</small>			EASTBOUND <small>Doc eiler</small>			WESTBOUND <small>Doc eiler</small>			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	1	0	28	2	0	0	0	2	4	33	0	0	70
	7:15 AM	3	1	35	2	1	0	1	6	6	66	0	0	121
	7:30 AM	4	1	60	2	4	0	2	3	5	96	2	1	180
	7:45 AM	2	2	55	1	7	1	0	1	1	84	2	2	158
	8:00 AM	1	4	66	2	1	0	0	1	4	67	3	0	149
	8:15 AM	2	1	40	2	4	1	0	4	3	27	2	0	86
	8:30 AM	3	2	15	3	1	0	0	4	1	23	0	1	53
	8:45 AM	2	1	15	0	2	2	1	4	2	31	1	0	61
	VOLUMES	18	12	314	14	20	4	4	25	26	427	10	4	878
	APPROACH %	5%	3%	91%	37%	53%	11%	7%	45%	47%	97%	2%	1%	
	APP/DEPART	344	/	20	38	/	470	55	/	357	441	/	31	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	10	8	216	7	13	1	3	11	16	313	7	3	608
	APPROACH %	4%	3%	92%	33%	62%	5%	10%	37%	53%	97%	2%	1%	
	PEAK HR FACTOR	0.824			0.583			0.577			0.816			0.844
	APP/DEPART	234	/	14	21	/	340	30	/	237	323	/	17	0
PM	4:00 PM	5	2	37	1	1	1	0	3	3	26	1	2	82
	4:15 PM	3	4	48	0	2	0	2	3	6	48	5	1	122
	4:30 PM	3	0	36	0	1	1	0	2	2	61	2	0	108
	4:45 PM	2	1	39	0	2	0	0	1	2	55	2	1	105
	5:00 PM	3	3	57	0	1	0	0	2	1	48	0	1	116
	5:15 PM	6	1	34	0	4	0	0	4	2	33	3	1	88
	5:30 PM	2	6	48	1	2	0	0	3	7	38	4	0	111
	5:45 PM	1	4	36	0	2	2	0	1	0	49	0	0	93
	VOLUMES	25	21	335	2	15	2	2	19	23	358	17	6	825
	APPROACH %	7%	6%	88%	11%	79%	11%	5%	43%	52%	94%	4%	2%	
	APP/DEPART	381	/	28	19	/	395	44	/	359	381	/	43	0
	BEGIN PEAK HR	4:15 PM												
	VOLUMES	11	8	180	0	6	1	2	8	11	212	9	3	451
	APPROACH %	6%	4%	90%	0%	86%	14%	10%	38%	52%	95%	4%	1%	
	PEAK HR FACTOR	0.790			0.875			0.477			0.889			0.924
	APP/DEPART	199	/	12	7	/	228	21	/	190	224	/	21	0

0	0	0	0	1	1
0	0	0	0	0	0
0	0	0	0	0	0
1	0	0	2	3	
0	0	0	1	1	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
1	0	0	4	5	
1	0	0	0	1	
0	0	1	1	2	
0	0	0	1	1	
0	0	0	0	0	
1	0	0	0	1	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	1	1	
2	0	1	3	6	



AM	7:00 AM	0	1	0	3	4
	7:15 AM	1	1	0	6	8
	7:30 AM	2	0	0	1	3
	7:45 AM	1	2	0	1	4
	8:00 AM	1	1	0	0	2
	8:15 AM	3	1	0	0	4
	8:30 AM	4	0	0	0	4
	8:45 AM	3	1	1	0	5
	TOTAL	15	7	1	11	34
	AM BEGIN PEAK HR	7:15 AM				
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	1	1
	4:30 PM	0	0	0	1	1
	4:45 PM	0	0	0	2	2
	5:00 PM	0	0	0	0	0
	5:15 PM	1	1	0	2	4
	5:30 PM	1	3	0	0	4
	5:45 PM	2	4	1	1	8
	TOTAL	4	8	1	7	20
	PM BEGIN PEAK HR	4:15 PM				

PEDESTRIAN + BIKE CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
0	1	0	3	4	
1	1	0	6	8	
2	0	0	1	3	
1	2	0	1	4	
1	1	0	0	2	
3	1	0	0	4	
4	0	0	0	4	
3	1	1	0	5	
15	7	1	11	34	
0	0	0	0	0	
0	0	0	1	1	
0	0	0	1	1	
0	0	0	2	2	
0	0	0	0	0	
1	1	0	2	4	
1	3	0	0	4	
2	4	1	1	8	
4	8	1	7	20	

PEDESTRIAN CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
0	1	0	3	4	
1	1	0	6	8	
2	0	0	1	3	
1	2	0	1	4	
1	1	0	0	2	
3	1	0	0	4	
4	0	0	0	4	
3	1	1	0	5	
15	7	1	11	34	
5	4	0	8	17	
0	0	0	0	0	
0	0	0	1	1	
0	0	0	1	1	
0	0	0	2	2	
0	0	0	0	0	
1	1	0	2	4	
1	3	0	0	4	
2	4	1	1	8	
4	8	1	7	20	
0	0	0	4	4	

BICYCLE CROSSINGS					
NS	SS	ES	WS	TOTAL	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

T218

DATE: Tue, Se 10, 19	LOCATION: NORTH & SOUTH: EAST & WEST:	Santa Clarita Sierra Dockweiler	PROJECT #: SC2341 LOCATION #: 2 CONTROL: SIGNAL
--------------------------------	--	---------------------------------------	--

NOTES:

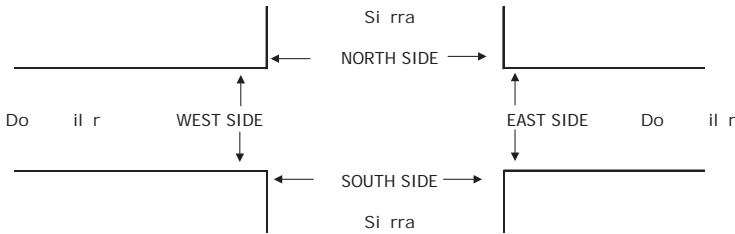
AM	▲	
PM		▲
MD	◀	W
OTHER		S
OTHER		▶

Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Sierra			Sierra			Doc eller			Doc eller			
LANES:	NL 1	NT 2	NR X	SL X	ST 2	SR 0	EL 1.5	ET X	ER 1.5	WL X	WT X	WR X	
7:00 AM	4	25	0	0	457	25	25	0	52	0	0	0	588
7:15 AM	17	50	0	0	538	33	34	0	41	0	0	0	713
7:30 AM	12	51	0	0	420	49	61	0	37	0	0	0	630
7:45 AM	19	54	0	0	433	37	52	0	24	0	0	0	619
8:00 AM	11	49	0	0	469	44	35	0	22	0	0	0	630
8:15 AM	5	66	0	0	399	25	33	0	33	0	0	0	561
8:30 AM	11	71	0	0	252	21	20	0	32	0	0	0	407
8:45 AM	2	46	0	0	192	19	16	0	19	0	0	0	294
VOLUMES	81	412	0	0	3,160	253	276	0	260	0	0	0	4,442
APPROACH %	16%	84%	0%	0%	93%	7%	51%	0%	49%	0%	0%	0%	
APP/DEPART	493	/	688	3,413	/	3,424	536	/	0	0	/	330	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	59	204	0	0	1,860	163	182	0	124	0	0	0	2,592
APPROACH %	22%	78%	0%	0%	92%	8%	59%	0%	41%	0%	0%	0%	
PEAK HR FACTOR	0.901			0.886									
APP/DEPART	263	/	386	2,023	/	1,986	306	/	0	0	/	220	0
4:00 PM	16	389	0	0	79	20	25	0	9	0	0	0	538
4:15 PM	14	317	0	0	150	51	29	0	14	0	0	0	575
4:30 PM	15	301	0	0	156	48	29	0	6	0	0	0	555
4:45 PM	19	227	0	0	99	60	33	0	16	0	0	0	454
5:00 PM	9	238	0	0	99	46	30	0	8	0	0	0	430
5:15 PM	19	249	0	0	114	40	27	0	6	0	0	0	455
5:30 PM	22	235	0	0	105	20	30	0	14	0	0	0	426
5:45 PM	18	256	0	0	106	32	17	0	11	0	0	0	440
VOLUMES	132	2,212	0	0	908	317	220	0	84	0	0	0	3,873
APPROACH %	6%	94%	0%	0%	74%	26%	72%	0%	28%	0%	0%	0%	
APP/DEPART	2,344	/	2,432	1,225	/	994	304	/	0	0	/	447	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	64	1,234	0	0	484	179	116	0	45	0	0	0	2,122
APPROACH %	5%	95%	0%	0%	73%	27%	72%	0%	28%	0%	0%	0%	
PEAK HR FACTOR	0.801			0.813									
APP/DEPART	1,298	/	1,350	663	/	529	161	/	0	0	/	243	0

U-TURNS				
NB	SB	EB	WB	TTL
1	0	0	0	1
0	0	0	0	0
1	0	0	0	1
1	0	0	0	1
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
4	0	0	0	4

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
1	0	0	0	1
2	0	0	0	2



AM	7:00 AM
	7:15 AM
	7:30 AM
	7:45 AM
	8:00 AM
	8:15 AM
	8:30 AM
	8:45 AM
TOTAL	
AM BEGIN PEAK HR	
PM	4:00 PM
	4:15 PM
	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
TOTAL	
PM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	6	0	0	6
0	3	0	0	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	9	0	0	9
7:15 AM				
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	1	0	1
0	0	0	0	0
0	0	2	0	2
4:00 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	6	0	0	6
0	3	0	0	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	9	0	0	9
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0

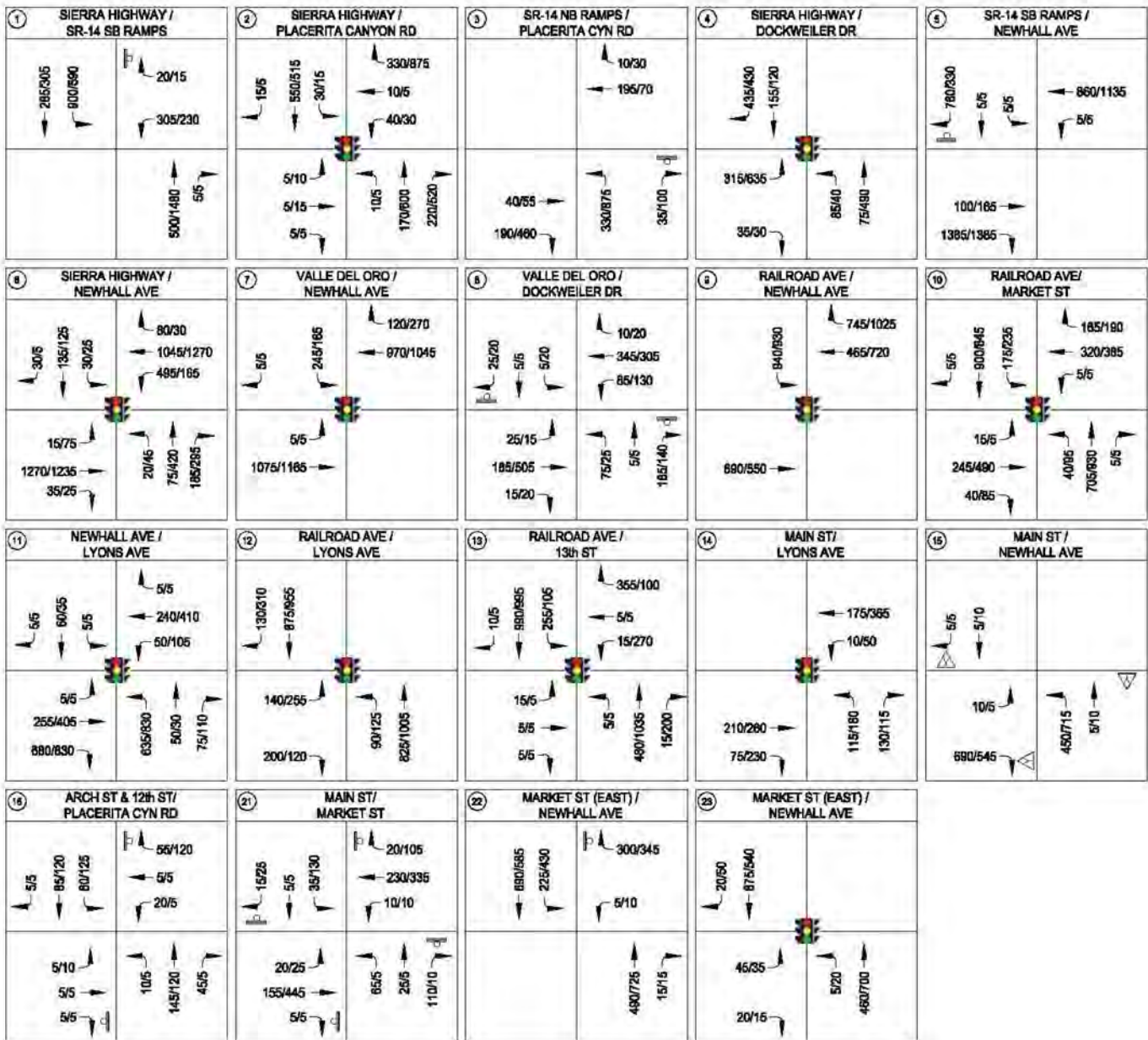
BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	2	0	2






Source: David Evans and Associates Inc., January 2018.



Figure 6.1-10
Project Year 2019 With Market Street Alternative Study Intersections



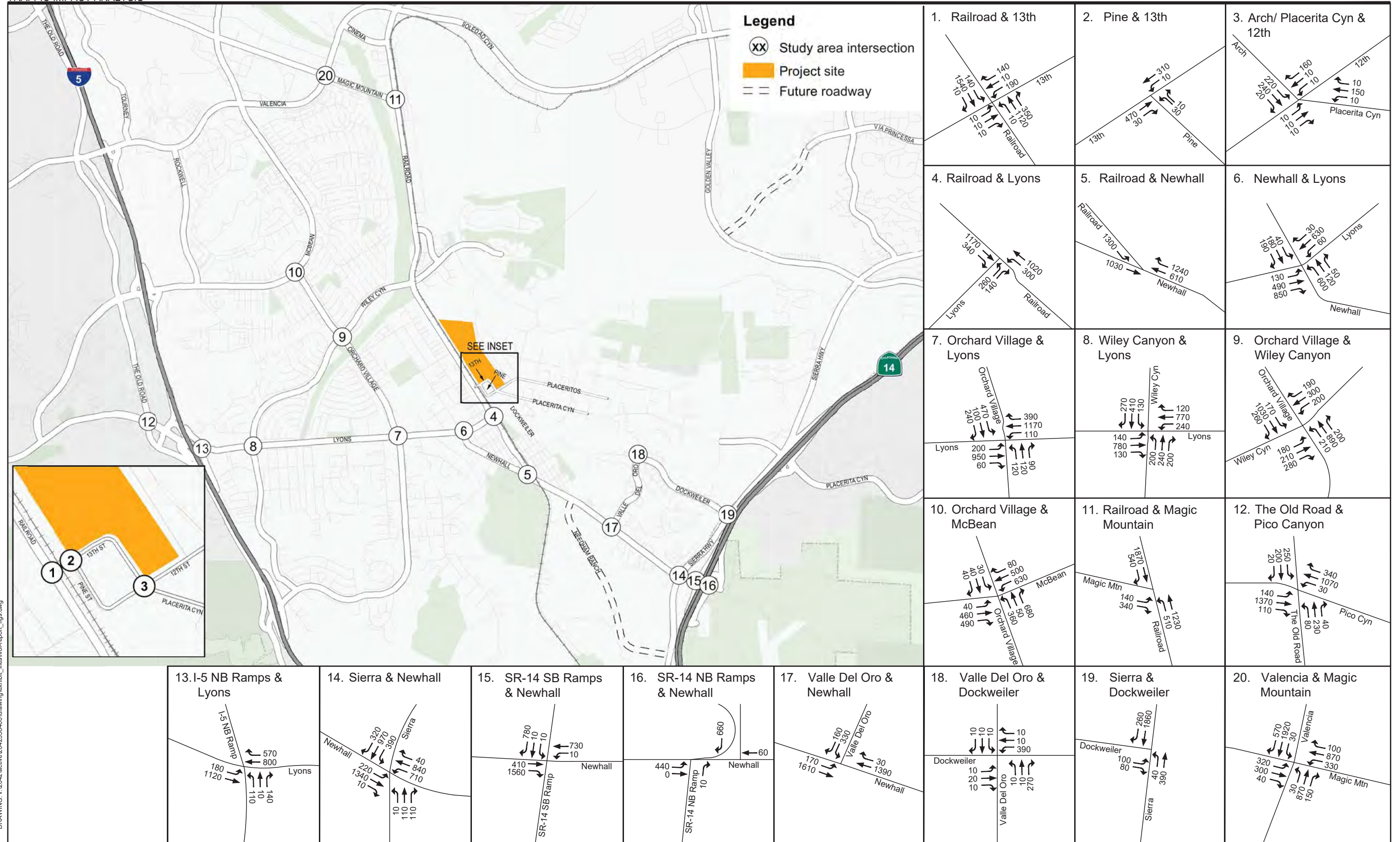
LEGEND

-  - ROUNDABOUT CONTROLLED INTERSECTION
-  - STOP CONTROLLED INTERSECTION
-  - SIGNAL CONTROLLED INTERSECTION
- XX/XX - AM/PM PEAK HOUR VOLUMES
- ① - STUDY INTERSECTIONS

Source: David Evans and Associates Inc., January 2018.



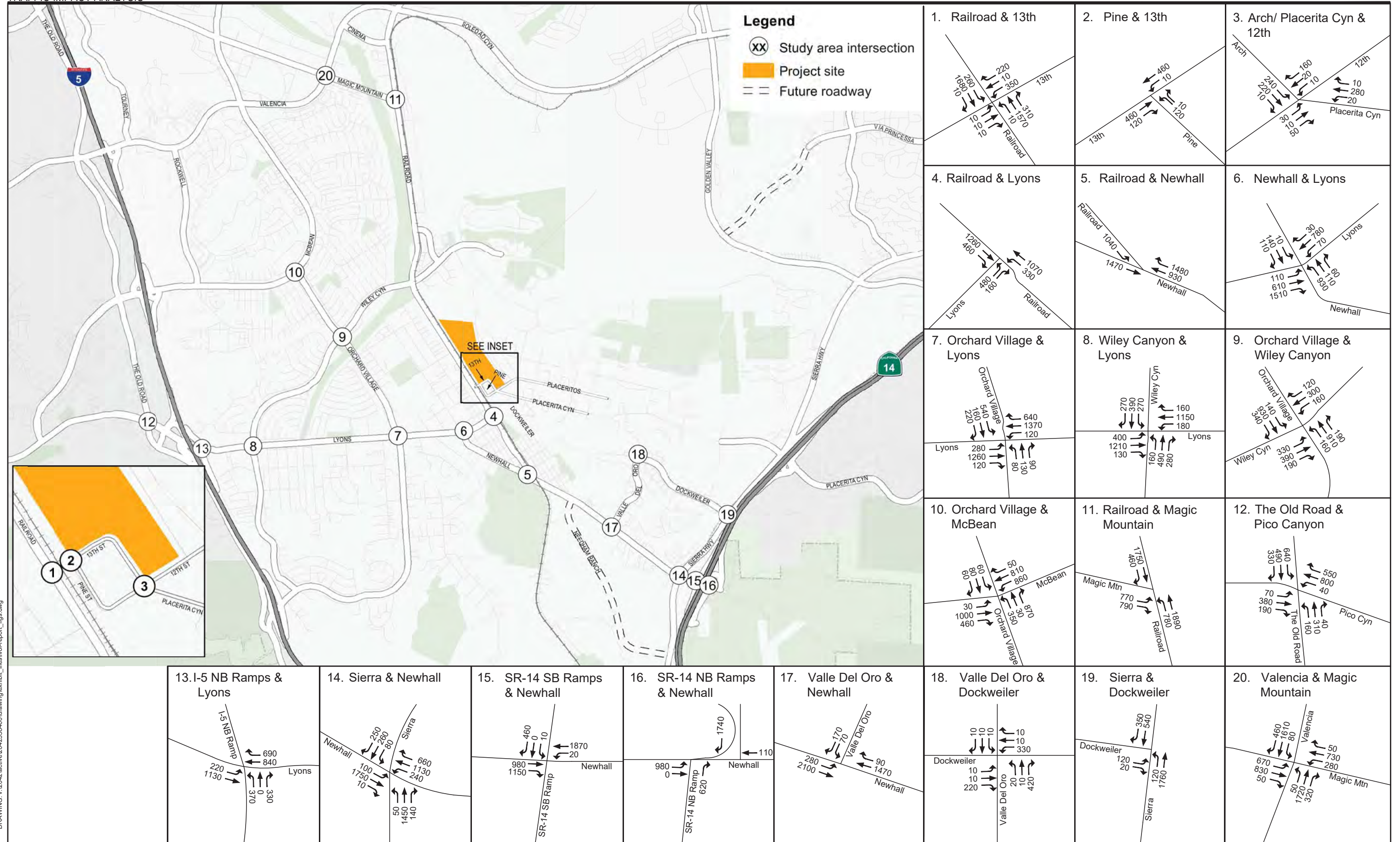
Figure 6.1-11
Project Year 2019 With Market Street Alternative Traffic Volumes



DRAWING: v:\2042\active\204258400\drawing\exhibit_files\ivc-report_figs.dwg

Figure 4-8

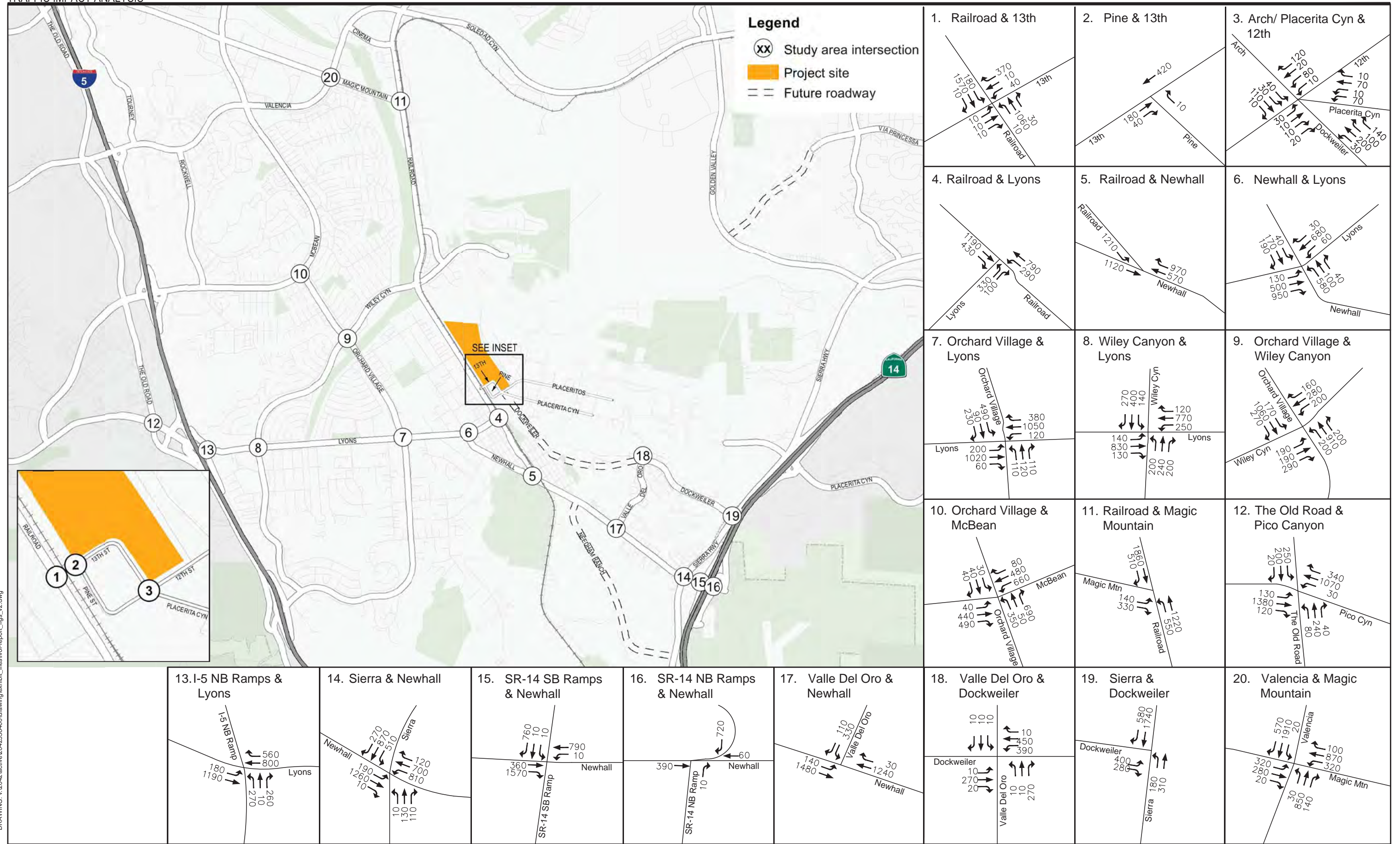
Interim Year Cumulative without Project AM Peak Hour Volumes - without Dockweiler Drive Extension



DRAWING: v:\2042\active\204258400\drawing\exhibit_files\vol-report_figs.dwg

Figure 4-9

Interim Year Cumulative without Project PM Peak Hour Volumes - without Dockweiler Drive Extension



DRAWING: v:\2042\active\204256400\drawing\exhibit_files\vol-report_figs_v2.dwg

Figure 4-14

Interim Year Cumulative without Project AM Peak Hour Volumes - with Dockweiler Drive Extension

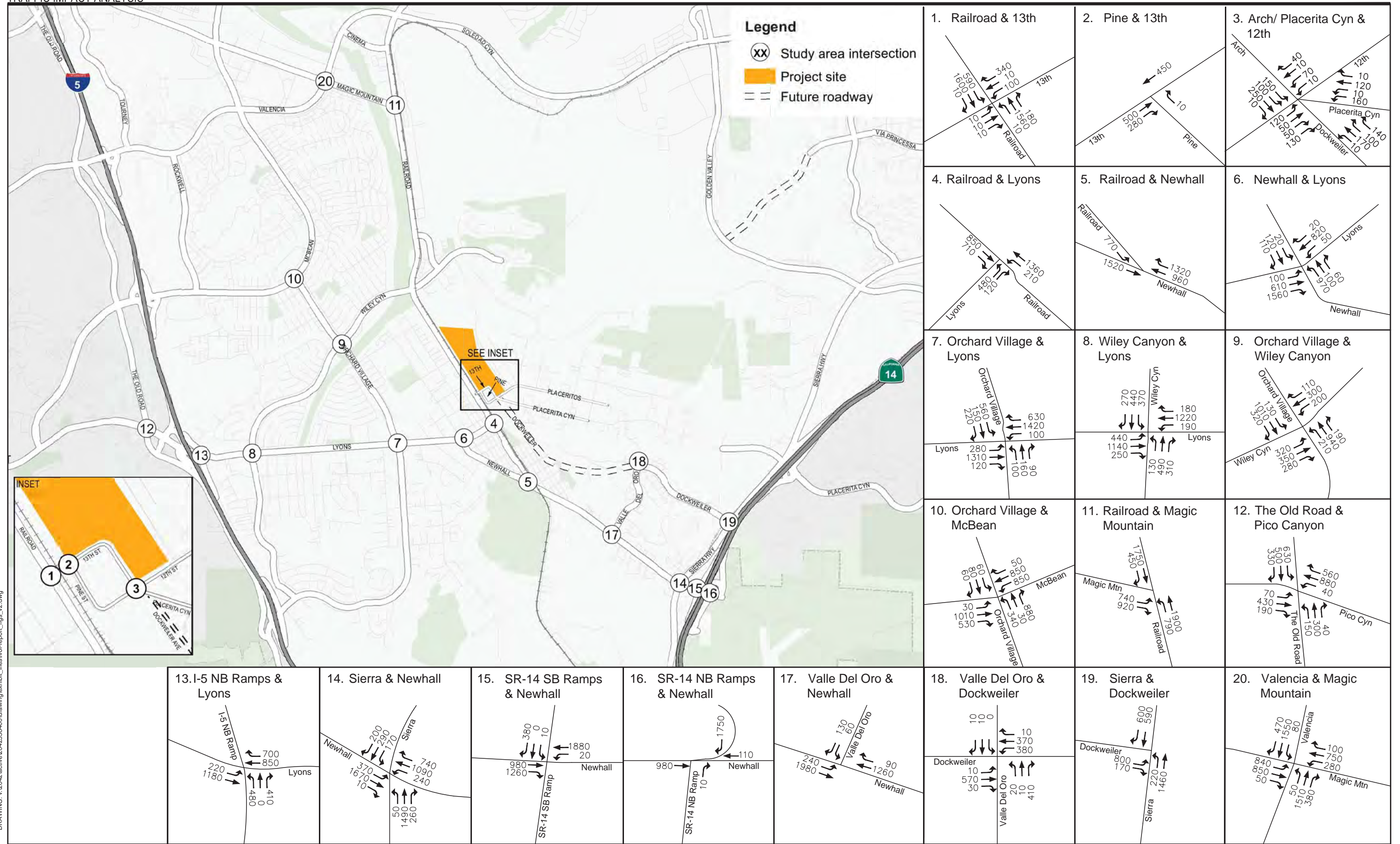


Figure 4-15

Interim Year Cumulative without Project PM Peak Hour Volumes - with Dockweiler Drive Extension

Appendix B

**Parking Analysis Form
Shadowbox Studios – Santa Clarita,
Santa Clarita, California
(GTC, Updated December 20, 2022)**



PARKING ANALYSIS FORM

**Shadowbox Studios – Santa Clarita
Santa Clarita, California**

Updated December 20, 2022

DRC Submittal #3

PROJECT

Shadowbox Studios – Santa Clarita is a proposed project containing approximately 1.3 million square feet of studio stages, production facilities, and production office space. Figure 1 shows the overall site plan layout with building locations and the access, circulation, and parking systems.

This Parking Analysis Form was submitted in July 2021 but since that time the site plan has undergone some minor adjustments. This analysis is based on the latest site plan and the latest land uses / square footages.

PARKING REQUIREMENTS

Parking requirements from the Santa Clarita Unified Development Code (UDC) were applied to the individual buildings within the site plan. As shown in Table 1, the total parking requirements for the facility would be 2,375 spaces, after the application of the discount for the Jobs Creation Overlay Zone (JCOZ).

The parking requirements apply the closest land use category in the UDC to each building in order to develop the number of parking spaces required for each land use. The “stage” land use category did not have a specific parking requirement rate in the UDC. Instead, the “stage” land use is listed as a “Director’s Decision” and the most typical parking rate for stages found in Southern California studio complexes was used in this analysis.



The only other change from the UDC applies to those uses that serve only internal staff to the Shadowbox Studios. For example, the dining facilities and internal catering facilities only serve food to the people already on campus. No outside dining is allowed, so the traditional restaurant land use parking rates do not really apply to the parking demand generated by the Shadowbox Studios food facilities. The Urban Land Institute (ULI) in its *Shared Parking* research report indicates that the parking demand for a restaurant is made up of approximately 80% customer and 20% employee demand. The UDC requires 10 spaces per 1,000 square feet (ksf) of restaurant and therefore the parking demand for Shadowbox Studios was set as 2.0 spaces/ksf to accommodate the employee parking demand associated with all food service on the Studio campus.

The vehicle wash/detail facility has been eliminated from the current plan.

The JCOZ encourages the creation of job opportunities in Santa Clarita, and it allows a reduction in the overall parking supply for projects that meet its criteria. The level of reduction is based on a Director's Decision with a maximum allowable reduction of 20%. In the Table 1 analysis, the maximum reduction was applied to the project's parking requirements.

With the assumptions for Director's Decisions and the adjustments described above applied to the project, the Shadowbox Studios -- Santa Clarita parking requirements would be 2,375 parking spaces.

PARKING SUPPLY

Table 2 shows that the project intends to provide 2,450 automobile parking spaces in a combination of surface and structured parking. The project site contains one five-level parking structure accommodating 1,072 parking spaces and three surface parking lots accommodating an additional 1,378 spaces (including parking for electric vehicles).

Included in the 2,450 on-campus parking spaces, 295 parking spaces for electric vehicles will be provided as will 54 Americans with Disabilities Act (ADA) spaces. A total of 169 bicycle spaces will be provided on site.



Finally, the site will provide 234 parking spaces for vans and trucks and truck trailer spaces to support the stage and production facilities. With these spaces, the site could accommodate 2,684 automobiles and trucks.

The site is currently negotiating with the Metropolitan Water District (MWD) to lease land adjacent to the site. This parcel could accommodate 257 truck parking spaces. This MWD parking lot is not included in the parking supply required to meet the UDC parking requirements because it is located off-campus and the lease is not a permanent commitment on the part of MWD. This area would potentially yield excess parking to provide additional flexibility and convenience to the production companies. If the MWD site was available to the project, the total parking supply available to the Studio campus could increase to 2,941 automobiles and truck trailers.

PARKING DEMAND AND SHARED PARKING

Because the “Studio” land use is not included in the Santa Clarita UDC, two other checks of the Project parking supply were conducted. The empirical parking demand rates collected at other Southern California studio campus projects were applied to Shadowbox Studios to compare actual parking demand patterns to the proposed supply. In addition, the Urban Land Institute Shared Parking model was applied to Shadowbox Studios, treating it as a mixed-use development. The results of both of these analyses are shown in Attachment A and Attachment B.

SUMMARY

The Uniform Development Code calls for up to 2,392 parking spaces to be provided to serve the Shadowbox Studios -- Santa Clarita campus.

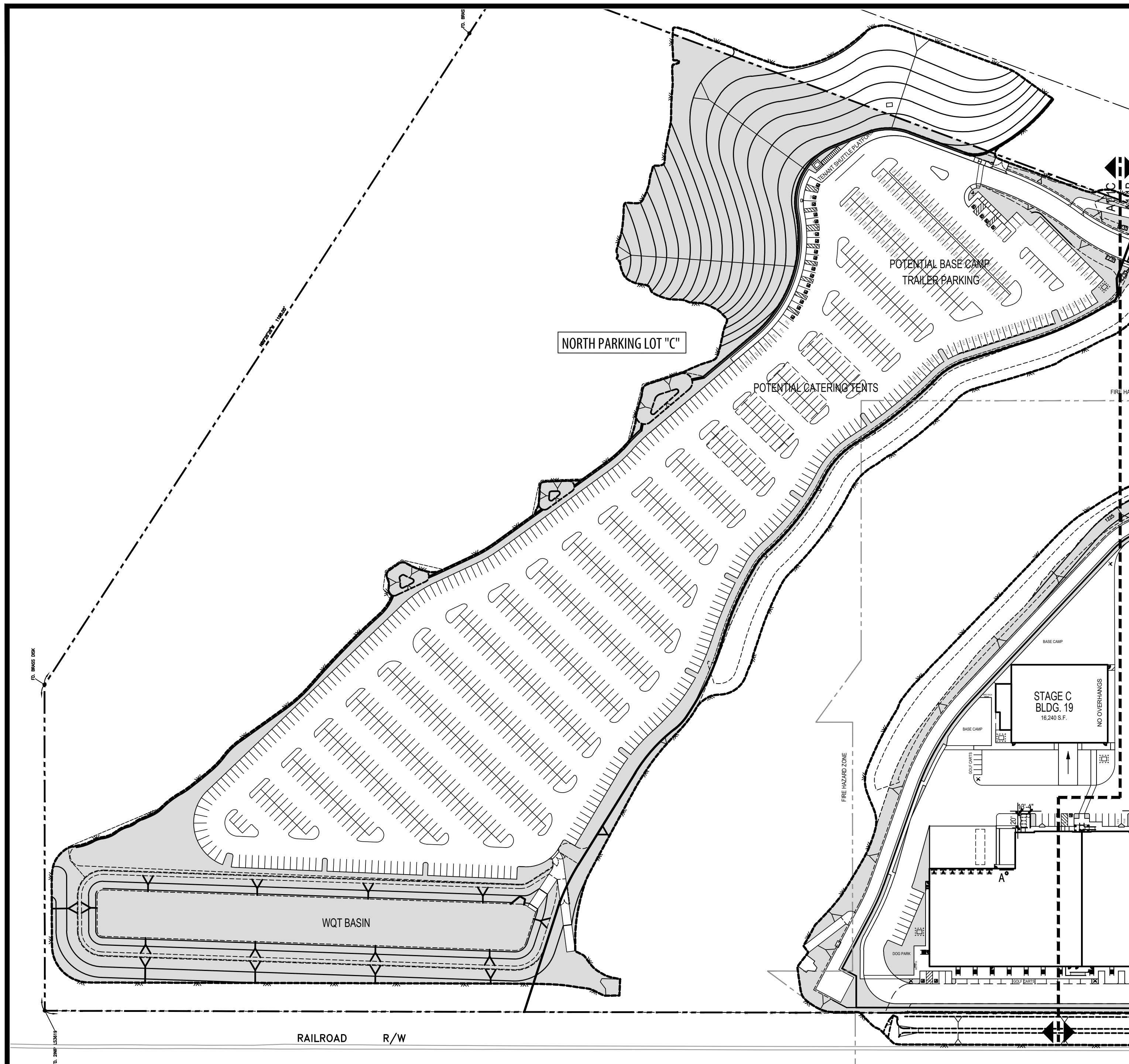


When Southern California movie studio parking demand rates are applied to the Shadowbox Studios -- Santa Clarita mixture of land uses, the peak parking demand is estimated to be 2,162 spaces which would occur during peak filming season.

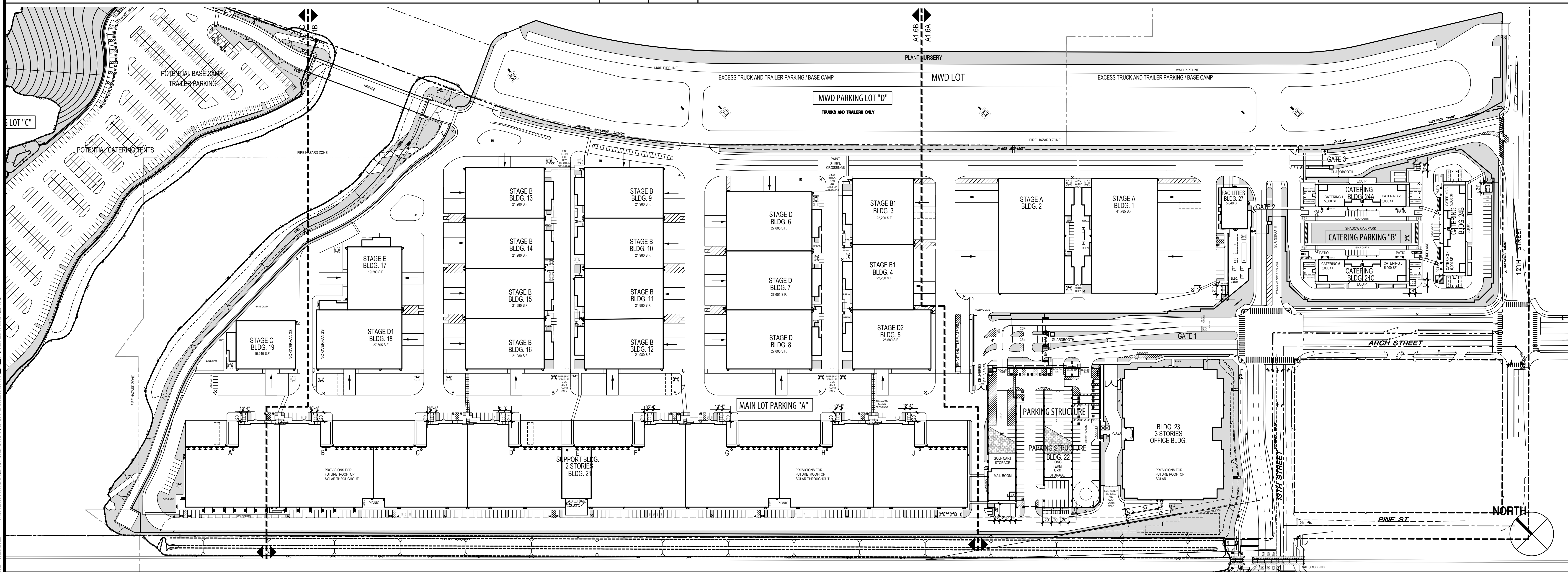
The detailed ULI Shared Parking model was applied to the Shadowbox Studios -- Santa Clarita campus and the model estimated that the peak parking demand would occur on a weekday during peak filming season when a maximum of 2,301 vehicles would be parked on campus.

The campus is also seeking a lease with the Metropolitan Water District (MWD) that would add 257 truck parking spaces to the campus supply on an adjacent parcel. These spaces are not counted in the on-campus parking supply required to meet the UDC requirements.

The proposed parking supply of 2,450 automobile parking spaces will be more than sufficient to accommodate the UDC-required supply of 2,375 spaces.



NORTH PARKING LOT 1:100 **5**



SITE PLAN 1:100 **1**

NO.	DESCRIPTION	DATE
△	PROGRESS SET	05/07/21
△	INITIAL CITY SUBMITTAL	05/20/21
△	2ND CITY SUBMITTAL	10/08/21
△	3RD CITY SUBMITTAL	09/29/22

OVERALL PARKING SITE PLAN

ALL DRAWINGS AND WRITTEN MATERIAL APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF THE ARCHITECT AND THE SAME MAY NOT BE DUPLICATED, USED OR DISCLOSED WITHOUT THE EXPRESS WRITTEN CONSENT OF THE ARCHITECT.
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JOB NO:	BH001.01	SHEET NO:	
DATE:	09/24/22		
DRAWN:	GAA		A16
FILE NAME:	BH001_1.1		

PLOT DATE: 9/26/2022 P:\BROWNDW\GEN\050.DWG, SUBMITTAL SHEETS\BH001_1.1, OVERALL PARKING.DWG

TABLE 1
CITY OF SANTA CLARITA
CITY REQUIREMENTS PER UNIFIED DEVELOPMENT CODE
PARKING ANALYSIS FORM

SITE: SHADOWBOX STUDIOS -- SANTA CLARITA

Site Plan G3.31

19-Dec-22

TOTAL SPACES PROVIDED	2,450
-----------------------	-------

BUILDING(S)	LAND USE	TOTAL AREA (sf)	PARKING RATIO (sp/1000 sf)	NO. SPACES REQUIRED	NOTES
Bldgs 1 - 19	Stages	475,473	2.0 *	951	*Director's Decision
Bldg 20				0	Bldg 20 Deleted
Bldgs 21	Production Support	565,390	2.0	1,131	Assumes Light Manufacturing
Bldg 22 (Garage Ground Floor)	Mail Room/Storage	10,587	2.0	21	Assumes Light Manufacturing
Bldg 22 (Garage Ground Floor)	Security	660	4.0	3	
Bldg 23	Office	195,772	4.0	783	
Bldg 25				0	Blg 25 Deleted
Bldg 23	Dining	2,315	2.0	5	Employee Parking Demand (no outside diners)
Bldg 24	Catering	30,000	2.0	60	Employee Parking Demand (no outside diners)
Bldg 28	(Not Used)	0		0	
Bldg 26				0	Bldg 26 Deleted
Bldg 27	Mill/Shop	3,170	2.0	6	Assumes Light Manufacturing
Bldg 27	Office	2,470	4.0	10	
TOTAL				2,969	Uniform Development Code Requirement
JCOZ Discount			20%	-594	JCOZ -- Director's Decision
TOTAL REQUIRED		1,285,837		2,375	Required w JCOZ

NOTE: On-site dining facilities are not open to public. Therefore parking requirements are based on number of employees at the dining facilities. Diners are included in the on-site employees already accounted for in the parking analysis.

TABLE 2

CITY OF SANTA CLARITA

CITY REQUIREMENTS PER UNIFIED DEVELOPMENT CODE COMPARED TO PROPOSED PARKING SUPPLY

PARKING ANALYSIS FORM

SITE: SHADOWBOX STUDIOS -- SANTA CLARITA

Site Plan G3.31

19-Dec-22

PARKING REQUIREMENT	
	2,969 Uniform Development Code Requirement
	<u>(594)</u> JCOZ -- Director's Decision
	2,375 Required w JCOZ

PARKING SUPPLY	
Surface Parking	
	194 Main Lot Surface Parking
	27 Catering Lot Surface Parking
	<u>1,157</u> North Lot Surface Parking
	1,378 Subtotal
Parking Garage	
	825
	<u>247</u> Level 5 (Roof)
	1,072 Subtotal
	2,450 TOTAL

SUPPLY vs. REQUIRED	2,375
	75 SPACES ABOVE CODE REQUIREMENTS (3.2%)

CONCLUSION
Proposed on-site parking supply meets City Code requirements



ATTACHMENT A

STUDIO PARKING DEMAND



ATTACHMENT A

STUDIO PARKING DEMAND

Based on parking occupancy experience at other Southern California studio campuses, the actual parking demand patterns are typically less than the Code requirements. This occurs because of the seasonal nature of the filming industry and because large movie shoots or television productions typically rent multiple stages simultaneously and move crews from one stage to another as sets change and different scenes are shot. Therefore, even though a studio campus may have 19 separate stages, it is highly unlikely that all 19 stages would be fully leased to 19 different productions with full crews in each stage at the same time.

Additionally, there is a substantial amount of movement within a studio campus and therefore one parking space serves multiple users within the campus. For example, the UDC parking codes treat the dining areas and the catering facility within the campus as free-standing restaurants when in fact there are no outside patrons entering the campus to eat at the dining facilities on campus. The dining is intended to serve the staff already on the campus and the additional parking demand placed on campus parking facilities would come only from the employees associated with the dining and catering facilities. Thus, the actual parking demand for studio dining facilities is two spaces per 1,000 square feet of facility (to serve the additional catering employee parking demand) rather than 10 spaces per 1,000 square feet of restaurant space (needed to serve both restaurant patrons and employees).

The same internal capture phenomenon occurs for the office space on campus. A production company may lease space in the campus office building, but many of the employees will share time between the office, stages, and production support facilities. These “traveling” employees do not need three parking spaces (one at each building), but rather will



use only one space and walk or use golf carts to move within the campus.

Even ignoring the fact that the campus facilities will never be fully leased to simultaneous maximum utilization, the internal capture of project trips for the office and dining land uses would bring the peak parking demand down to 2,162 spaces as shown in Table A-1.

TABLE A-1
CITY OF SANTA CLARITA
EMPIRICAL PARKING RATES FOR SOUTHERN CALIFORNIA STUDIO CAMPUSES
PARKING ANALYSIS FORM

SITE: SHADOWBOX STUDIOS -- SANTA CLARITA

Site Plan G3.31

19-Dec-22

TOTAL SPACES PROVIDED	2,450
-----------------------	-------

BUILDING(S)	LAND USE	TOTAL AREA (sf)	PARKING RATIO (sp/1000 sf)	NO. SPACES REQUIRED	NOTES
Bldgs 1 - 19	Stages	475,473	2.0	951	So Cal Studio Rates
Bldg 20				0	Bldg 20 Deleted
Bldgs 21	Production Support	565,390	1.0	565	So Cal Studio Rates
Bldg 22 (Garage Ground Floor)	Mail Room/Storage	10,587	1.0	11	Assumes Light Manufacturing
Bldg 22 (Garage Ground Floor)	Security	660	3.0	2	
Bldg 23	Office	195,772	3.0	587	So Cal Studio Rates
Bldg 25				0	Blg 25 Deleted
Bldg 23	Dining	2,315	1.0	2	Employee Parking Demand (no outside diners)
Bldg 24	Catering	30,000	1.0	30	Employee Parking Demand (no outside diners)
Bldg 28	(Not Used)	0		0	
Bldg 26				0	Bldg 26 Deleted
Bldg 27 (Facilities/Transport)	Mill/Shop	3,170	2.0	6	Assumes Light Manufacturing
Bldg 27 (Facilities/Transport)	Office	2,470	3.0	7	
TOTAL		1,285,837		2,162	Uniform Development Code Requirement

NOTE: On-site dining facilities are not open to public. Therefore parking requirements are based on number of employees at the dining facilities. Diners are included in the on-site employees already accounted for in the parking analysis.



ATTCHMENT B

SHARED PARKING ANALYSIS



ATTACHMENT B

SHARED PARKING

If the internal capture characteristics of studio campus parking are combined with the varying operating hours of the different activities on campus, the effects of Shared Parking within a studio campus can be studied.

The Urban Land Institute (ULI), International Council of Shopping Centers (ICSC), and the National Parking Association (NPA) have been conducting research on the patterns of shared parking within mixed-use development for decades. This group recently published *Shared Parking, Third Edition* which included a parking model that investigates the parking demand generated by a mixed-use development for every hour of the year in order to identify the peak parking demand of the development.

Exhibits B-1 through B-5 show the results of applying the ULI/ICSC/NPA model to the Shadowbox Studios -- Santa Clarita campus. Exhibit B-1 shows the summary page of the analysis identifying the peak parking demand for the campus would occur on a weekday during peak filming season (February to June). Using the recommended parking demand rates shown in Table A-1, the peak parking demand for the campus would occur during the mid-morning hours.

Exhibit B-1 shows that the peak parking demand for the project would be 2,301 vehicles which is slightly higher than the parking demand estimate derived from the recommended parking rates shown in Table A-1, but consistent with the Santa Clarita UDC code requirements with the JCOZ Adjustment taken into consideration.

Exhibit B-2 shows the hourly parking demand for both weekday and weekend conditions during the busy filming season, with weekday parking demand increasing early in the morning, remaining busy throughout the mid-and late morning and reducing after lunch.



Exhibits B-3 and B-4 show the peak parking demand for a weekday and weekend respectively for the busiest day of each month throughout the year. The peak filming season of February through June experiences the heaviest parking demands.

Exhibits B-5 and B-6 show graphically the patterns of parking demands on an hourly basis throughout the day for a weekday and a weekend day, respectively.

Project: Shadowbox Studios -- Santa Clarita
 Description: Proposed Land Use Totals with Recommended Parking Ratios

TABLE B-1
 SHARED PARKING DEMAND SUMMARY/MODEL CALIBRATION

PEAK MONTH: MARCH -- PEAK PERIOD: 0, WEEKDAY

Land Use	Project Data Quantity Unit		Weekday					Weekend					Weekday			Weekend		
			Base Rate	Mode Adj	Non-Captive Ratio	Project Rate	Unit	Base Rate	Mode Adj	Non-Captive Ratio	Project Rate	Unit	Peak Hr Adj	Peak Mo Adj	Estimated Parking Demand	Peak Hr Adj	Peak Mo Adj	Estimated Parking Demand
													#####	March		12:00 AM	March	
Fine/Casual Dining Restaurant	32,315	sf GLA	8.00	1.00	0.00	0.00	/ksf GLA	7.00	1.00	0.00	0.00	/ksf GLA	#N/A	1.00	65	#N/A	1.00	49
Employee			2.00	1.00	1.00	2.00	/ksf GLA	2.00	1.00	1.00	2.00	/ksf GLA	#N/A	0.95	0	#N/A	0.95	0
Office 100 to 500 ksf	251,302	sf GLA	0.23	1.00	1.00	0.23	/ksf GLA	0.03	1.00	1.00	0.03	/ksf GLA	#N/A	1.00	758	#N/A	1.00	75
Employee			3.02	1.00	1.00	3.02	/ksf GLA	0.30	1.00	1.00	0.30	/ksf GLA	#N/A	1.00	0	#N/A	1.00	0
Stage	475,473	sf GLA	0.10	1.00	1.00	0.10	/ksf GLA	0.02	1.00	1.00	0.02	/ksf GLA	#N/A	1.00	903	#N/A	1.00	247
Employee			1.90	1.00	1.00	1.90	/ksf GLA	0.52	1.00	1.00	0.52	/ksf GLA	#N/A	1.00	40	#N/A	1.00	11
Stage Support	526,747	sf GLA	0.10	1.00	1.00	0.10	/ksf GLA	0.02	1.00	1.00	0.02	/ksf GLA	#N/A	1.00	460	#N/A	1.00	137
Employee			0.90	1.00	1.00	0.90	/ksf GLA	0.26	1.00	1.00	0.26	/ksf GLA	#N/A	1.00	0	#N/A	1.00	0
ULI base data have been modified from default values.													Customer	2186	Customer	508		
													Employee	0	Employee	0		
													Reserved	2301	Reserved	536		
													Total	2301	Total	536		

Shared Parking Reduction 12% 80%

EXHIBIT B-2
Hourly Parking Demand During Peak Month
Project: Shadowbox Studios -- Santa Clarita
Description: Proposed Land Use Totals with Recommended Parking Ratios

March																				11 AM	11 AM	12 PM	6 PM	
																				0	12:00 AM	12:00 AM	12:00 AM	
Monthly Adj.	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM				
Employee	100%	20	33	33	49	59	65	65	59	59	49	49	49	33	16	16	13	7	7	-	65	65	65	33
Family Restaurant	95%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employee	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Office 100 to 500 ksf	100%	-	1	6	35	41	41	46	58	58	17	17	15	3	1	1	-	-	-	-	41	41	46	3
Employee	100%	227	379	546	652	743	758	743	713	652	584	455	296	167	106	53	23	8	-	-	758	758	743	167
Office (General/Production) >500 ksf	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employee	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage	100%	-	-	5	29	34	34	38	48	48	14	14	12	2	1	-	-	-	-	-	34	34	38	2
Employee	100%	271	452	650	777	885	903	885	849	777	695	542	352	199	126	63	27	9	-	-	903	903	885	199
Stage Support	100%	-	1	11	32	40	40	48	53	53	16	11	11	5	1	1	-	-	-	-	40	40	48	5
Employee	100%	337	427	441	460	474	460	431	360	289	190	109	71	52	43	28	19	9	5	-	460	460	431	52
Warehouse/Mill/Storage	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employee	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0%	Customer	-	2	22	96	115	115	132	159	159	47	42	38	10	3	2	-	-	-	-	115	115	132	10
0	Employee	855	1,291	1,670	1,938	2,161	2,186	2,124	1,981	1,777	1,518	1,155	768	451	291	160	82	33	12	-	2,186	2,186	2,124	451
	Reserved	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	855	1,293	1,692	2,034	2,276	2,301	2,256	2,140	1,936	1,565	1,197	806	461	294	162	82	33	12	-	2,301	2,301	2,256	461
ULI base data have been modified from default values.																				-	-	-	-	

Footnote(s):

March																				11 AM	11 AM	12 PM	6 PM	
																				0	12:00 AM	12:00 AM	12:00 AM	
12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM				
Employee	100%	-	13	20	39	49	49	49	49	49	49	49	65	65	65	65	65	65	55	33	49	49	49	65
Family Restaurant	95%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Office 100 to 500 ksf	100%	-	1	4	6	6	7	6	6	4	3	1	1	-	-	-	-	-	-	-	7	7	6	-
Employee	100%	-	15	45	60	68	75	68	60	45	30	15	8	4	-	-	-	-	-	-	75	75	68	4
Office (General/Production) >500 ksf	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employee	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage	100%	-	2	6	8	9	10	9	8	6	4	2	1	1	-	-	-	-	-	-	10	10	9	1
Employee	100%	-	49	148	198	222	247	222	198	148	99	49	25	12	-	-	-	-	-	-	247	247	222	12
Stage Support	100%	-	2	7	9	10	11	10	9	7	4	2	1	1	-	-	-	-	-	-	11	11	10	1
Employee	100%	-	27	82	110	123	137	123	110	82	55	27	14	7	-	-	-	-	-	-	137	137	123	7
Warehouse/Mill/Storage	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employee	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0%	Customer	-	5	17	23	25	28	25	23	17	11	5	3	2	-	-	-	-	-	-	28	28	25	2
0%	Employee	-	104	295	407	462	508	462	417	324	233	140	112	88	65	65	65	65	55	33	508	508	462	88
	Reserved	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	109	312	430	487	536	487	440	341	244	145	115	90	65	65	65	65	55	33	536	536	487	90
ULI base data have been modified from default values.																				-	-	-	-	

EXHIBIT B-3
Weekday Month-by-Month Estimated Peak Parking Demand

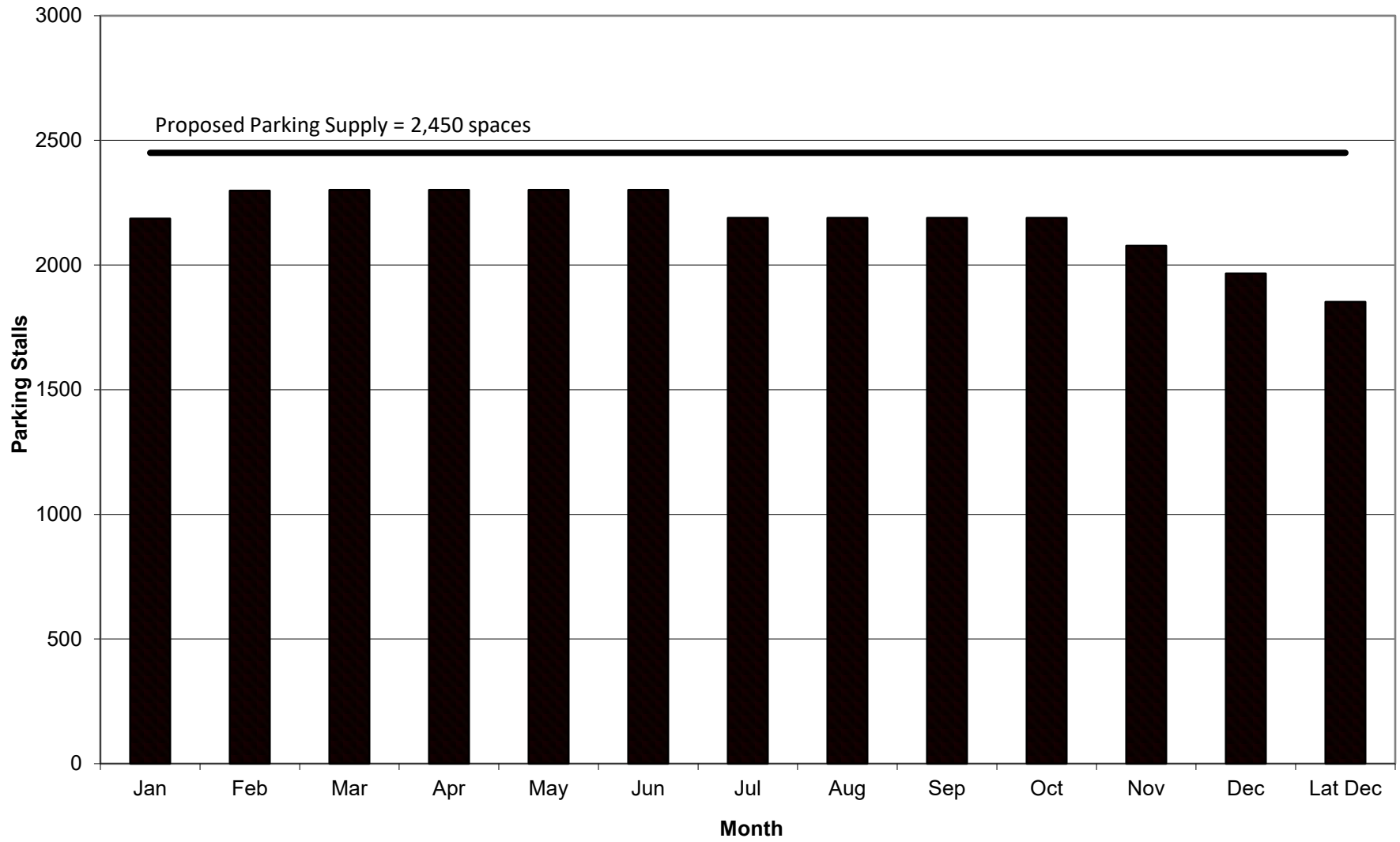


EXHIBIT B-4
Weekend Month-by-Month Estimated Peak Parking Demand

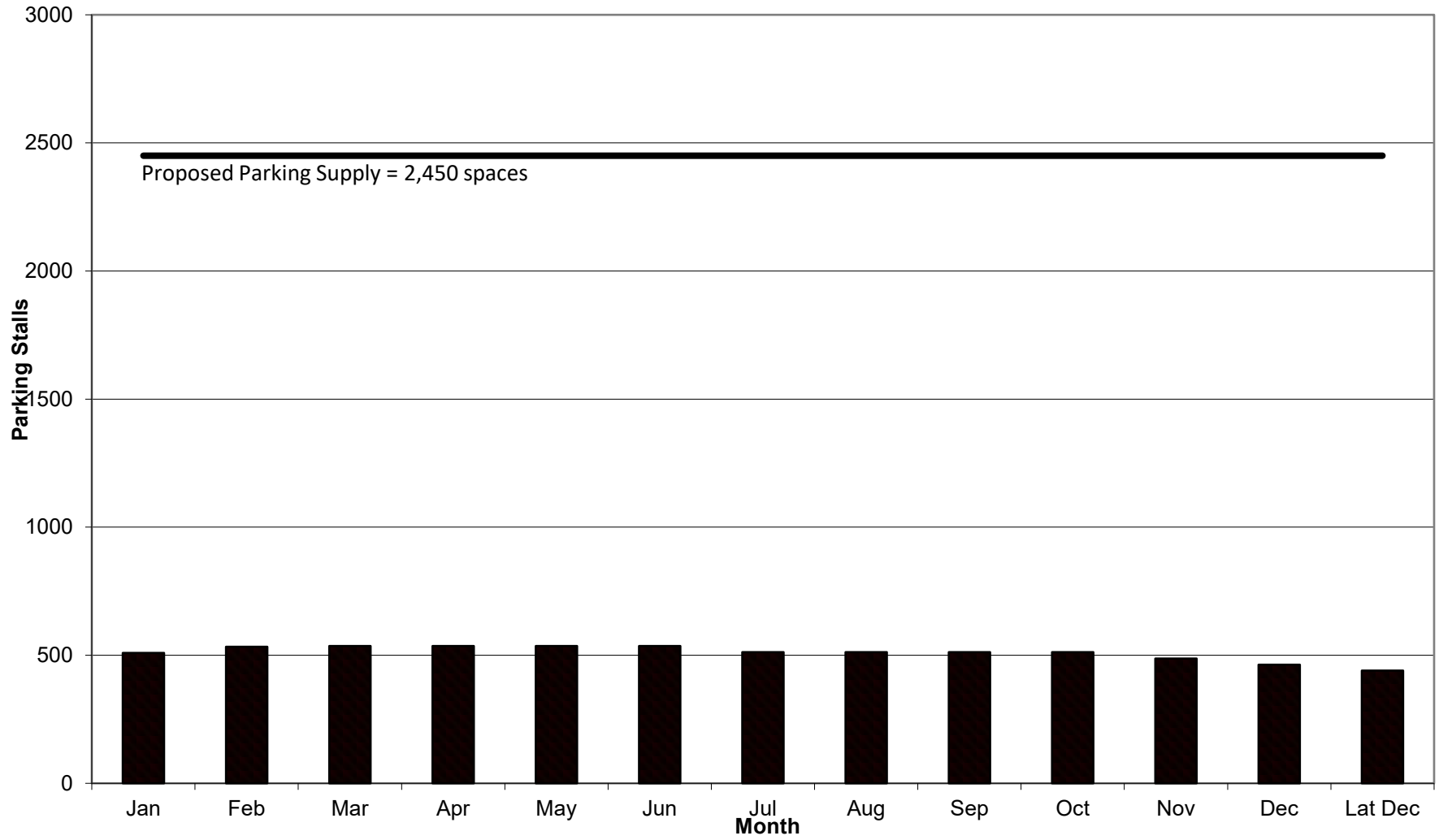


EXHIBIT B-5
Weekday Comparison by Month and by Hour

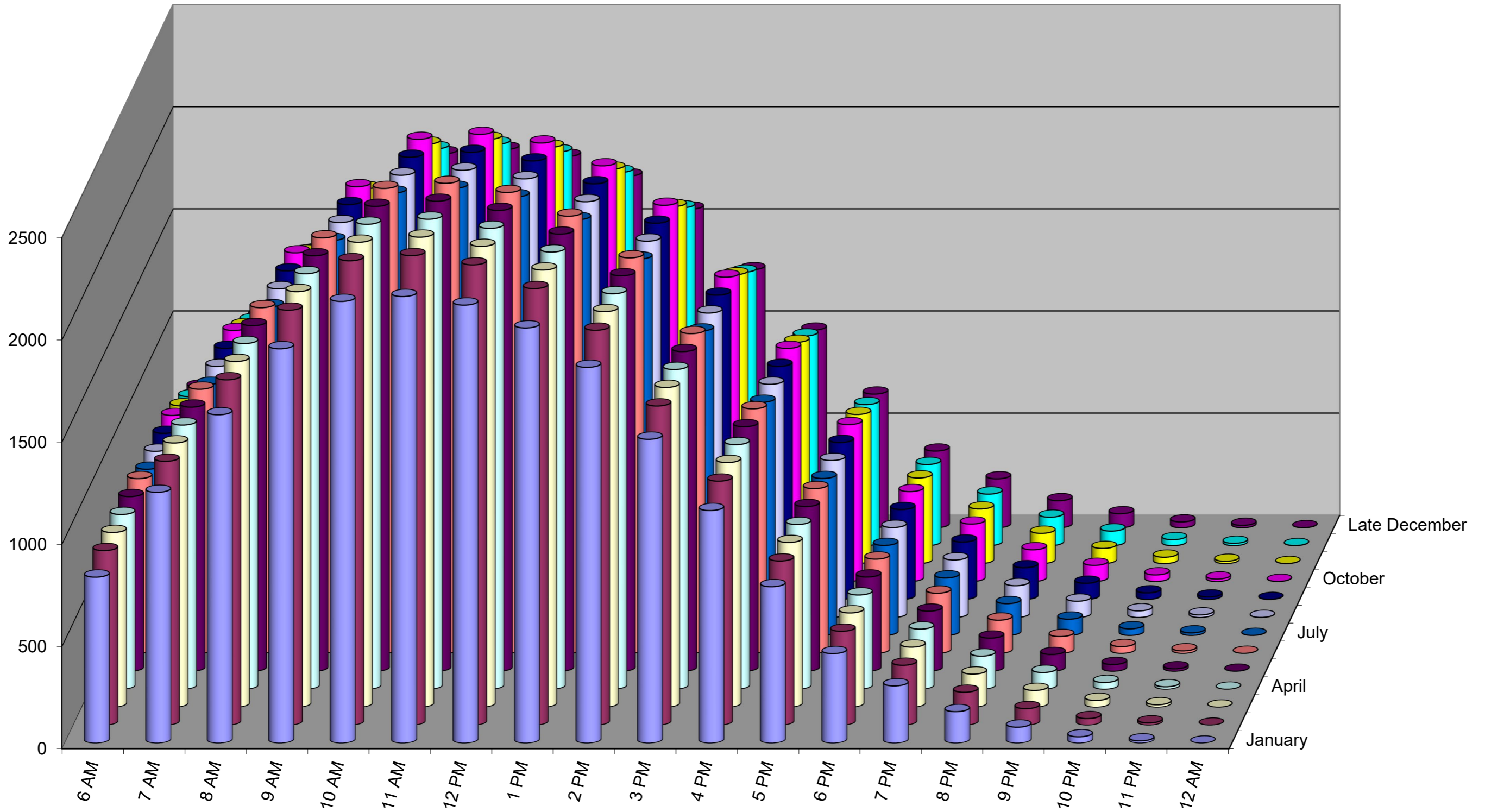
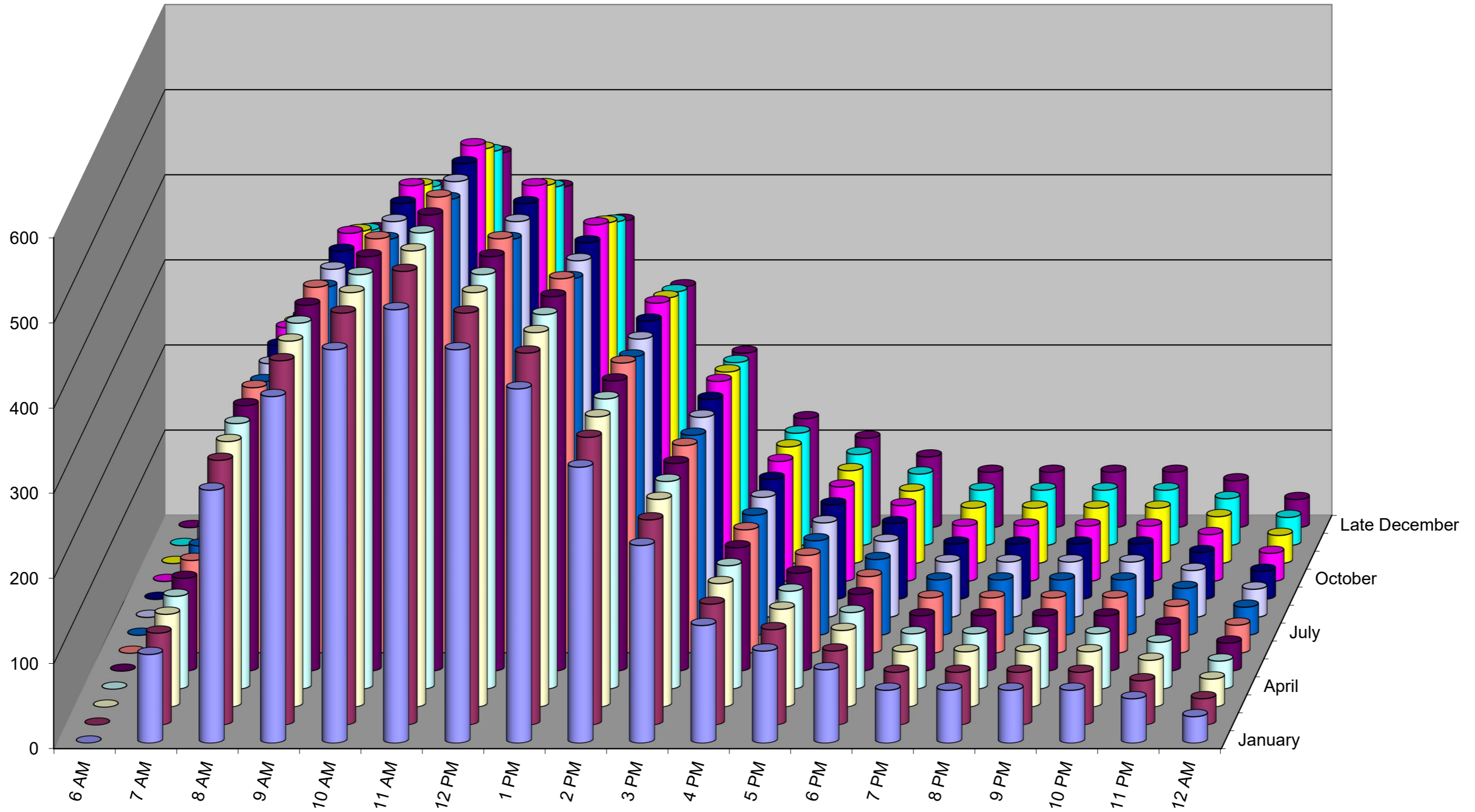


EXHIBIT B-6
Weekend Comparison by Month and by Hour



Appendix C

**Blackhall Studios – City of Santa Clarita
VMT Modeling Summary
(Iteris, August 24, 2021)**

TECHNICAL MEMORANDUM

To:
Gibson Transportation Consulting

From: Iteris, Inc.
801 S. Grand Avenue, Suite 750
Los Angeles, CA 90017

Date: August 24, 2021

RE: Blackhall Studios – City of Santa Clarita VMT Modeling Summary

INTRODUCTION

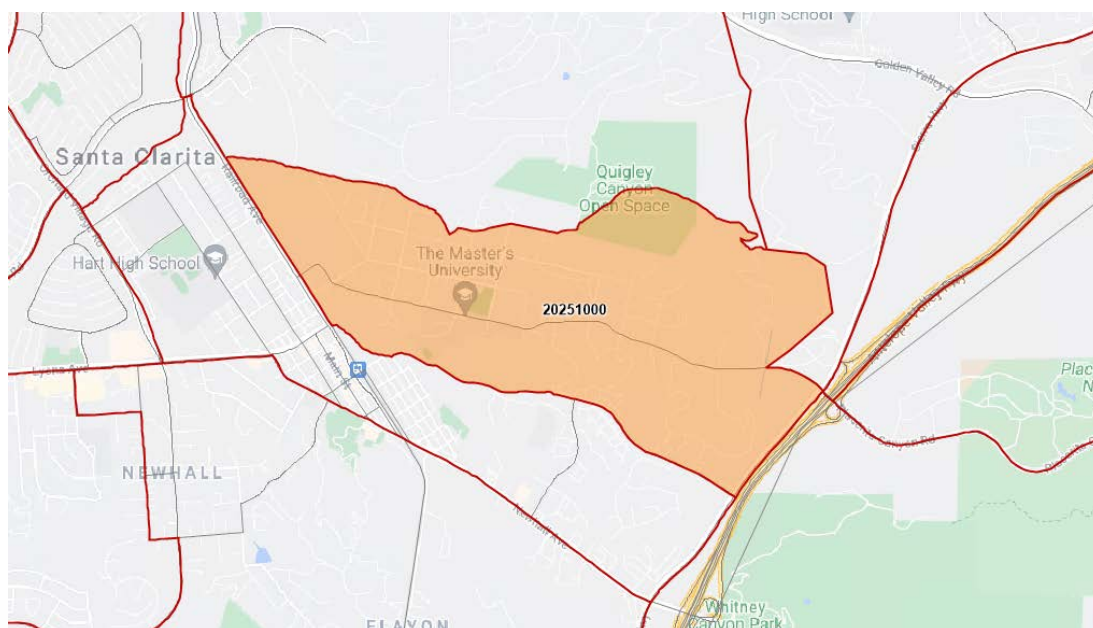
This memorandum presents Iteris' Transportation Assessment of the Blackhall Studios development in the City of Santa Clarita. The project is located at northwest corner of Railroad Avenue and 13th Street. The project site is currently vacant.

The proposed project consists of 1,259,000 square feet of the following land uses:

- 486,500 square feet of Sound Stage
- 537,300 square feet of Support Services
- 185,000 square feet of Production Office
- 50,000 square feet of General Office

Figure 1 illustrates the location of the proposed project as part of Southern California Association of Governments (SCAG) regional model. Within the model, the project is within Transportation Analysis Zone (TAZ) Tier 1 20251000.

Figure 1: Proposed Project's TAZ Location



METHODOLOGY

Iteris utilized the SCAG 2016 RTP/SCS Regional Travel Demand Model to generate the VMT statistics, following the *Transportation Analysis Updates in Santa Clarita* SB 743 guidelines dated May 19, 2020. The SCAG model covers the entire SCAG region, and therefore captures a more complete assessment of trip length and VMT as compared to the City’s traffic model. VMT is an area-wide performance measure which helps compare the overall performance of a project or project alternatives and is also used as a metric to ultimately assess the transportation environmental impacts of a project.

For the purposes of this analysis, the 2012 base year scenario is utilized. Based on the understanding of the City’s CEQA transportation analysis, future year analysis is not conducted because the project is not a large planning effort that may result in changes to regional travel patterns. For the purposes of this study, only Base Year 2012 with project scenario was executed in the model.

LAND USE CONVERSION

The model uses socioeconomic data (in terms of number of employees) from land use inputs to compute trip generation. To generate VMT results, land use conversion rates were applied to all non-residential project land uses. **Table 1** summarizes the conversion rates used for different types of land uses. This conversion rate changed square footage and to number of employees for use in the model inputs.

Table 1: Land Use Conversion Factors

Land Use Category	Model Land Use Category	Conversion Rate
R&D/Light Industrial (Sound Stage)	Art and Entertainment Employment	2.0 Employees per tsf
Office (Production + General)	Professional Employment	3.5 Employees per tsf
Support Services	Construction Employment	0.5 Employee per tsf
	Manufacturing Employment	0.5 Employee per tsf
	Other Services Employment	1 Employee per tsf

sf = square feet, tsf = thousand square feet

Table 2 summarizes the results of the conversion factors for each land use. As a note, the SCAG model maintains thirteen (13) categories of employment, and this project only modified Art and Entertainment, Professional, Construction, Manufacturing, and Other Services employment, which is summarized in the right five columns in **Table 2**.

Table 2: Model Land Use Inputs

Model Scenario	Total Employment Change			Project Specific Employment by Category				
	Total Employment	Change in Total Employment	Percent Change in Total Employment	Art and Entertainment Employment	Professional Employment	Construction Employment	Manufacturing Employment	Other Service Employment
Proposed Blackhall Project	2,333	406	21%	973	823	134	134	269

TRIP GENERATION

To ensure that the model land use inputs are reasonable, a comparison of the trip generation from the SCAG model is compared to the Blackhall Studios Trip Generation Estimates as previously calculated by Gibson Transportation Consultants. Since the SCAG model trip generation outputs show person-trips, unlike ITE's vehicle-trips, a vehicle-occupancy factor was applied to the project's trip production. From the SCAG's 2012 Travel Survey, LA County has a daily vehicle occupancy of 1.51 for all trip purposes.

Table 3 shows the summary of the comparison:

Table 2: Trip Generation Comparison

Trip Generation Method	Trip Generation
SCAG with Project Daily Production (Person)	11,632
SCAG with Project Daily Production (Vehicle) <i>(SCAG Person Trip / Daily Vehicle Occupancy)</i>	7,704
Blackhall Studios Trip Generation Memo	7,379
% Difference between Model Outputs vs ITE	4%

The percent difference between the model's project trip generation and the project's previously calculated trip generation is only 4%, which indicates that the model inputs used for the project is acceptable.

VMT ANALYSIS

The City's VMT analysis guidelines indicate that the following VMT calculation methodology to be applied for different projects:

- **Residential projects: *Home-Based VMT per Capita***
 - Includes all VMT for home-based auto vehicle trips that are traced back to the residence of the trip-maker (non-home-based trips are excluded). This VMT is then divided by the population within Santa Clarita to get the efficiency metric of Home-Based VMT per Capita.
- **Office or employment-generating projects: *Home-Based Work VMT per Employee***
 - Includes all VMT for auto vehicle trips between home and work. This VMT is then divided by the number of employees within Santa Clarita to get the efficiency metric of Home-Based Work VMT per Employee.
- **All other land use projects: *Total VMT per Service Population (all vehicles and all trip purposes)***
 - The total VMT to and from all zones in Santa Clarita is divided by the total service population (employees and residents) in Santa Clarita to get the efficiency metric of VMT per service population.

The proposed project only includes office or employment-generating use, therefore the VMT in this study is reported as **Home-Base Work VMT per Employee**. The project VMT is compared to the City's Home-Based Work VMT to determine the impact. Based on the City's CEQA guidelines, employment/commercial/industrial projects that exceed 15% below citywide Baseline VMT for Home-Based Work VMT per employee are identified as significant transportation impact. The City's threshold of significance is:

- 2012 Citywide Home-Based Work VMT per Employee: 21.0
- 15% below: 17.9

Table 4 summarizes the VMT results for the project.

Table 4: Project VMT Results

VMT Metrics	2012 VMT Results
City-Wide Analysis	
Home-Based Work VMT per Employee	20.7
Percent Difference (compared to baseline)	-1.5%
Project Analysis (Zone 20251000)	
No Project Home-Based Work VMT per Employee	16.7
With Project Home-Based Work VMT per Employee	14.0
Percent Difference (With Project compared to No Project)	--16.2%
Threshold of Significance (15% reduction from baseline)	17.9 (-15% from Citywide baseline 21.0)
Difference (With Project Minus Threshold of Significance)	-3.9
Above or Below Threshold of Significance	Below
Significant Transportation Impact	No
Project Impact (Comparison to Threshold of Significance)	-21.8%

Table 4 indicates that the project Home-Based Work VMT per employee is forecast to be below the City's threshold of significance of 17.9 Home-Based Work VMT per employee. The project impact is 21.8% less than the threshold of significance. This shows that the project would not likely result in a potentially significant impact. Additionally, the development would reduce the city-wide baseline VMT from 21.0 to 20.7 home-based-work VMT per employee.



Appendix D
Traffic Volumes

Turning Movement Count Report AM

Location ID: 7
 North/South: I-5 Southbound Ramps
 East/West: Magic Mountain Pkwy

Date: 11/16/17
 City: Santa Clarita, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	9	1	47	0	328	113	0	0	0	10	47	0	555
7:15	10	0	41	0	338	100	0	0	0	9	36	0	534
7:30	13	0	71	0	369	105	0	0	0	22	59	0	639
7:45	12	1	108	0	499	102	0	0	0	15	72	0	809
8:00	17	0	69	0	378	109	0	0	0	11	50	0	634
8:15	13	1	75	0	335	99	0	0	0	24	74	0	621
8:30	10	0	75	0	254	88	0	0	0	14	67	0	508
8:45	5	1	81	0	252	108	0	0	0	17	57	0	521

Total Volume:	89	4	567	0	2753	824	0	0	0	122	462	0	4821
Approach %	13%	1%	86%	0%	77%	23%	0%	0%	0%	21%	79%	0%	

Peak Hr Begin:	7:30												
PHV	55	2	323	0	1581	415	0	0	0	72	255	0	2703
PHF	0.785			0.830			0.000			0.834			0.835

Turning Movement Count Report PM

Location ID: 7
 North/South: I-5 Southbound Ramps
 East/West: Magic Mountain Pkwy

Date: 11/16/17
 City: Santa Clarita, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	8	0	77	0	225	98	0	0	0	45	117	0	570
16:15	14	1	62	0	213	83	0	0	0	43	126	0	542
16:30	18	1	86	0	306	104	0	0	0	52	142	0	709
16:45	12	0	84	0	297	91	0	0	0	54	126	0	664
17:00	24	0	90	0	275	104	0	0	0	65	124	0	682
17:15	52	1	95	0	246	68	0	0	0	37	139	0	638
17:30	47	3	79	0	236	40	0	0	0	35	126	0	566
17:45	46	0	71	0	263	50	0	0	0	46	122	0	598

Total Volume:	221	6	644	0	2061	638	0	0	0	377	1022	0	4969
Approach %	25%	1%	74%	0%	76%	24%	0%	0%	0%	27%	73%	0%	

Peak Hr Begin:	16:30												
PHV	106	2	355	0	1124	367	0	0	0	208	531	0	2693
PHF	0.782			0.909			0.000			0.952			0.950

Pedestrian/Bicycle Count Report

Location ID: 7
 North/South: I-5 Southbound Ramps
 East/West: Magic Mountain Pkwy

Date: 11/16/17
 City: Santa Clarita, CA

Leg:	North		East		South		West	
	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	1	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	1	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	1	0	0	0
17:00	1	0	0	0	0	0	0	0
17:15	0	0	0	0	2	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	1	0	0	0

Turning Movement Count Report AM

Location ID: 8
 North/South: I-5 Northbound Ramps
 East/West: Magic Mountain Pkwy

Date: 11/16/17
 City: Santa Clarita, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	52	176	0	91	1	254	0	97	1	672
7:15	0	0	0	68	194	0	130	0	244	0	78	9	723
7:30	0	0	0	44	201	0	132	1	284	0	105	6	773
7:45	0	0	0	75	221	0	169	0	370	0	178	8	1021
8:00	0	0	0	44	223	0	128	0	273	0	110	4	782
8:15	0	0	0	59	204	0	128	0	233	0	143	7	774
8:30	0	0	0	45	144	0	125	0	202	0	136	10	662
8:45	0	0	0	37	186	0	134	0	182	0	134	5	678

Total Volume:	0	0	0	424	1549	0	1037	2	2042	0	981	50	6085
Approach %	0%	0%	0%	21%	79%	0%	34%	0%	66%	0%	95%	5%	

Peak Hr Begin:	7:30												
PHV	0	0	0	222	849	0	557	1	1160	0	536	25	3350
PHF	0.000			0.905			0.797			0.754			0.820

Turning Movement Count Report PM

Location ID: 8
 North/South: I-5 Northbound Ramps
 East/West: Magic Mountain Pkwy

Date: 11/16/17
 City: Santa Clarita, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	0	0	84	160	0	174	0	174	0	169	12	773
16:15	0	0	0	73	159	0	185	0	149	0	178	23	767
16:30	0	0	0	105	199	0	214	0	200	0	205	9	932
16:45	0	0	0	108	183	0	198	0	205	0	203	13	910
17:00	0	0	0	113	196	0	205	0	193	0	209	7	923
17:15	0	0	0	98	138	0	181	0	174	0	220	14	825
17:30	0	0	0	94	125	0	186	0	157	0	201	8	771
17:45	0	0	0	84	131	0	176	0	161	0	189	9	750

Total Volume:	0	0	0	759	1291	0	1519	0	1413	0	1574	95	6651
Approach %	0%	0%	0%	37%	63%	0%	52%	0%	48%	0%	94%	6%	

Peak Hr Begin:	16:30												
PHV	0	0	0	424	716	0	798	0	772	0	837	43	3590
PHF	0.000			0.922			0.948			0.940			0.963

Pedestrian/Bicycle Count Report

Location ID: 8
 North/South: I-5 Northbound Ramps
 East/West: Magic Mountain Pkwy

Date: 11/16/17
 City: Santa Clarita, CA

Leg:	North		East		South		West	
	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	1	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	1	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	1	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	1	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	2	0	0	0
17:30	0	0	0	0	1	0	0	0
17:45	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

T218

DATE: Tue, May 14, 19	LOCATION: NORTH & SOUTH: EAST & WEST:	Santa Clarita Valencia Magic Mountain	PROJECT #: LOCATION #: CONTROL:	SC2197 57 SIGNAL
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NOTES:

AM
PM
MD
OTHER
OTHER

▲
N
◀ W
E ▶
S
▼

Add U-Turns to Left Turns

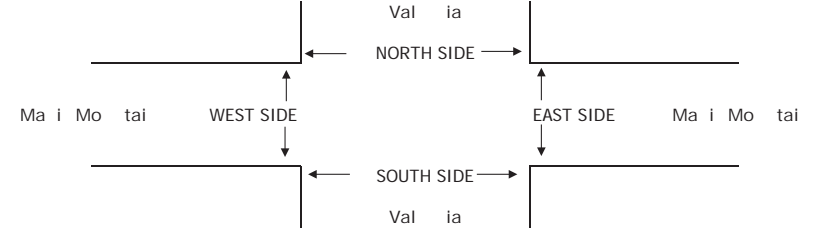
LANES:	NORTHBOUND <small>Valencia</small>			SOUTHBOUND <small>Valencia</small>			EASTBOUND <small>Ma i c Mountain</small>			WESTBOUND <small>Ma i c Mountain</small>			TOTAL
	NL 1	NT 3	NR 1	SL 1	ST 3	SR 2	EL 2	ET 2	ER 0	WL 2	WT 2	WR 0	
7:00 AM	4	112	24	2	342	82	23	27	3	21	47	3	690
7:15 AM	3	150	25	7	381	127	31	33	1	27	67	6	858
7:30 AM	1	174	25	6	434	143	29	43	2	40	67	10	974
7:45 AM	8	223	26	1	477	132	41	47	6	55	97	9	1,122
8:00 AM	12	210	31	7	437	151	47	58	8	48	84	14	1,107
8:15 AM	11	197	26	10	327	141	30	48	16	44	91	12	953
8:30 AM	8	172	30	9	251	106	53	41	9	40	71	16	806
8:45 AM	5	160	26	5	361	109	46	57	10	56	79	25	939
VOLUMES	52	1,398	213	47	3,010	991	300	354	55	331	603	95	7,449
APPROACH %	3%	84%	13%	1%	74%	24%	42%	50%	8%	32%	59%	9%	
APP/DEPART	1,663	/	1,793	4,048	/	3,409	709	/	623	1,029	/	1,624	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
1	0	0	1	2
0	0	0	0	0
0	0	0	1	1
7	0	0	0	7
7	0	0	3	10
4	0	0	1	5
3	0	0	3	6
22	0	0	9	31

		7:30 AM											
BEGIN PEAK HR													
VOLUMES	32	804	108	24	1,675	567	147	196	32	187	339	45	4,156
APPROACH %	3%	85%	11%	1%	74%	25%	39%	52%	9%	33%	59%	8%	
PEAK HR FACTOR		0.918			0.929			0.830			0.887		0.926
APP/DEPART	944	/	996	2,266	/	1,904	375	/	332	571	/	924	0

4:00 PM	16	367	58	19	258	109	126	78	6	64	97	19	1,217
4:15 PM	25	411	55	18	267	89	128	107	8	40	79	21	1,248
4:30 PM	18	420	56	23	259	89	150	111	12	61	97	25	1,321
4:45 PM	23	397	62	19	260	102	167	125	4	46	88	13	1,306
5:00 PM	21	419	57	29	286	84	187	128	8	63	91	29	1,402
5:15 PM	13	438	54	23	266	100	143	151	8	57	108	24	1,385
5:30 PM	12	449	47	12	269	87	183	151	10	55	95	20	1,390
5:45 PM	6	404	39	16	299	92	162	131	4	49	86	23	1,311
VOLUMES	134	3,305	428	159	2,164	752	1,246	982	60	435	741	174	10,580
APPROACH %	3%	85%	11%	5%	70%	24%	54%	43%	3%	32%	55%	13%	
APP/DEPART	3,867	/	4,727	3,075	/	2,662	2,288	/	1,597	1,350	/	1,594	0
BEGIN PEAK HR													
VOLUMES	52	1,710	197	80	1,120	363	675	561	30	224	380	96	5,488
APPROACH %	3%	87%	10%	5%	72%	23%	53%	44%	2%	32%	54%	14%	
PEAK HR FACTOR		0.964			0.960			0.920			0.926		0.979
APP/DEPART	1,959	/	2,483	1,563	/	1,369	1,266	/	852	700	/	784	0

5	0	0	5	10
6	0	0	0	6
6	0	0	5	11
5	0	0	4	9
8	1	0	4	13
1	0	0	3	4
1	0	0	5	6
1	1	0	4	6
33	2	0	30	65



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	1	0	1	1	3
7:30 AM	3	0	0	3	6
7:45 AM	0	1	1	1	3
8:00 AM	0	1	0	1	2
8:15 AM	0	1	0	1	2
8:30 AM	1	1	0	1	3
8:45 AM	0	0	1	2	3
TOTAL	5	4	3	10	22
AM BEGIN PEAK HR					
4:00 PM	1	2	1	0	4
4:15 PM	0	0	1	2	3
4:30 PM	4	7	3	3	17
4:45 PM	2	1	2	0	5
5:00 PM	0	1	1	0	2
5:15 PM	4	0	2	0	6
5:30 PM	1	4	0	0	5
5:45 PM	1	3	2	1	7
TOTAL	13	18	12	6	49
PM BEGIN PEAK HR					

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	1	0	1	0	2
7:30 AM	3	0	0	3	6
7:45 AM	0	1	1	1	3
8:00 AM	0	1	0	1	2
8:15 AM	0	1	0	1	2
8:30 AM	1	1	0	1	3
8:45 AM	0	0	1	2	3
TOTAL	5	4	3	7	19
AM BEGIN PEAK HR					
4:00 PM	1	2	1	0	4
4:15 PM	0	0	1	2	3
4:30 PM	4	7	3	3	17
4:45 PM	2	1	2	0	5
5:00 PM	0	0	0	0	0
5:15 PM	4	0	1	0	5
5:30 PM	1	4	0	0	5
5:45 PM	1	2	2	1	6
TOTAL	13	16	9	6	44
PM BEGIN PEAK HR					

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	1	1
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	2	2
TOTAL	0	0	0	3	3
AM BEGIN PEAK HR					
4:00 PM	0	0	0	0	0
4:15 PM	0	0	1	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	1	1	0	2
5:15 PM	0	0	1	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	1	0	0	1
TOTAL	0	2	3	0	5
PM BEGIN PEAK HR					

08 SCTH - TMC

Thu Feb 21, 2019

Full Length (6 AM-10 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS

Provided by: IDAX Data Solutions
1305 N 30th St, Renton, WA, 98056, US

Leg Direction	North Bouquet Canyon Rd						East Newhall Ranch Rd						South Bouquet Canyon Rd						West Newhall Ranch Rd						Int
	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2019-02-21 6:00AM	310	1617	159	0	2086	1	117	872	292	14	1295	0	37	243	237	0	517	0	171	389	118	0	678	2	4576
7:00AM	483	1973	396	0	2852	1	374	1439	367	13	2193	3	102	602	342	0	1046	7	273	573	188	0	1034	2	7125
8:00AM	368	1652	363	1	2384	1	169	1285	424	30	1908	4	120	596	347	0	1063	1	326	641	203	0	1170	3	6525
9:00AM	244	1137	258	0	1639	2	156	760	300	31	1247	8	101	597	331	0	1029	10	232	447	276	1	956	4	4871
10:00AM	203	1131	287	3	1624	4	175	650	300	26	1151	13	132	703	343	0	1178	9	252	518	328	0	1098	12	5051
11:00AM	222	1054	300	8	1584	1	174	665	334	31	1204	6	170	897	407	0	1474	7	301	616	366	0	1283	12	5545
12:00PM	240	981	328	8	1557	12	220	757	302	53	1332	1	240	1126	467	1	1834	4	285	672	460	4	1421	16	6144
1:00PM	213	960	299	0	1472	6	367	863	317	48	1595	6	230	1245	483	0	1958	2	210	802	436	0	1448	5	6473
2:00PM	267	1163	439	0	1869	1	343	831	310	40	1524	4	188	1190	445	0	1823	2	296	963	529	0	1788	8	7004
3:00PM	279	1184	436	1	1900	1	338	998	326	38	1700	8	273	1207	435	1	1916	8	360	1255	621	2	2238	5	7754
4:00PM	240	1079	357	0	1676	0	338	954	308	44	1644	1	329	1533	427	1	2290	2	392	1343	696	1	2432	5	8042
5:00PM	217	1065	368	10	1660	3	295	940	326	42	1603	2	368	1738	495	0	2601	4	348	1504	746	3	2601	2	8465
6:00PM	197	983	318	2	1500	4	279	685	284	63	1311	1	314	1641	449	0	2404	0	309	1106	477	3	1895	1	7110
7:00PM	170	678	249	0	1097	1	217	553	171	48	989	2	275	1242	383	1	1901	0	165	677	337	4	1183	1	5170
8:00PM	113	505	150	0	768	0	161	391	150	35	737	0	202	827	295	0	1324	1	120	499	256	1	876	1	3705
9:00PM	67	363	128	3	561	1	98	266	94	28	486	1	182	705	165	0	1052	1	73	314	156	1	544	1	2643
Total	3833	17525	4835	36	26229	39	3821	12909	4605	584	21919	60	3263	16092	6051	4	25410	58	4113	12319	6193	20	22645	80	96203
% Approach	14.6%	66.8%	18.4%	0.1%	-	-	17.4%	58.9%	21.0%	2.7%	-	-	12.8%	63.3%	23.8%	0%	-	-	18.2%	54.4%	27.3%	0.1%	-	-	-
% Total	4.0%	18.2%	5.0%	0%	27.3%	-	4.0%	13.4%	4.8%	0.6%	22.8%	-	3.4%	16.7%	6.3%	0%	26.4%	-	4.3%	12.8%	6.4%	0%	23.5%	-	-
Lights and Motorcycles	3753	17309	4776	36	25874	-	3752	12495	4562	583	21392	-	3232	15848	5826	4	24910	-	3998	11978	6117	20	22113	-	-94289
% Lights and Motorcycles	97.9%	98.8%	98.8%	100%	98.6%	-	98.2%	96.8%	99.1%	99.8%	97.6%	-	99.0%	98.5%	96.3%	100%	98.0%	-	97.2%	97.2%	98.8%	100%	97.7%	-	-98.0%
Heavy	80	213	59	0	352	-	69	414	43	1	527	-	31	240	225	0	496	-	113	339	76	0	528	-	-1903
% Heavy	2.1%	1.2%	1.2%	0%	1.3%	-	1.8%	3.2%	0.9%	0.2%	2.4%	-	1.0%	1.5%	3.7%	0%	2.0%	-	2.7%	2.8%	1.2%	0%	2.3%	-	-2.0%
Pedestrians	0	1	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1
% Pedestrians	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Bicycles on Road	0	2	0	0	2	-	0	0	0	0	0	-	0	4	0	0	4	-	2	2	0	0	4	-	10
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	38	-	-	-	-	-	51	-	-	-	-	-	55	-	-	-	-	-	66	-
% Pedestrians	-	-	-	-	-	-97.4%	-	-	-	-	-	-85.0%	-	-	-	-	-	-94.8%	-	-	-	-	-	-82.5%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	9	-	-	-	-	-	3	-	-	-	-	-	14	-
% Bicycles on Crosswalk	-	-	-	-	-	-2.6%	-	-	-	-	-	-15.0%	-	-	-	-	-	-5.2%	-	-	-	-	-	-17.5%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

08 SCTH - TMC

Thu Feb 21, 2019

Full Length (6 AM-10 PM)

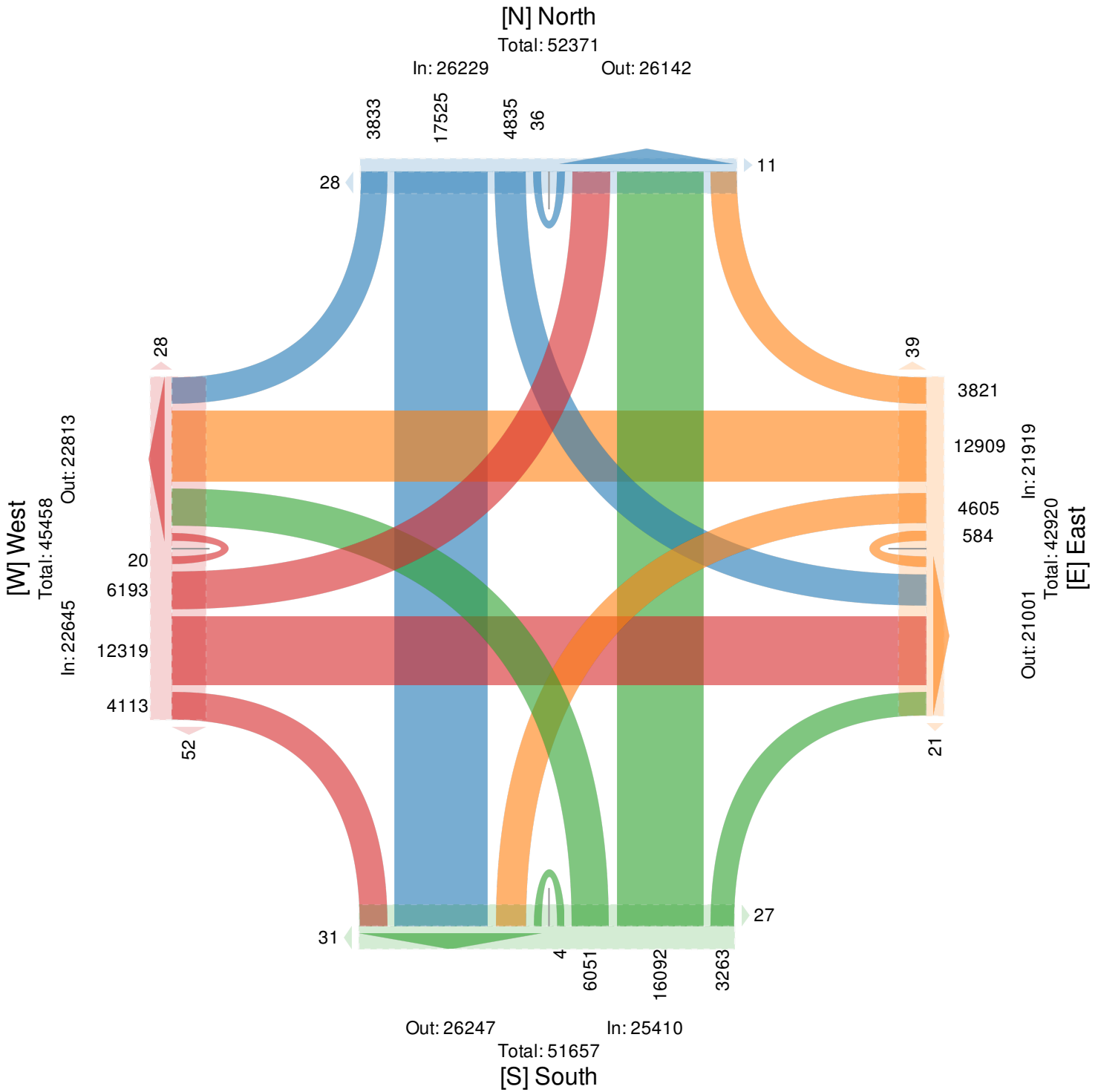
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS
 Provided by: IDAX Data
 Solutions
 1305 N 30th St,
 Renton, WA, 98056, US



08 SCTH - TMC

Thu Feb 21, 2019

AM Peak (7:30 AM - 8:30 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS

Provided by: IDAX Data Solutions
1305 N 30th St, Renton, WA, 98056, US

Leg Direction	North Southbound						East Westbound						South Northbound						West Eastbound						Int
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2019-02-21 7:30AM	143	499	124	0	766	1	162	394	97	3	656	1	27	196	101	0	324	6	72	169	59	0	300	1	2046
7:45AM	130	547	146	0	823	0	93	430	105	4	632	2	39	165	88	0	292	0	111	181	64	0	356	0	2103
8:00AM	129	523	131	0	783	0	35	335	99	9	478	0	28	131	82	0	241	1	106	198	64	0	368	0	1870
8:15AM	101	438	94	0	633	0	51	370	129	12	562	1	32	160	91	0	283	0	83	166	42	0	291	1	1769
Total	503	2007	495	0	3005	1	341	1529	430	28	2328	4	126	652	362	0	1140	7	372	714	229	0	1315	2	7788
% Approach	16.7%	66.8%	16.5%	0%	-	-	14.6%	65.7%	18.5%	1.2%	-	-	11.1%	57.2%	31.8%	0%	-	-	28.3%	54.3%	17.4%	0%	-	-	-
% Total	6.5%	25.8%	6.4%	0%	38.6%	-	4.4%	19.6%	5.5%	0.4%	29.9%	-	1.6%	8.4%	4.6%	0%	14.6%	-	4.8%	9.2%	2.9%	0%	16.9%	-	-
PHF	0.879	0.917	0.848	-	0.913	-	0.526	0.889	0.833	0.583	0.887	-	0.808	0.832	0.896	-	0.880	-	0.838	0.902	0.895	-	0.893	-	0.926
Lights and Motorcycles	498	1993	493	0	2984	-	338	1508	425	28	2299	-	124	636	347	0	1107	-	361	684	220	0	1265	-	7655
% Lights and Motorcycles	99.0%	99.3%	99.6%	0%	99.3%	-	99.1%	98.6%	98.8%	100%	98.8%	-	98.4%	97.5%	95.9%	0%	97.1%	-	97.0%	95.8%	96.1%	0%	96.2%	-	98.3%
Heavy	5	14	2	0	21	-	3	21	5	0	29	-	2	16	15	0	33	-	11	30	9	0	50	-	133
% Heavy	1.0%	0.7%	0.4%	0%	0.7%	-	0.9%	1.4%	1.2%	0%	1.2%	-	1.6%	2.5%	4.1%	0%	2.9%	-	3.0%	4.2%	3.9%	0%	3.8%	-	1.7%
Pedestrians	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Pedestrians	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	7	-	-	-	-	-	2	-
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	75.0%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	25.0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

08 SCTH - TMC

Thu Feb 21, 2019

AM Peak (7:30 AM - 8:30 AM)

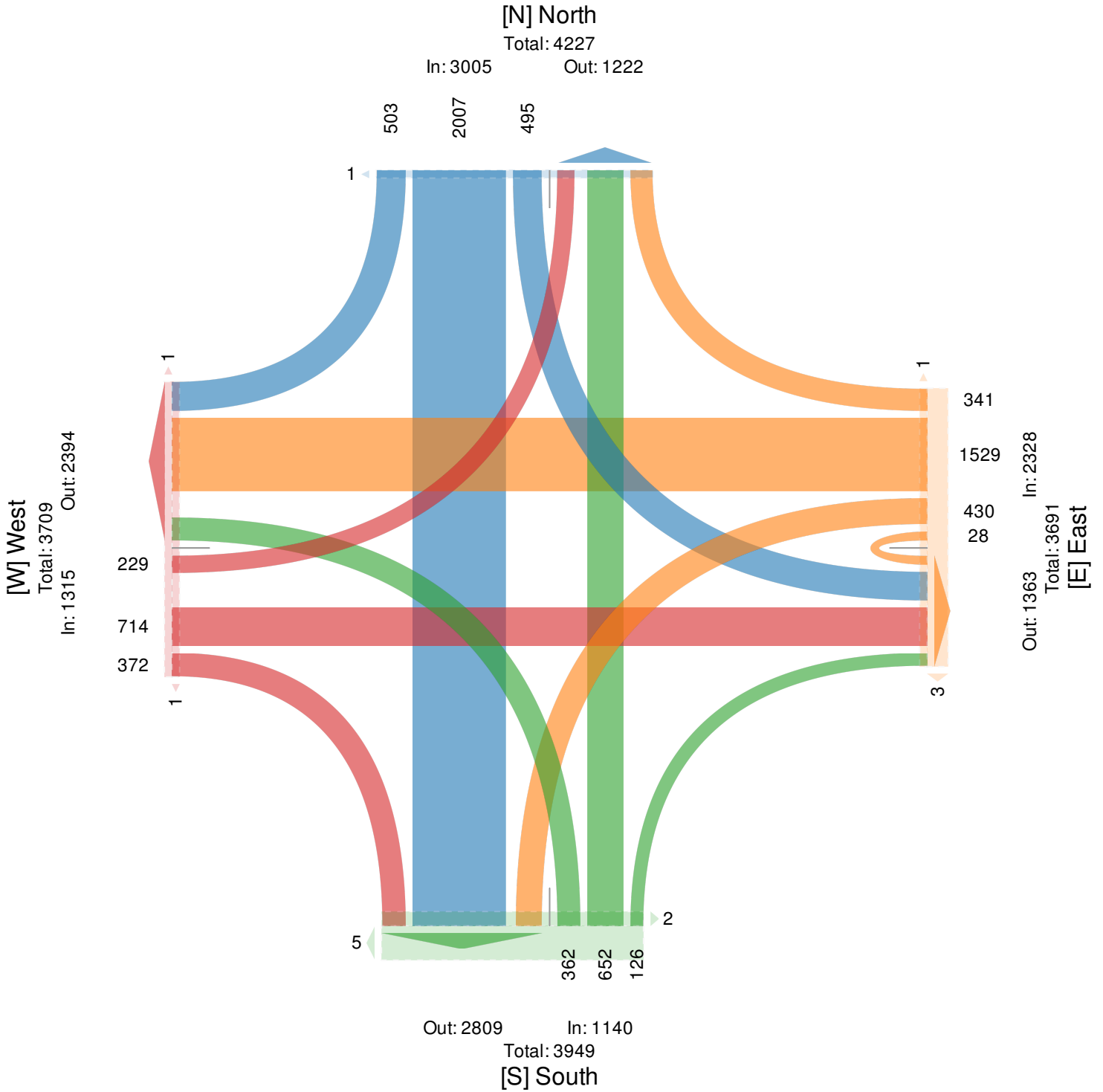
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS
 Provided by: IDAX Data
 Solutions
 1305 N 30th St,
 Renton, WA, 98056, US



08 S C T H - T M C

Thu Feb 21, 2019

Midday Peak (12 PM - 1 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS

Provided by: IDAX Data Solutions
1305 N 30th St, Renton, WA, 98056, US

Leg Direction	North Southbound						East Westbound						South Northbound						West Eastbound						Int
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2019-02-21 12:00PM	45	243	73	2	363	4	36	186	88	10	320	0	42	250	122	0	414	4	63	163	119	0	345	5	1442
12:15PM	51	244	72	2	369	2	57	209	83	23	372	0	48	298	113	0	459	0	71	146	129	0	346	3	1546
12:30PM	78	238	99	2	417	6	52	182	67	12	313	1	74	304	110	0	488	0	78	180	115	2	375	7	1593
12:45PM	66	256	84	2	408	0	75	180	64	8	327	0	76	274	122	1	473	0	73	183	97	2	355	1	1563
Total	240	981	328	8	1557	12	220	757	302	53	1332	1	240	1126	467	1	1834	4	285	672	460	4	1421	16	6144
% Approach	15.4%	63.0%	21.1%	0.5%	-	-	16.5%	56.8%	22.7%	4.0%	-	-	13.1%	61.4%	25.5%	0.1%	-	-	20.1%	47.3%	32.4%	0.3%	-	-	-
% Total	3.9%	16.0%	5.3%	0.1%	25.3%	-	3.6%	12.3%	4.9%	0.9%	21.7%	-	3.9%	18.3%	7.6%	0%	29.9%	-	4.6%	10.9%	7.5%	0.1%	23.1%	-	-
PHF	0.769	0.958	0.828	1.000	0.933	-	0.733	0.906	0.858	0.576	0.895	-	0.789	0.927	0.957	0.250	0.940	-	0.913	0.918	0.891	0.500	0.947	-	0.965
Lights and Motorcycles	235	973	316	8	1532	-	215	726	298	52	1291	-	239	1098	452	1	1790	-	278	646	456	4	1384	-	5997
% Lights and Motorcycles	97.9%	99.2%	96.3%	100%	98.4%	-	97.7%	95.9%	98.7%	98.1%	96.9%	-	99.6%	97.5%	96.8%	100%	97.6%	-	97.5%	96.1%	99.1%	100%	97.4%	-	97.6%
Heavy	5	8	12	0	25	-	5	31	4	1	41	-	1	26	15	0	42	-	7	26	4	0	37	-	145
% Heavy	2.1%	0.8%	3.7%	0%	1.6%	-	2.3%	4.1%	1.3%	1.9%	3.1%	-	0.4%	2.3%	3.2%	0%	2.3%	-	2.5%	3.9%	0.9%	0%	2.6%	-	2.4%
Pedestrians	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Pedestrians	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	2	0	0	2	-	0	0	0	0	0	-	2
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.2%	0%	0%	0.1%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	12	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	16	-
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	75.0%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	25.0%	-	-	-	-	-	0%	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

08 SCTH - TMC

Thu Feb 21, 2019

Midday Peak (12 PM - 1 PM)

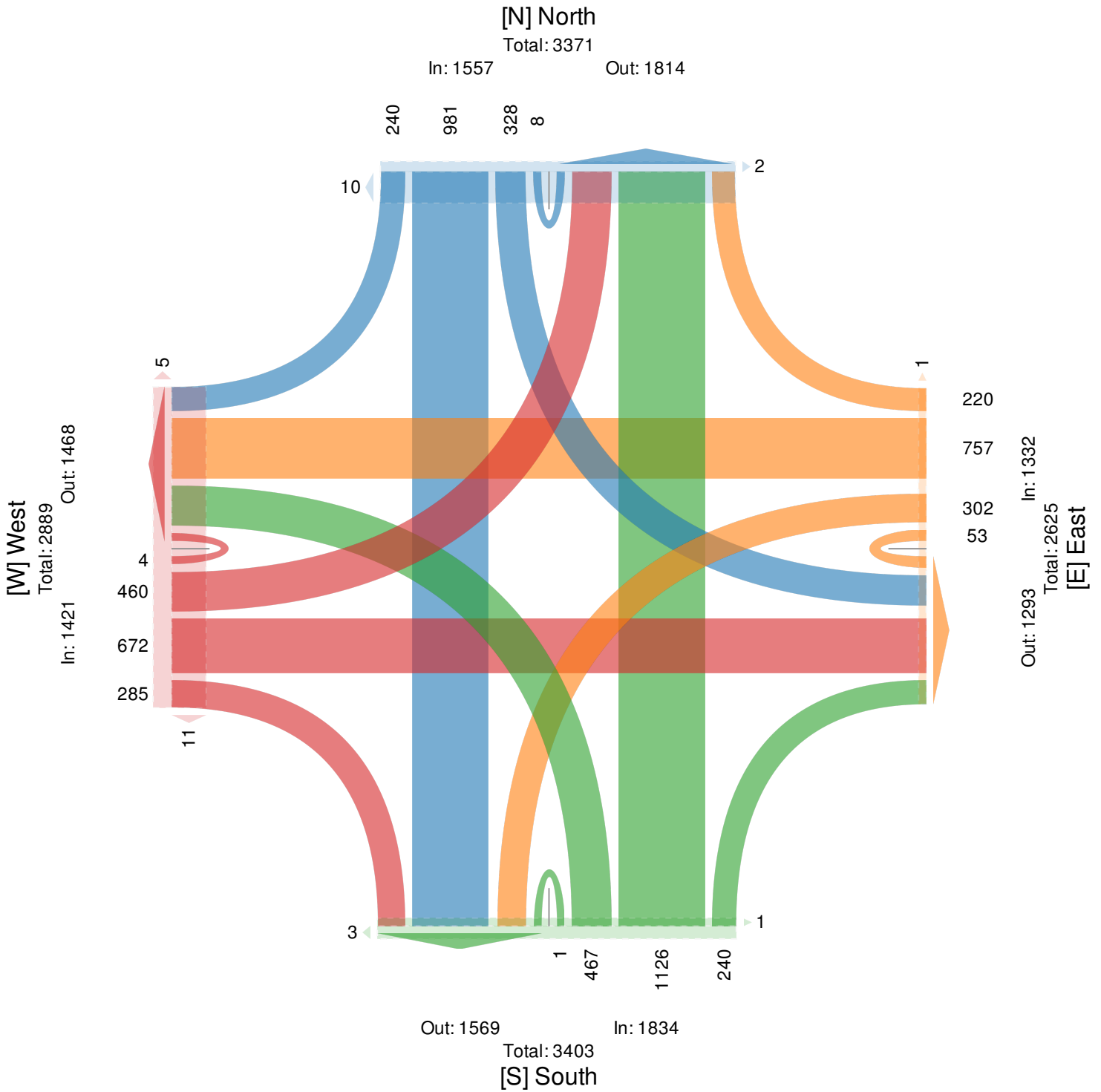
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS
 Provided by: IDAX Data Solutions
 1305 N 30th St,
 Renton, WA, 98056, US



08 SCTH - TMC

Thu Feb 21, 2019

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St, Renton, WA, 98056, US

Leg Direction	North Southbound						East Westbound						South Northbound						West Eastbound						Int
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2019-02-21 4:45PM	58	278	86	0	422	0	83	239	88	12	422	0	77	377	127	0	581	1	112	396	173	0	681	0	2106
5:00PM	68	284	86	2	440	0	81	198	65	8	352	1	85	402	136	0	623	0	88	395	189	0	672	0	2087
5:15PM	46	260	89	1	396	1	68	245	102	9	424	0	106	452	132	0	690	3	98	414	173	1	686	1	2196
5:30PM	43	258	96	5	402	2	72	257	68	13	410	0	96	425	127	0	648	0	74	357	191	1	623	0	2083
Total	215	1080	357	8	1660	3	304	939	323	42	1608	1	364	1656	522	0	2542	4	372	1562	726	2	2662	1	8472
% Approach	13.0%	65.1%	21.5%	0.5%	-	-	18.9%	58.4%	20.1%	2.6%	-	-	14.3%	65.1%	20.5%	0%	-	-	14.0%	58.7%	27.3%	0.1%	-	-	-
% Total	2.5%	12.7%	4.2%	0.1%	19.6%	-	3.6%	11.1%	3.8%	0.5%	19.0%	-	4.3%	19.5%	6.2%	0%	30.0%	-	4.4%	18.4%	8.6%	0%	31.4%	-	-
PHF	0.790	0.951	0.930	0.400	0.943	-	0.916	0.913	0.792	0.808	0.948	-	0.858	0.916	0.960	-	0.921	-	0.830	0.943	0.950	0.500	0.970	-	0.964
Lights and Motorcycles	212	1065	351	8	1636	-	304	925	322	42	1593	-	364	1648	513	0	2525	-	359	1546	723	2	2630	-	8384
% Lights and Motorcycles	98.6%	98.6%	98.3%	100%	98.6%	-	100%	98.5%	99.7%	100%	99.1%	-	100%	99.5%	98.3%	0%	99.3%	-	96.5%	99.0%	99.6%	100%	98.8%	-	99.0%
Heavy	3	15	6	0	24	-	0	14	1	0	15	-	0	8	9	0	17	-	13	16	3	0	32	-	88
% Heavy	1.4%	1.4%	1.7%	0%	1.4%	-	0%	1.5%	0.3%	0%	0.9%	-	0%	0.5%	1.7%	0%	0.7%	-	3.5%	1.0%	0.4%	0%	1.2%	-	1.0%
Pedestrians	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Pedestrians	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	1	-
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	75.0%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	25.0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

08 SCTH - TMC

Thu Feb 21, 2019

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

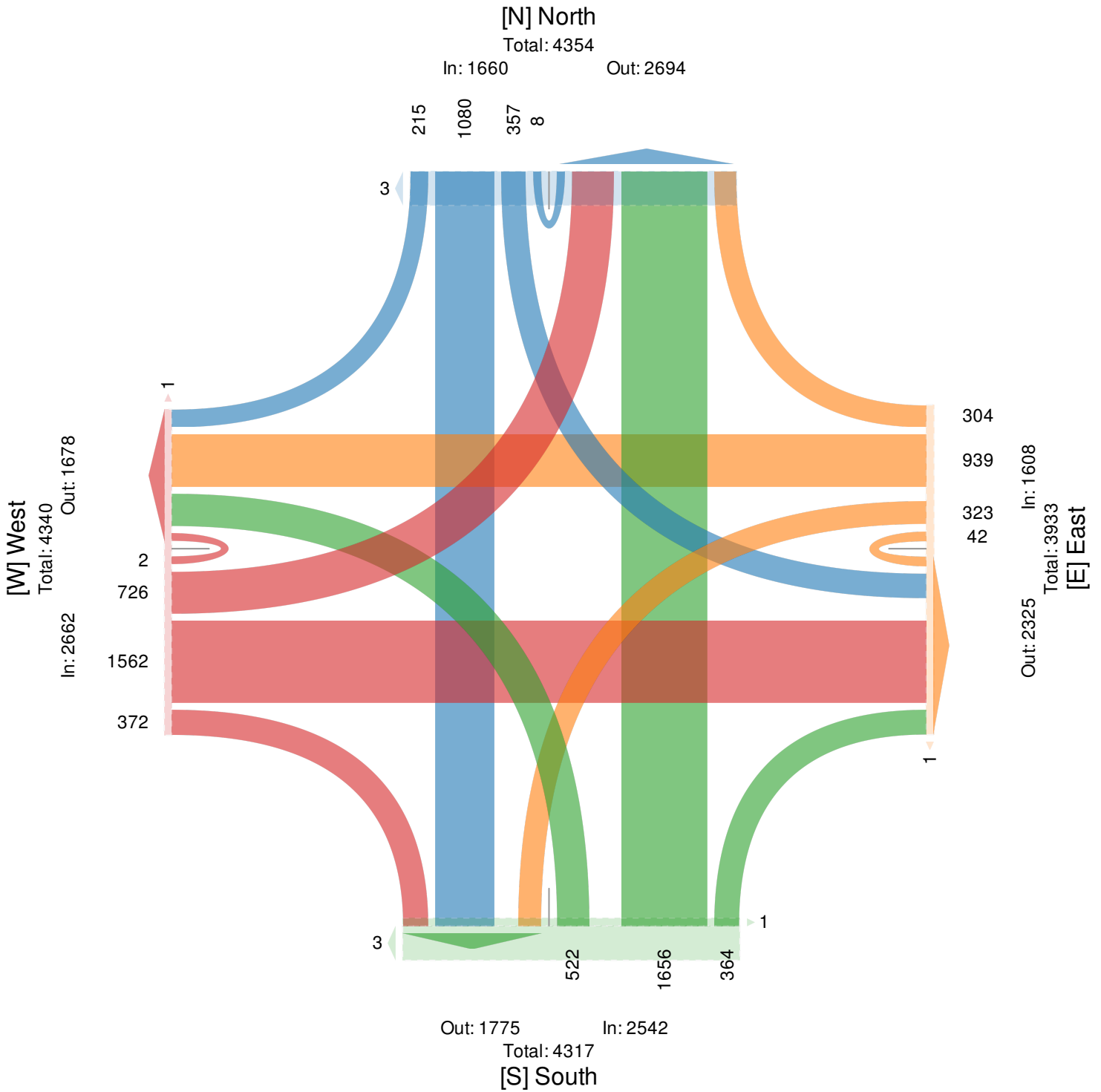
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 623330, Location: 34.427185, -118.537164, Site Code: 08



DATA SOLUTIONS
Provided by: IDAX Data
Solutions
1305 N 30th St,
Renton, WA, 98056, US



29 SCTHU - TMC

Thu Jan 24, 2019

Full Length (6 AM-10 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St, Renton, WA, 98056, US

Leg Direction	Bouquet Canyon Rd Southbound						Soledad Canyon Rd Westbound						Bouquet Canyon Rd Northbound						Valencia Blvd Eastbound						Int
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2019-01-24 6:00AM	640	1138	251	0	2029	0	148	702	351	0	1201	3	182	289	15	0	486	1	8	228	100	0	336	0	4052
7:00AM	913	1353	235	0	2501	4	291	1079	524	0	1894	4	307	568	28	0	903	2	8	446	251	0	705	0	6003
8:00AM	844	1221	251	1	2317	2	147	960	359	0	1466	7	285	559	26	0	870	8	10	568	311	0	889	0	5542
9:00AM	627	873	201	0	1701	1	161	811	302	0	1274	13	253	511	30	0	794	11	30	569	338	0	937	0	4706
10:00AM	551	710	200	0	1461	0	206	827	286	2	1321	4	281	572	48	0	901	5	32	711	463	0	1206	0	4889
11:00AM	607	793	235	1	1636	2	236	855	309	0	1400	8	309	689	49	0	1047	7	29	799	576	0	1404	0	5487
12:00PM	604	806	255	0	1665	6	260	798	303	0	1361	13	397	831	51	0	1279	7	41	874	706	0	1621	1	5926
1:00PM	546	665	221	0	1432	2	243	754	295	0	1292	6	420	858	51	0	1329	10	45	915	743	0	1703	0	5756
2:00PM	689	869	289	0	1847	3	236	749	382	0	1367	3	422	919	49	0	1390	4	42	1051	753	0	1846	1	6450
3:00PM	608	833	338	0	1779	2	239	849	322	0	1410	11	458	1039	38	0	1535	1	15	1252	944	0	2211	0	6935
4:00PM	550	821	321	0	1692	2	260	653	364	1	1278	12	510	1082	33	0	1625	0	20	1267	887	0	2174	0	6769
5:00PM	628	963	356	0	1947	6	296	782	401	0	1479	13	508	1179	25	0	1712	12	26	1334	1137	0	2497	0	7635
6:00PM	489	620	263	2	1374	4	302	688	346	1	1337	3	448	1020	24	0	1492	6	35	1107	1015	0	2157	2	6360
7:00PM	419	508	193	1	1121	1	273	414	224	1	912	6	296	953	30	0	1279	0	23	811	812	0	1646	0	4958
8:00PM	288	408	142	1	839	1	131	337	151	1	620	2	211	636	24	0	871	4	10	625	523	0	1158	0	3488
9:00PM	196	330	98	1	625	7	117	224	134	0	475	1	164	563	21	0	748	1	10	489	427	0	926	2	2774
Total	9199	12911	3849	7	25966	43	3546	11482	5053	6	20087	109	5451	12268	542	0	18261	79	384	13046	9986	0	23416	6	87730
% Approach	35.4%	49.7%	14.8%	0%	-	-	17.7%	57.2%	25.2%	0%	-	-	29.9%	67.2%	3.0%	0%	-	-	1.6%	55.7%	42.6%	0%	-	-	-
% Total	10.5%	14.7%	4.4%	0%	29.6%	-	4.0%	13.1%	5.8%	0%	22.9%	-	6.2%	14.0%	0.6%	0%	20.8%	-	0.4%	14.9%	11.4%	0%	26.7%	-	-
Lights and Motorcycles	9125	12707	3754	7	25593	-	3437	11302	4885	6	19630	-	5270	12003	522	0	17795	-	379	12836	9922	0	23137	-	86155
% Lights and Motorcycles	99.2%	98.4%	97.5%	100%	98.6%	-	96.9%	98.4%	96.7%	100%	97.7%	-	96.7%	97.8%	96.3%	0%	97.4%	-	98.7%	98.4%	99.4%	0%	98.8%	-	98.2%
Heavy	73	204	94	0	371	-	109	179	167	0	455	-	181	264	20	0	465	-	5	209	63	0	277	-	1568
% Heavy	0.8%	1.6%	2.4%	0%	1.4%	-	3.1%	1.6%	3.3%	0%	2.3%	-	3.3%	2.2%	3.7%	0%	2.5%	-	1.3%	1.6%	0.6%	0%	1.2%	-	1.8%
Bicycles on Road	1	0	1	0	2	-	0	1	1	0	2	-	0	1	0	0	1	-	0	1	1	0	2	-	7
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	41	-	-	-	-	-	105	-	-	-	-	-	73	-	-	-	-	-	6	
% Pedestrians	-	-	-	-	-	95.3%	-	-	-	-	-	96.3%	-	-	-	-	-	92.4%	-	-	-	-	-	100%	
Bicycles on Crosswalk	-	-	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	6	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	4.7%	-	-	-	-	-	3.7%	-	-	-	-	-	7.6%	-	-	-	-	-	0%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

29 SCTHU - TMC

Thu Jan 24, 2019

Full Length (6 AM-10 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

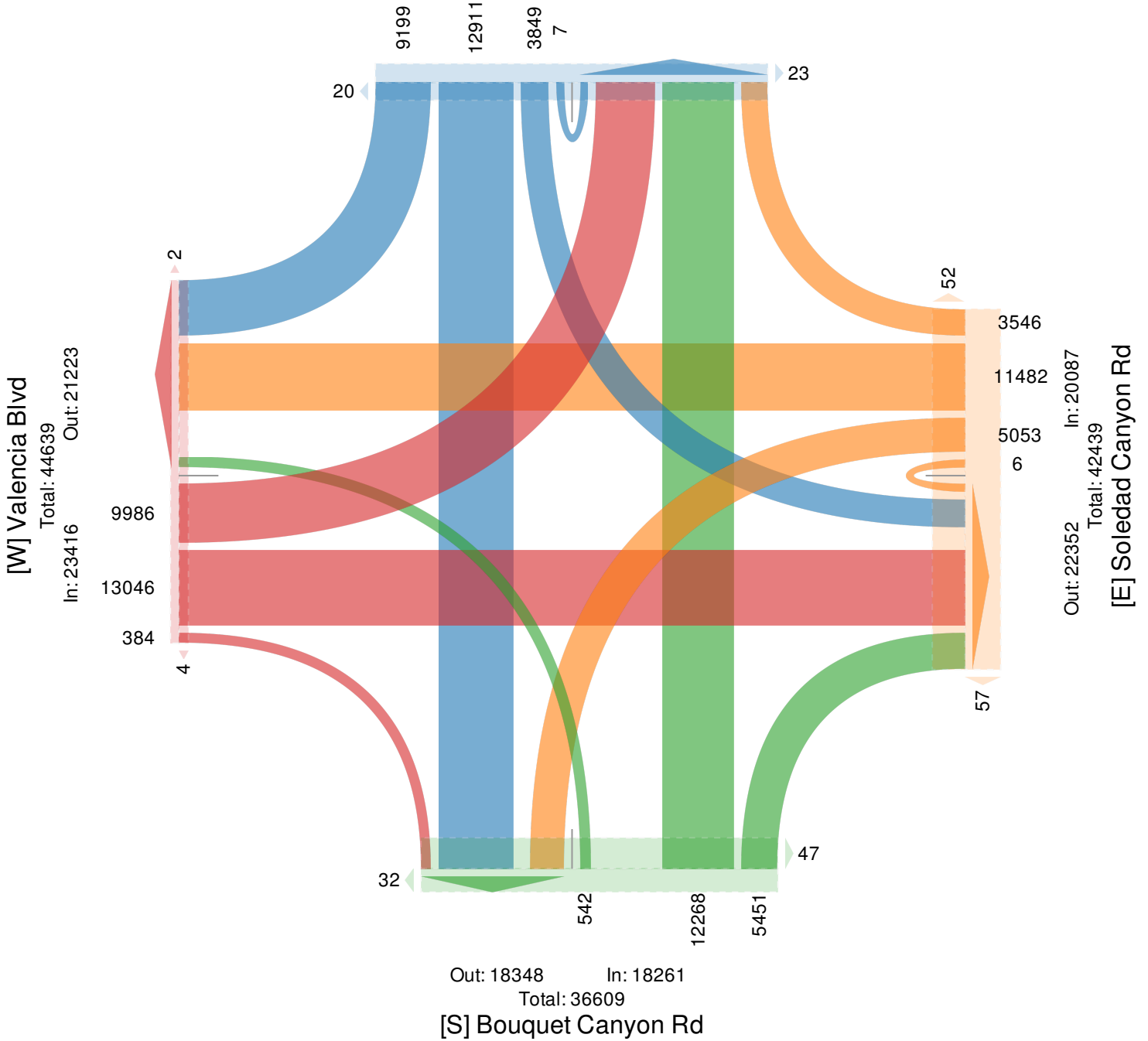
Renton, WA, 98056, US

[N] Bouquet Canyon Rd

Total: 51773

In: 25966

Out: 25807



29 SCTHU - TMC

Thu Jan 24, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions
1305 N 30th St, Renton, WA, 98056, US

Leg Direction	Bouquet Canyon Rd Southbound							Soledad Canyon Rd Westbound							Bouquet Canyon Rd Northbound							Valencia Blvd Eastbound									
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2019-01-24 7:15AM	228	327	43	0	598	2	71	260	146	0	477	1	68	136	9	0	213	1	1	100	61	0	162	0	1450						
7:30AM	218	374	70	0	662	0	103	289	126	0	518	1	77	150	4	0	231	0	2	134	66	0	202	0	1613						
7:45AM	258	318	97	0	673	0	60	294	135	0	489	2	98	159	9	0	266	1	4	131	88	0	223	0	1651						
8:00AM	239	307	91	0	637	0	40	257	112	0	409	3	103	159	10	0	272	4	2	160	76	0	238	0	1556						
Total	943	1326	301	0	2570	2	274	1100	519	0	1893	7	346	604	32	0	982	6	9	525	291	0	825	0	6270						
% Approach	36.7%	51.6%	11.7%	0%	-	-	14.5%	58.1%	27.4%	0%	-	-	35.2%	61.5%	3.3%	0%	-	-	1.1%	63.6%	35.3%	0%	-	-	-						
% Total	15.0%	21.1%	4.8%	0%	41.0%	-	4.4%	17.5%	8.3%	0%	30.2%	-	5.5%	9.6%	0.5%	0%	15.7%	-	0.1%	8.4%	4.6%	0%	13.2%	-	-						
PHF	0.914	0.886	0.776	-	0.955	-	0.665	0.935	0.889	-	0.914	-	0.840	0.950	0.800	-	0.903	-	0.563	0.820	0.827	-	0.867	-	0.949						
Lights and Motorcycles	935	1310	294	0	2539	-	266	1086	500	0	1852	-	331	587	30	0	948	-	8	505	286	0	799	-	6138						
% Lights and Motorcycles	99.2%	98.8%	97.7%	0%	98.8%	-	97.1%	98.7%	96.3%	0%	97.8%	-	95.7%	97.2%	93.8%	0%	96.5%	-	88.9%	96.2%	98.3%	0%	96.8%	-	97.9%						
Heavy	8	16	7	0	31	-	8	14	19	0	41	-	15	17	2	0	34	-	1	20	5	0	26	-	132						
% Heavy	0.8%	1.2%	2.3%	0%	1.2%	-	2.9%	1.3%	3.7%	0%	2.2%	-	4.3%	2.8%	6.3%	0%	3.5%	-	11.1%	3.8%	1.7%	0%	3.2%	-	2.1%						
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0						
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%						
Pedestrians	-	-	-	-	-	2	-	-	-	-	-	7	-	-	-	-	-	6	-	-	-	-	-	0	-						
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	0	-						
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-						
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0	-						

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

29 SCTHU - TMC

Thu Jan 24, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

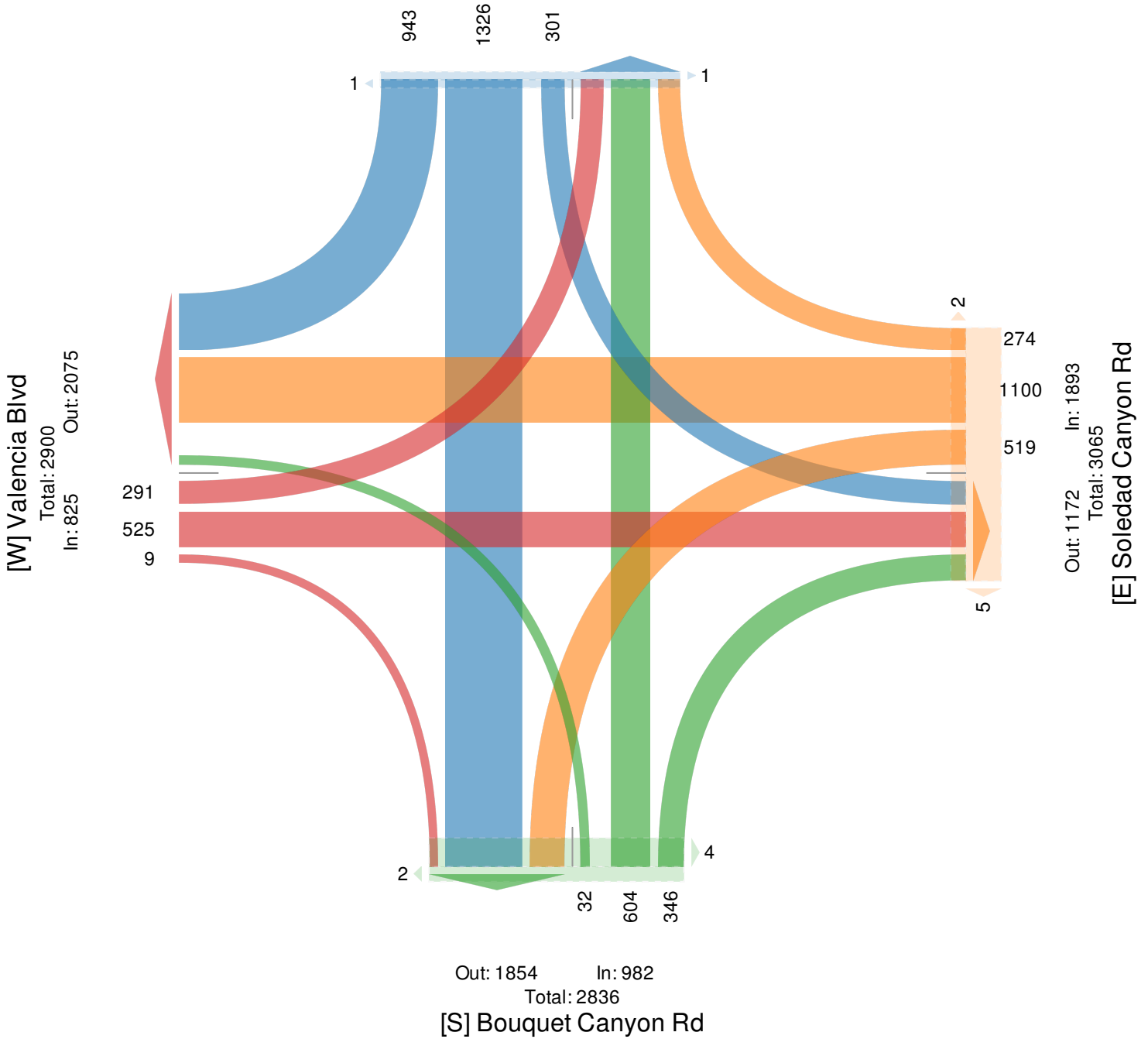
Renton, WA, 98056, US

[N] Bouquet Canyon Rd

Total: 3739

In: 2570

Out: 1169



29 SCTHU - TMC

Thu Jan 24, 2019

Midday Peak (11:45 AM - 12:45 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St, Renton, WA, 98056, US

Leg Direction	Bouquet Canyon Rd Southbound						Soledad Canyon Rd Westbound						Bouquet Canyon Rd Northbound						Valencia Blvd Eastbound						Int
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2019-01-24 11:45AM	191	231	66	0	488	0	61	218	90	0	369	1	58	188	16	0	262	0	7	209	140	0	356	0	1475
12:00PM	160	209	73	0	442	2	61	173	76	0	310	5	100	206	11	0	317	3	11	226	181	0	418	0	1487
12:15PM	138	211	64	0	413	1	69	211	84	0	364	2	106	238	12	0	356	2	7	203	182	0	392	1	1525
12:30PM	153	206	57	0	416	2	60	176	76	0	312	3	101	197	13	0	311	1	14	225	172	0	411	0	1450
Total	642	857	260	0	1759	5	251	778	326	0	1355	11	365	829	52	0	1246	6	39	863	675	0	1577	1	5937
% Approach	36.5%	48.7%	14.8%	0%	-	-	18.5%	57.4%	24.1%	0%	-	-	29.3%	66.5%	4.2%	0%	-	-	2.5%	54.7%	42.8%	0%	-	-	-
% Total	10.8%	14.4%	4.4%	0%	29.6%	-	4.2%	13.1%	5.5%	0%	22.8%	-	6.1%	14.0%	0.9%	0%	21.0%	-	0.7%	14.5%	11.4%	0%	26.6%	-	-
PHF	0.840	0.927	0.890	-	0.901	-	0.909	0.892	0.906	-	0.918	-	0.861	0.871	0.813	-	0.875	-	0.696	0.955	0.927	-	0.943	-	0.973
Lights and Motorcycles	632	834	252	0	1718	-	239	767	317	0	1323	-	353	812	44	0	1209	-	39	849	673	0	1561	-	5811
% Lights and Motorcycles	98.4%	97.3%	96.9%	0%	97.7%	-	95.2%	98.6%	97.2%	0%	97.6%	-	96.7%	97.9%	84.6%	0%	97.0%	-	100%	98.4%	99.7%	0%	99.0%	-	97.9%
Heavy	10	23	8	0	41	-	12	11	9	0	32	-	12	17	8	0	37	-	0	14	2	0	16	-	126
% Heavy	1.6%	2.7%	3.1%	0%	2.3%	-	4.8%	1.4%	2.8%	0%	2.4%	-	3.3%	2.1%	15.4%	0%	3.0%	-	0%	1.6%	0.3%	0%	1.0%	-	2.1%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	5	-	-	-	-	-	11	-	-	-	-	-	5	-	-	-	-	-	1	-
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	83.3%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	16.7%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

29 SCTHU - TMC

Thu Jan 24, 2019

Midday Peak (11:45 AM - 12:45 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

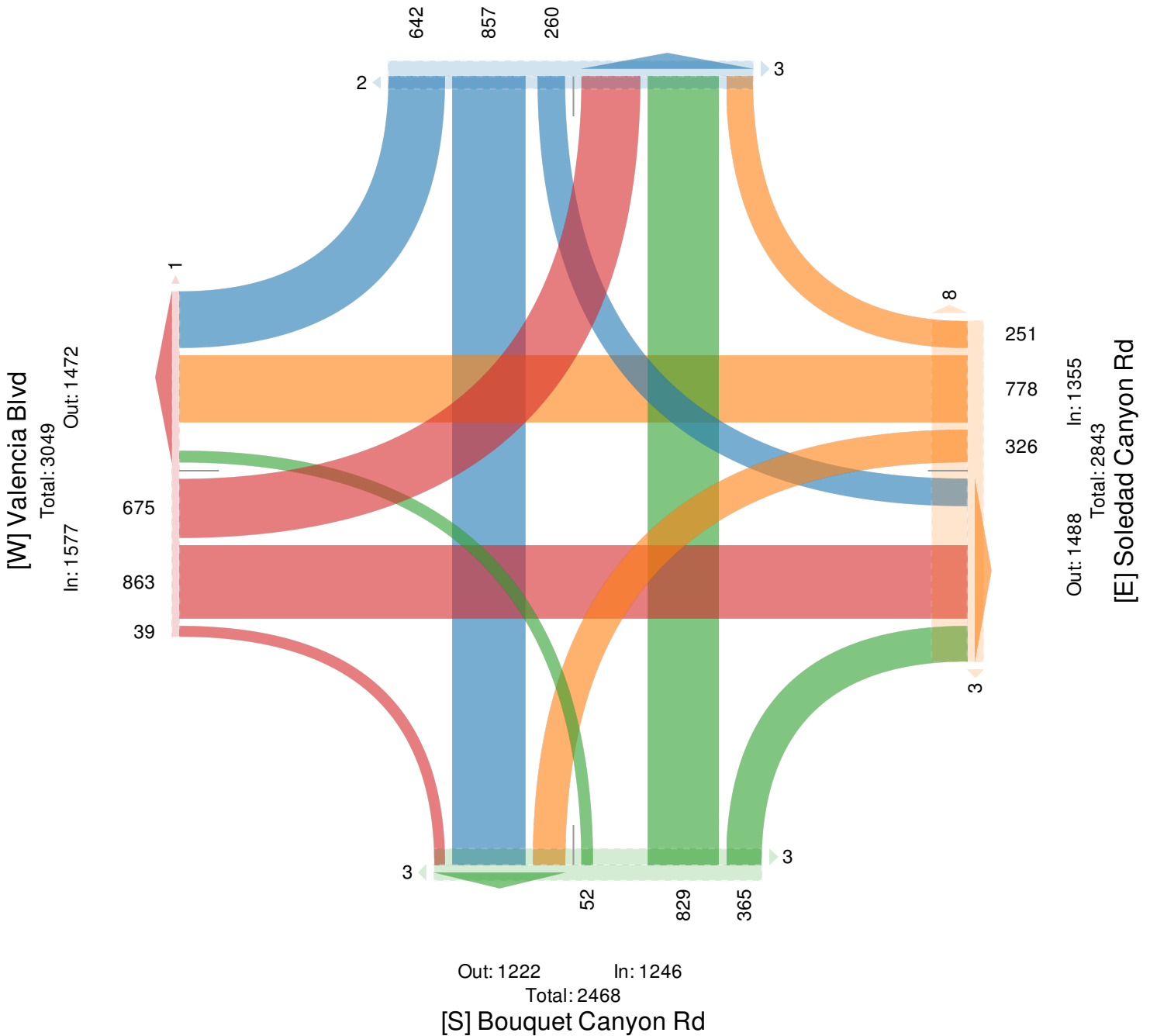
Renton, WA, 98056, US

[N] Bouquet Canyon Rd

Total: 3514

In: 1759

Out: 1755



29 SCTHU - TMC

Thu Jan 24, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions
1305 N 30th St, Renton, WA, 98056, US

Leg Direction	Bouquet Canyon Rd Southbound						Soledad Canyon Rd Westbound						Bouquet Canyon Rd Northbound						Valencia Blvd Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2019-01-24 5:00PM	155	273	92	0	520	2	69	216	97	0	382	6	108	268	9	0	385	4	9	246	289	0	544	0	1831
5:15PM	163	213	89	0	465	1	64	199	106	0	369	3	125	275	7	0	407	1	5	380	297	0	682	0	1923
5:30PM	154	224	90	0	468	1	65	187	96	0	348	0	148	321	3	0	472	5	3	335	250	0	588	0	1876
5:45PM	156	253	85	0	494	2	98	180	102	0	380	4	127	315	6	0	448	2	9	373	301	0	683	0	2005
Total	628	963	356	0	1947	6	296	782	401	0	1479	13	508	1179	25	0	1712	12	26	1334	1137	0	2497	0	7635
% Approach	32.3%	49.5%	18.3%	0%	-	-	20.0%	52.9%	27.1%	0%	-	-	29.7%	68.9%	1.5%	0%	-	-	1.0%	53.4%	45.5%	0%	-	-	-
% Total	8.2%	12.6%	4.7%	0%	25.5%	-	3.9%	10.2%	5.3%	0%	19.4%	-	6.7%	15.4%	0.3%	0%	22.4%	-	0.3%	17.5%	14.9%	0%	32.7%	-	-
PHF	0.963	0.882	0.967	-	0.936	-	0.755	0.905	0.946	-	0.968	-	0.858	0.918	0.694	-	0.907	-	0.722	0.878	0.944	-	0.914	-	0.952
Lights and Motorcycles	628	949	350	0	1927	-	291	771	383	0	1445	-	501	1174	25	0	1700	-	26	1326	1136	0	2488	-	7560
% Lights and Motorcycles	100%	98.5%	98.3%	0%	99.0%	-	98.3%	98.6%	95.5%	0%	97.7%	-	98.6%	99.6%	100%	0%	99.3%	-	100%	99.4%	99.9%	0%	99.6%	-	99.0%
Heavy	0	14	6	0	20	-	5	11	18	0	34	-	7	5	0	0	12	-	0	8	1	0	9	-	75
% Heavy	0%	1.5%	1.7%	0%	1.0%	-	1.7%	1.4%	4.5%	0%	2.3%	-	1.4%	0.4%	0%	0%	0.7%	-	0%	0.6%	0.1%	0%	0.4%	-	1.0%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	6	-	-	-	-	-	13	-	-	-	-	-	12	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

29 SCTHU - TMC

Thu Jan 24, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 615435, Location: 34.422712, -118.541013



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

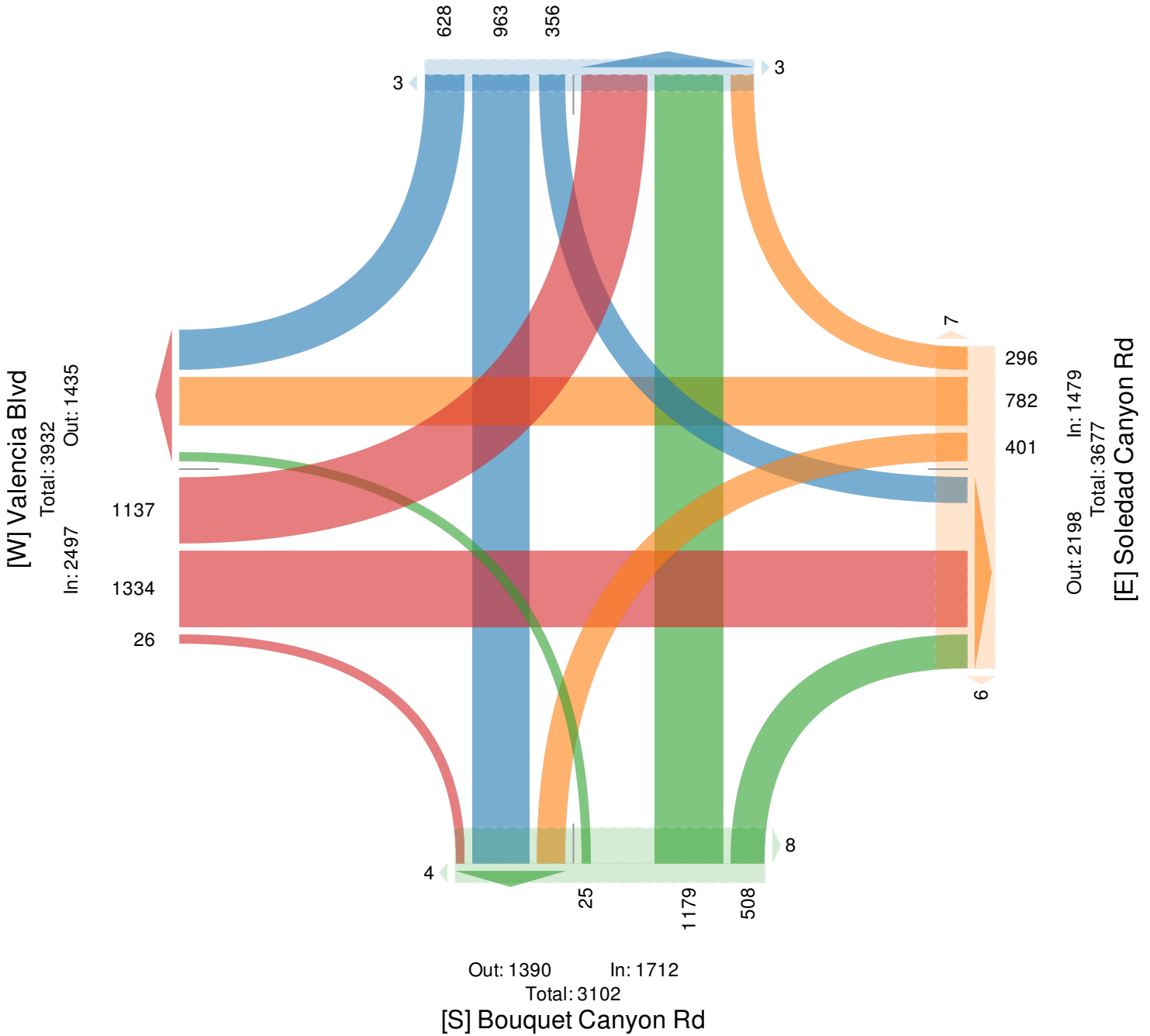
Renton, WA, 98056, US

[N] Bouquet Canyon Rd

Total: 4559

In: 1947

Out: 2612



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION: Santa Clarita
NORTH & SOUTH: Railroad
EAST & WEST: Magic Mountain

PROJECT #: SC2177
LOCATION #: 11
CONTROL: SIGNAL

NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

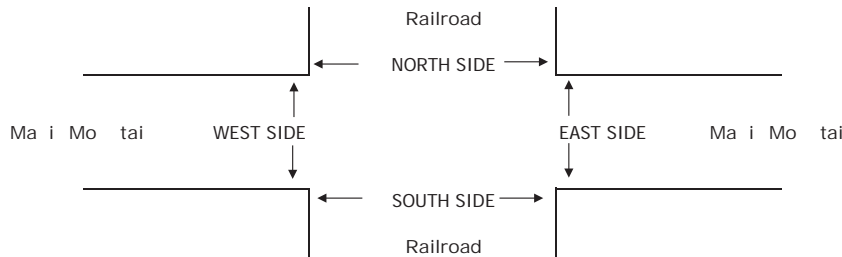
U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	58	158	0	0	378	21	10	0	30	0	0	0	655
	7:15 AM	44	233	0	0	395	36	18	0	48	0	0	0	774
	7:30 AM	86	235	0	0	433	31	16	0	55	0	0	0	856
	7:45 AM	120	297	0	0	373	41	18	0	62	0	0	0	911
	8:00 AM	70	270	0	0	366	39	29	0	50	0	0	0	824
	8:15 AM	83	247	0	0	384	49	32	0	70	0	0	0	865
	8:30 AM	82	243	0	0	343	49	42	0	69	0	0	0	828
	8:45 AM	95	255	0	0	361	54	31	0	62	0	0	0	858
	VOLUMES	638	1,938	0	0	3,033	320	196	0	446	0	0	0	6,571
	APPROACH %	25%	75%	0%	0%	90%	10%	31%	0%	69%	0%	0%	0%	
	APP/DEPART	2,576	/	2,066	3,353	/	3,479	642	/	0	0	/	1,026	0

0	0	5	0	5
0	0	5	0	5
0	0	5	0	5
0	0	9	0	9
0	0	12	0	12
0	0	7	0	7
0	0	11	0	11
0	0	14	0	14
0	0	68	0	68

PM	4:00 PM	107	368	0	0	284	67	86	0	133	0	0	0	1,045
	4:15 PM	98	380	0	0	292	45	84	0	141	0	0	0	1,040
	4:30 PM	122	392	0	0	291	58	67	0	122	0	0	0	1,052
	4:45 PM	101	399	0	0	331	51	54	0	137	0	0	0	1,073
	5:00 PM	91	332	0	0	331	45	80	0	131	0	0	0	1,010
	5:15 PM	95	410	0	0	318	57	80	0	173	0	0	0	1,133
	5:30 PM	123	387	0	0	269	74	72	0	138	0	0	0	1,063
	5:45 PM	116	345	0	0	272	66	55	0	130	0	0	0	984
	VOLUMES	853	3,013	0	0	2,388	463	578	0	1,105	0	0	0	8,400
	APPROACH %	22%	78%	0%	0%	84%	16%	34%	0%	66%	0%	0%	0%	
	APP/DEPART	3,866	/	3,474	2,851	/	3,493	1,683	/	0	0	/	1,433	0

0	0	14	0	14
0	0	16	0	16
0	0	10	0	10
0	0	12	0	12
0	0	24	0	24
0	0	11	0	11
0	0	14	0	14
0	0	16	0	16
0	0	117	0	117



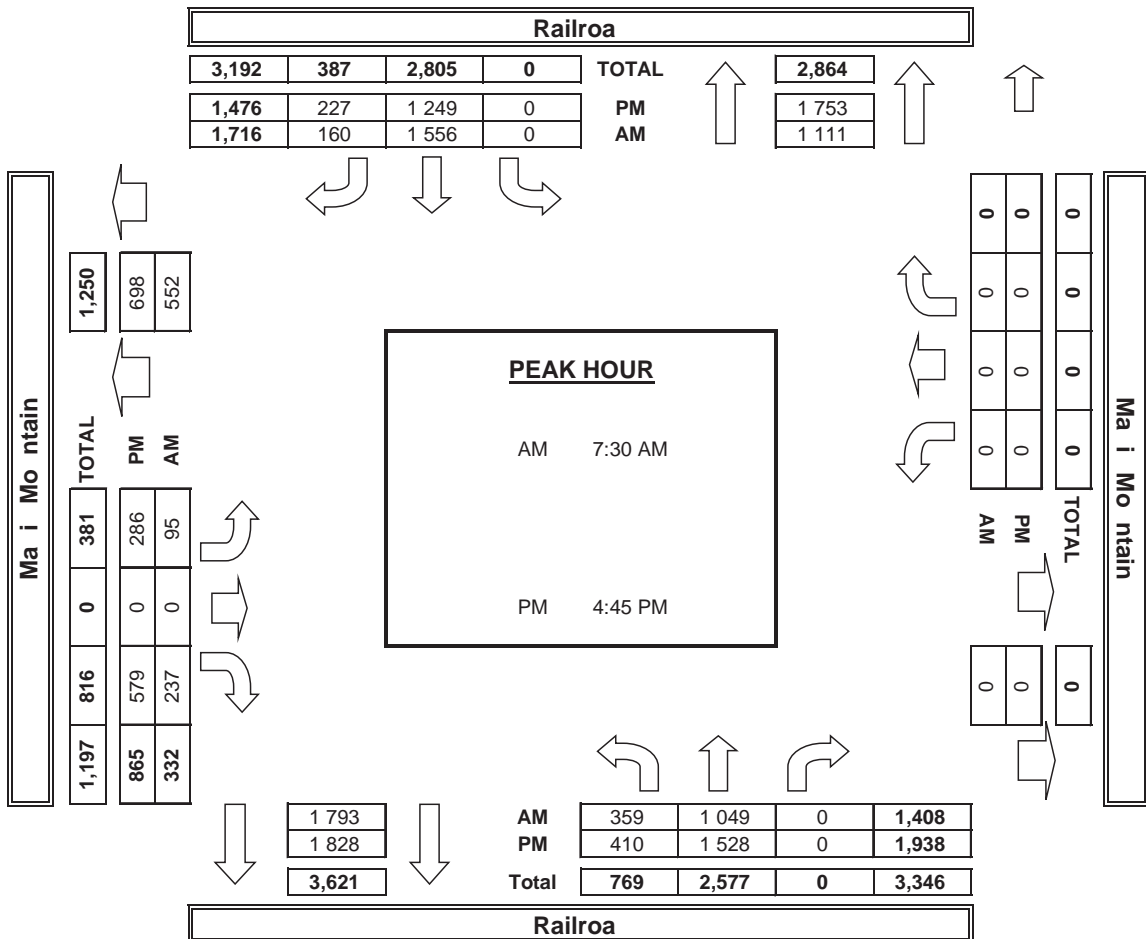
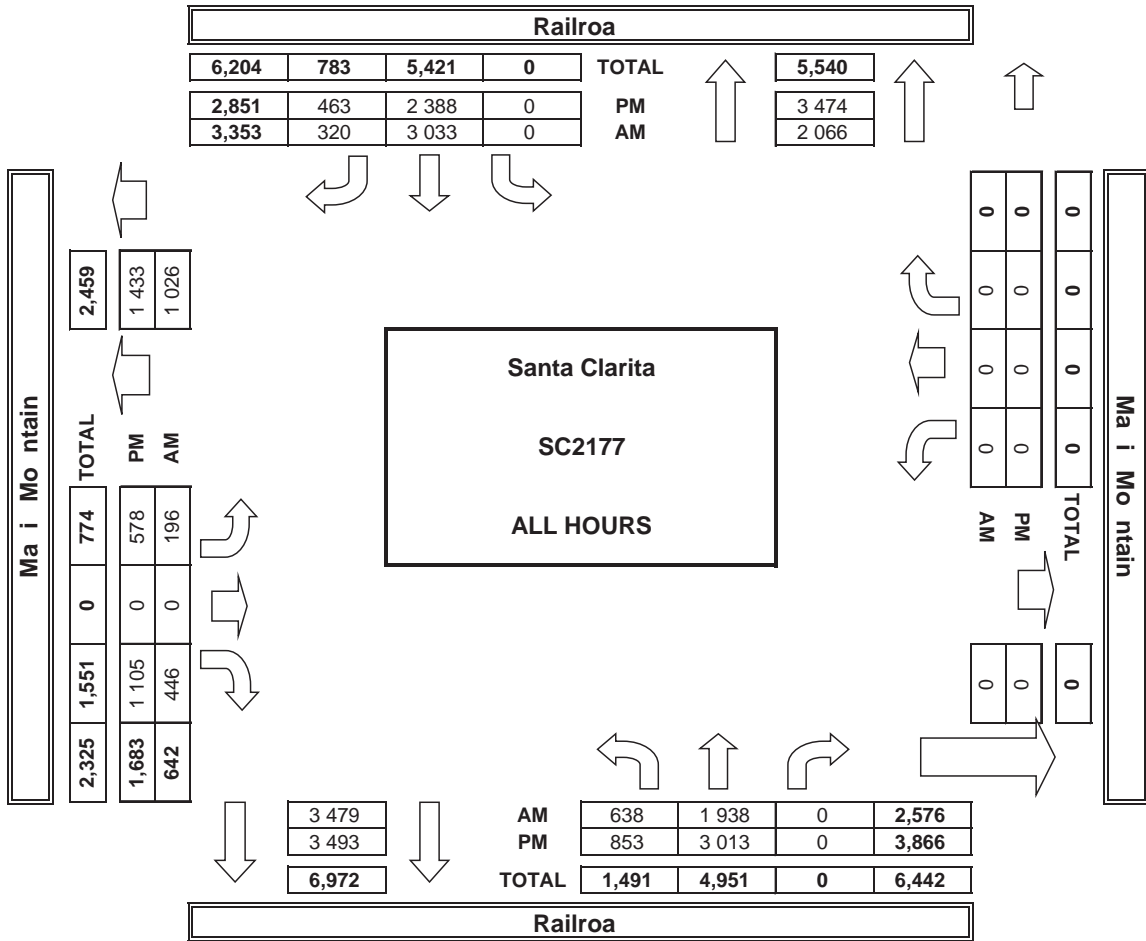
AM	7:00 AM	0	0	0	1	1
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	3	3
	7:45 AM	0	0	0	1	1
	8:00 AM	0	0	0	3	3
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	2	2
	8:45 AM	0	0	0	1	1
TOTAL	0	0	0	11	11	
AM BEGIN PEAK HR	7:30 AM					

PEDESTRIAN + BIKE CROSSINGS						
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL		
0	0	0	1	1		
0	0	0	0	0		
0	0	0	3	3		
0	0	0	1	1		
0	0	0	3	3		
0	0	0	0	0		
0	0	0	2	2		
0	0	0	1	1		
0	0	0	3	3		
0	0	0	4	4		
0	0	0	22	23		
TOTAL					0	0
PM BEGIN PEAK HR					4:45 PM	

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	2	2
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	2	2
0	0	0	4	4
0	0	0	5	5
0	0	0	4	4
0	0	0	1	1
0	0	0	2	2
0	0	0	2	2
0	0	0	0	0
0	0	0	2	2
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	14	14
0	0	0	5	5

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	2	2
0	0	0	0	0
0	0	0	2	2
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	6	6
0	0	0	1	1
0	0	0	3	3
0	0	1	0	1
0	0	0	2	2
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	1	8	9

AimTD LLC
TURNING MOVEMENT COUNTS



75 SCTUE - TMC

Tue Jan 29, 2019

Full Length (6 AM-9 AM, 2 PM-9 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 619557, Location: 34.400527, -118.538621



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US

Leg Direction	Railroad Ave Southbound					Oak Ridge Dr Westbound					Railroad Ave Northbound					Int
	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	
2019-01-29 6:00AM	1181	154	0	1335	0	142	53	0	195	0	17	561	0	578	0	2108
7:00AM	1356	271	4	1631	0	357	77	0	434	0	43	951	0	994	0	3059
8:00AM	1150	270	3	1423	3	332	61	0	393	0	44	866	0	910	0	2726
2:00PM	1005	251	5	1261	4	324	40	0	364	0	63	1093	0	1156	0	2781
3:00PM	1107	329	5	1441	0	410	41	1	452	0	69	1300	0	1369	0	3262
4:00PM	1197	342	1	1540	8	399	44	0	443	0	67	1316	0	1383	0	3366
5:00PM	1085	364	4	1453	0	424	23	0	447	0	65	1281	0	1346	0	3246
6:00PM	914	331	2	1247	3	340	35	0	375	0	42	1031	0	1073	0	2695
7:00PM	614	213	2	829	0	231	22	0	253	0	51	888	0	939	0	2021
8:00PM	460	192	4	656	1	143	14	0	157	0	30	607	0	637	0	1450
Total	10069	2717	30	12816	19	3102	410	1	3513	0	491	9894	0	10385	0	26714
% Approach	78.6%	21.2%	0.2%	-	-	88.3%	11.7%	0%	-	-	4.7%	95.3%	0%	-	-	-
% Total	37.7%	10.2%	0.1%	48.0%	-	11.6%	1.5%	0%	13.2%	-	1.8%	37.0%	0%	38.9%	-	-
Lights and Motorcycles	9861	2685	30	12576	-	3062	405	1	3468	-	479	9621	0	10100	-	26144
% Lights and Motorcycles	97.9%	98.8%	100%	98.1%	-	98.7%	98.8%	100%	98.7%	-	97.6%	97.2%	0%	97.3%	-	97.9%
Heavy	201	32	0	233	-	38	5	0	43	-	12	270	0	282	-	558
% Heavy	2.0%	1.2%	0%	1.8%	-	1.2%	1.2%	0%	1.2%	-	2.4%	2.7%	0%	2.7%	-	2.1%
Bicycles on Road	7	0	0	7	-	2	0	0	2	-	0	3	0	3	-	12
% Bicycles on Road	0.1%	0%	0%	0.1%	-	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	17	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	89.5%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	10.5%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

75 SCTUE - TMC

Tue Jan 29, 2019

Full Length (6 AM-9 AM, 2 PM-9 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 619557, Location: 34.400527, -118.538621

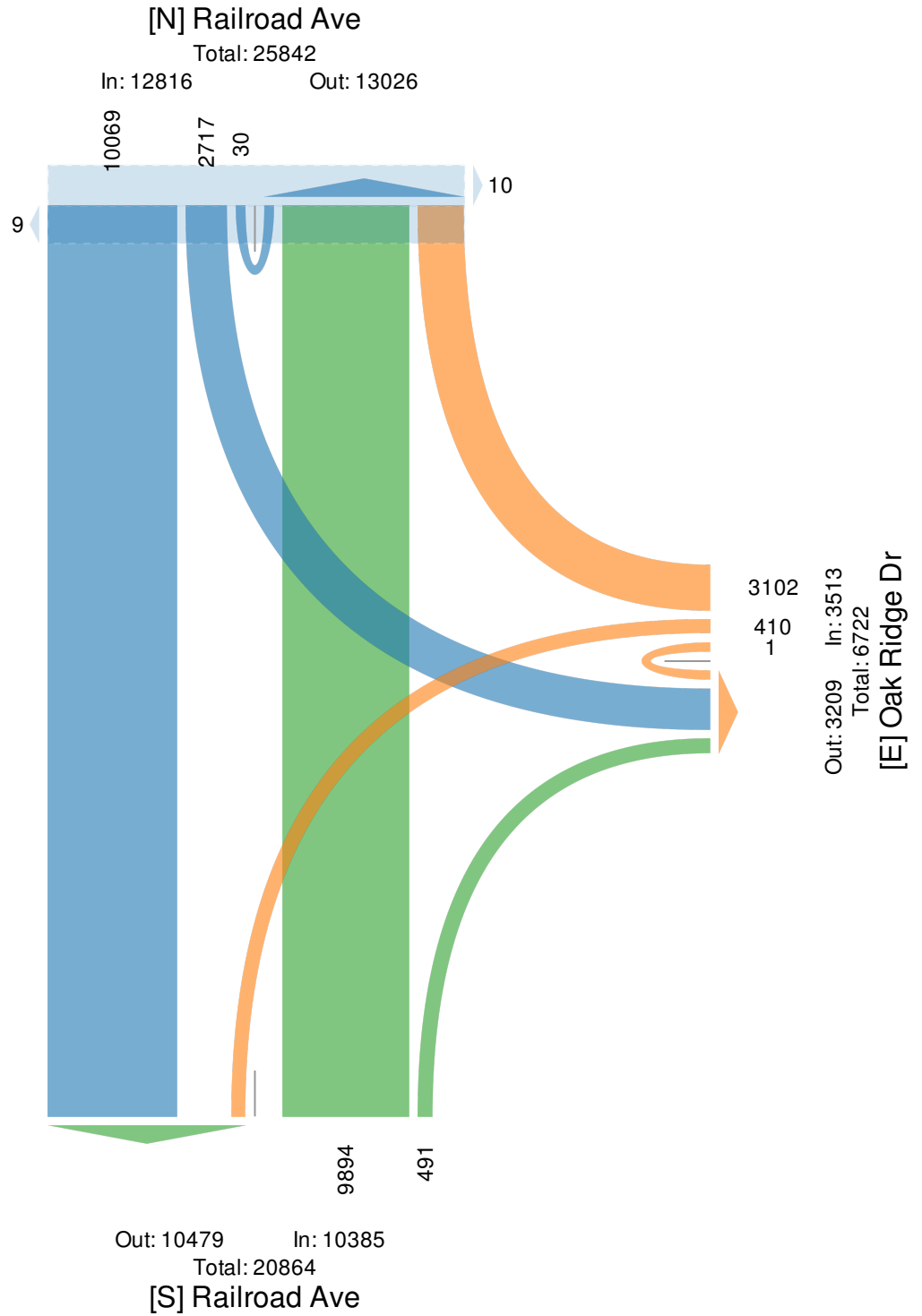


DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US



75 SCTUE - TMC

Tue Jan 29, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 619557, Location: 34.400527, -118.538621



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US

Leg Direction	Railroad Ave Southbound					Oak Ridge Dr Westbound					Railroad Ave Northbound					Int
	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	
2019-01-29 7:15AM	326	78	0	404	0	65	11	0	76	0	8	196	0	204	0	684
7:30AM	346	71	1	418	0	108	32	0	140	0	11	292	0	303	0	861
7:45AM	332	75	1	408	0	125	22	0	147	0	18	296	0	314	0	869
8:00AM	301	67	1	369	1	91	18	0	109	0	19	265	0	284	0	762
Total	1305	291	3	1599	1	389	83	0	472	0	56	1049	0	1105	0	3176
% Approach	81.6%	18.2%	0.2%	-	-	82.4%	17.6%	0%	-	-	5.1%	94.9%	0%	-	-	-
% Total	41.1%	9.2%	0.1%	50.3%	-	12.2%	2.6%	0%	14.9%	-	1.8%	33.0%	0%	34.8%	-	-
PHF	0.942	0.933	0.750	0.956	-	0.778	0.648	-	0.803	-	0.737	0.885	-	0.879	-	0.914
Lights and Motorcycles	1277	289	3	1569	-	386	82	0	468	-	54	1012	0	1066	-	3103
% Lights and Motorcycles	97.9%	99.3%	100%	98.1%	-	99.2%	98.8%	0%	99.2%	-	96.4%	96.5%	0%	96.5%	-	97.7%
Heavy	27	2	0	29	-	3	1	0	4	-	2	36	0	38	-	71
% Heavy	2.1%	0.7%	0%	1.8%	-	0.8%	1.2%	0%	0.8%	-	3.6%	3.4%	0%	3.4%	-	2.2%
Bicycles on Road	1	0	0	1	-	0	0	0	0	-	0	1	0	1	-	2
% Bicycles on Road	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	-	0%	0.1%	0%	0.1%	-	0.1%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

75 SCTUE - TMC

Tue Jan 29, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 619557, Location: 34.400527, -118.538621

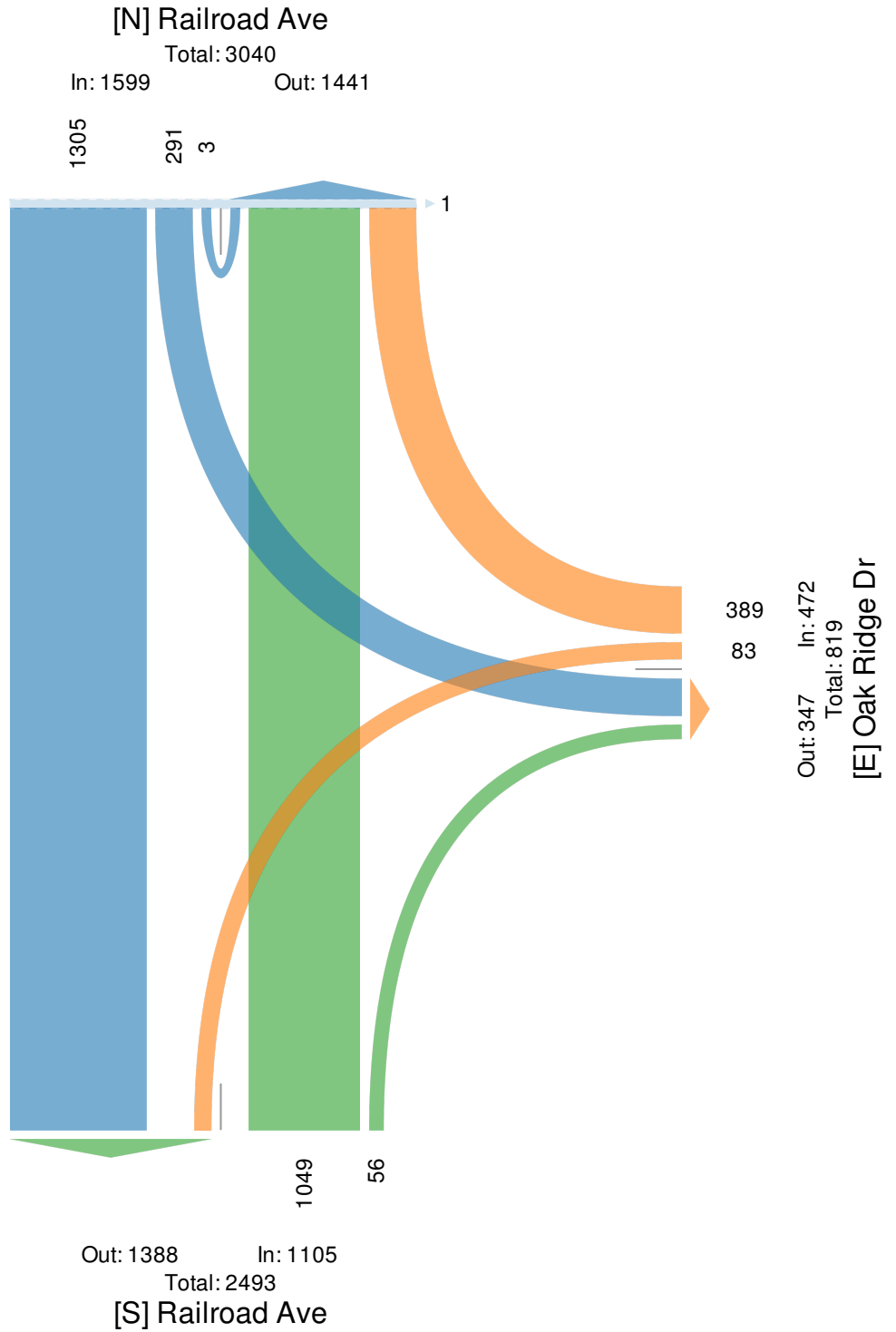


DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US



75 SCTUE - TMC

Tue Jan 29, 2019

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 619557, Location: 34.400527, -118.538621



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US

Leg Direction	Railroad Ave Southbound					Oak Ridge Dr Westbound					Railroad Ave Northbound					Int
	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	
2019-01-29 4:30PM	262	77	1	340	4	116	10	0	126	0	18	345	0	363	0	829
4:45PM	313	94	0	407	0	107	17	0	124	0	17	329	0	346	0	877
5:00PM	313	78	2	393	0	112	6	0	118	0	16	368	0	384	0	895
5:15PM	321	117	2	440	0	105	9	0	114	0	15	306	0	321	0	875
Total	1209	366	5	1580	4	440	42	0	482	0	66	1348	0	1414	0	3476
% Approach	76.5%	23.2%	0.3%	-	-	91.3%	8.7%	0%	-	-	4.7%	95.3%	0%	-	-	-
% Total	34.8%	10.5%	0.1%	45.5%	-	12.7%	1.2%	0%	13.9%	-	1.9%	38.8%	0%	40.7%	-	-
PHF	0.941	0.782	0.625	0.897	-	0.948	0.618	-	0.956	-	0.917	0.914	-	0.919	-	0.970
Lights and Motorcycles	1192	364	5	1561	-	437	42	0	479	-	66	1321	0	1387	-	3427
% Lights and Motorcycles	98.6%	99.5%	100%	98.8%	-	99.3%	100%	0%	99.4%	-	100%	98.0%	0%	98.1%	-	98.6%
Heavy	16	2	0	18	-	3	0	0	3	-	0	25	0	25	-	46
% Heavy	1.3%	0.5%	0%	1.1%	-	0.7%	0%	0%	0.6%	-	0%	1.9%	0%	1.8%	-	1.3%
Bicycles on Road	1	0	0	1	-	0	0	0	0	-	0	2	0	2	-	3
% Bicycles on Road	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	-	0%	0.1%	0%	0.1%	-	0.1%
Pedestrians	-	-	-	-	4	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

75 SCTUE - TMC

Tue Jan 29, 2019

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 619557, Location: 34.400527, -118.538621

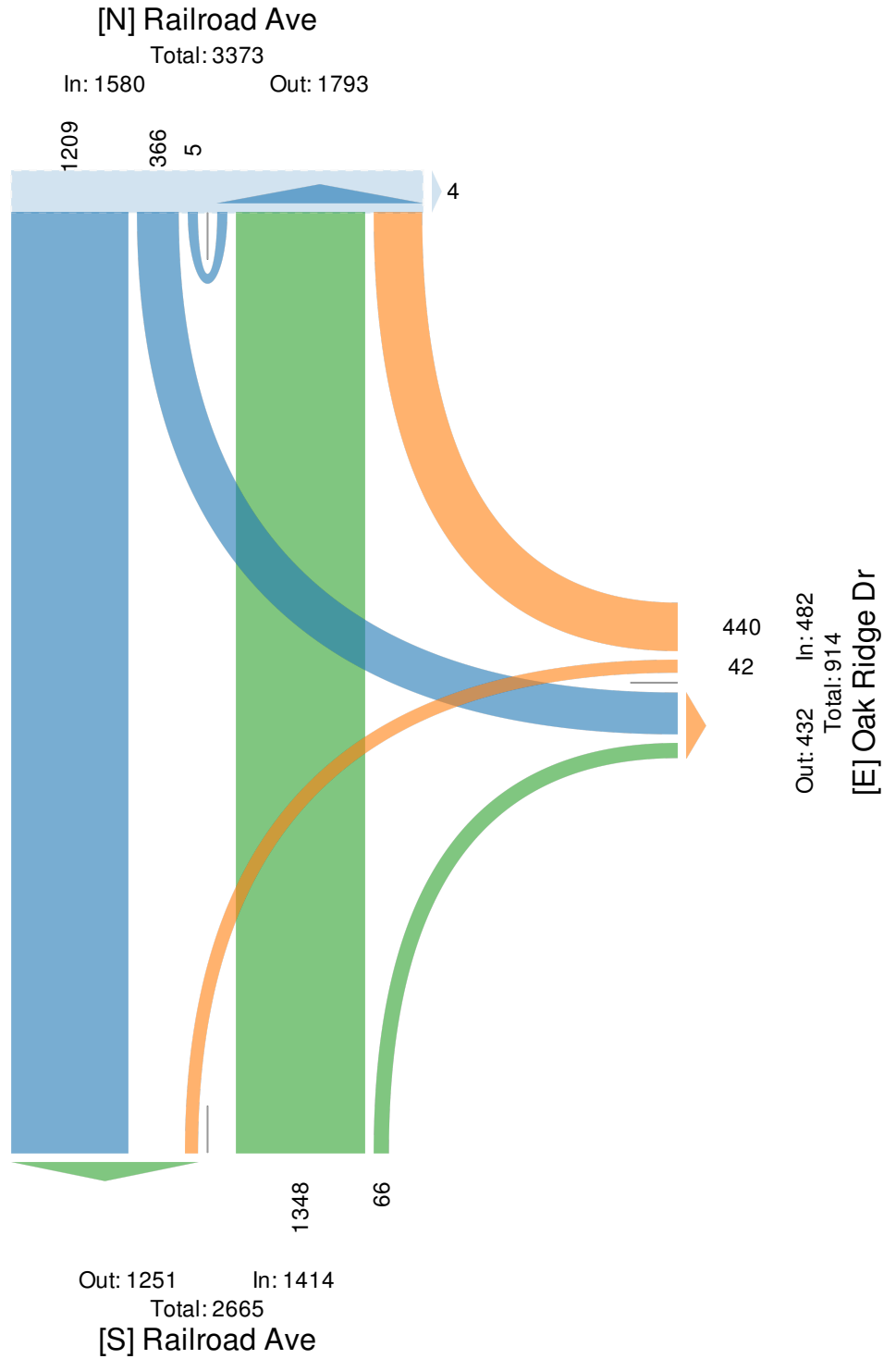


DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION:
NORTH & SOUTH: Santa Clarita
EAST & WEST: Railroad
13th

PROJECT #: SC2177
LOCATION #: 5
CONTROL: SIGNAL

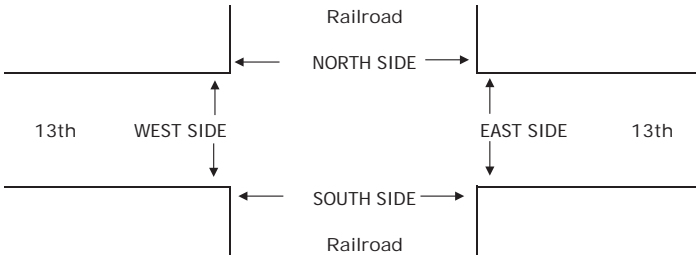
NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼	
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Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	

U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL 0

AM	7:00 AM	2	174	16	17	338	1	3	0	3	23	0	17	594	0	0	0	0	0
	7:15 AM	2	181	26	24	357	0	1	0	1	25	0	25	642	0	1	0	0	1
	7:30 AM	2	246	35	21	366	4	4	0	2	33	0	33	746	0	0	0	0	0
	7:45 AM	3	297	44	25	328	5	0	2	0	20	0	41	765	0	0	0	0	0
	8:00 AM	1	211	39	33	347	3	3	0	3	15	0	22	677	0	0	0	0	0
	8:15 AM	5	160	30	28	302	3	1	0	0	25	0	28	582	0	4	0	0	4
	8:30 AM	0	177	18	25	324	0	1	0	2	21	0	29	597	0	1	0	0	1
	8:45 AM	0	197	31	21	322	6	1	0	2	21	0	26	627	0	3	0	0	3
	VOLUMES	15	1,643	239	194	2,684	22	14	2	13	183	0	221	5,230	0	9	0	0	9
	APPROACH %	1%	87%	13%	7%	93%	1%	48%	7%	45%	45%	0%	55%						
APP/DEPART	1,897	/	1,887	2,900	/	2,880	29	/	426	404	/	37	0						
BEGIN PEAK HR	7:15 AM																		
VOLUMES	8	935	144	103	1,398	12	8	2	6	93	0	121	2,830						
APPROACH %	1%	86%	13%	7%	92%	1%	50%	13%	38%	43%	0%	57%							
PEAK HR FACTOR	0.790			0.967			0.667			0.811			0.925						
APP/DEPART	1,087	/	1,065	1,513	/	1,497	16	/	248	214	/	20	0						
PM	4:00 PM	4	265	36	38	249	0	1	0	1	44	0	38	676	1	3	0	0	4
	4:15 PM	1	284	28	37	300	0	0	0	1	34	0	34	719	0	6	0	0	6
	4:30 PM	0	319	51	41	291	0	0	0	0	41	0	30	773	0	1	0	0	1
	4:45 PM	0	255	48	44	281	1	1	0	0	42	0	28	700	0	5	0	0	5
	5:00 PM	0	322	40	47	328	1	0	0	0	42	0	44	824	0	1	0	0	1
	5:15 PM	2	319	45	47	295	3	0	0	0	35	0	51	797	0	2	0	0	2
	5:30 PM	0	298	37	36	263	2	0	0	0	32	0	53	721	0	0	0	0	0
	5:45 PM	0	289	37	40	272	0	1	0	0	30	0	30	699	0	1	0	0	1
	VOLUMES	7	2,351	322	330	2,279	7	3	0	2	300	0	308	5,909	1	19	0	0	20
	APPROACH %	0%	88%	12%	13%	87%	0%	60%	0%	40%	49%	0%	51%						
APP/DEPART	2,680	/	2,681	2,616	/	2,582	5	/	633	608	/	13	0						
BEGIN PEAK HR	4:30 PM																		
VOLUMES	2	1,215	184	179	1,195	5	1	0	0	160	0	153	3,094						
APPROACH %	0%	87%	13%	13%	87%	0%	100%	0%	0%	51%	0%	49%							
PEAK HR FACTOR	0.947			0.917			0.250			0.910			0.939						
APP/DEPART	1,401	/	1,378	1,379	/	1,355	1	/	354	313	/	7	0						



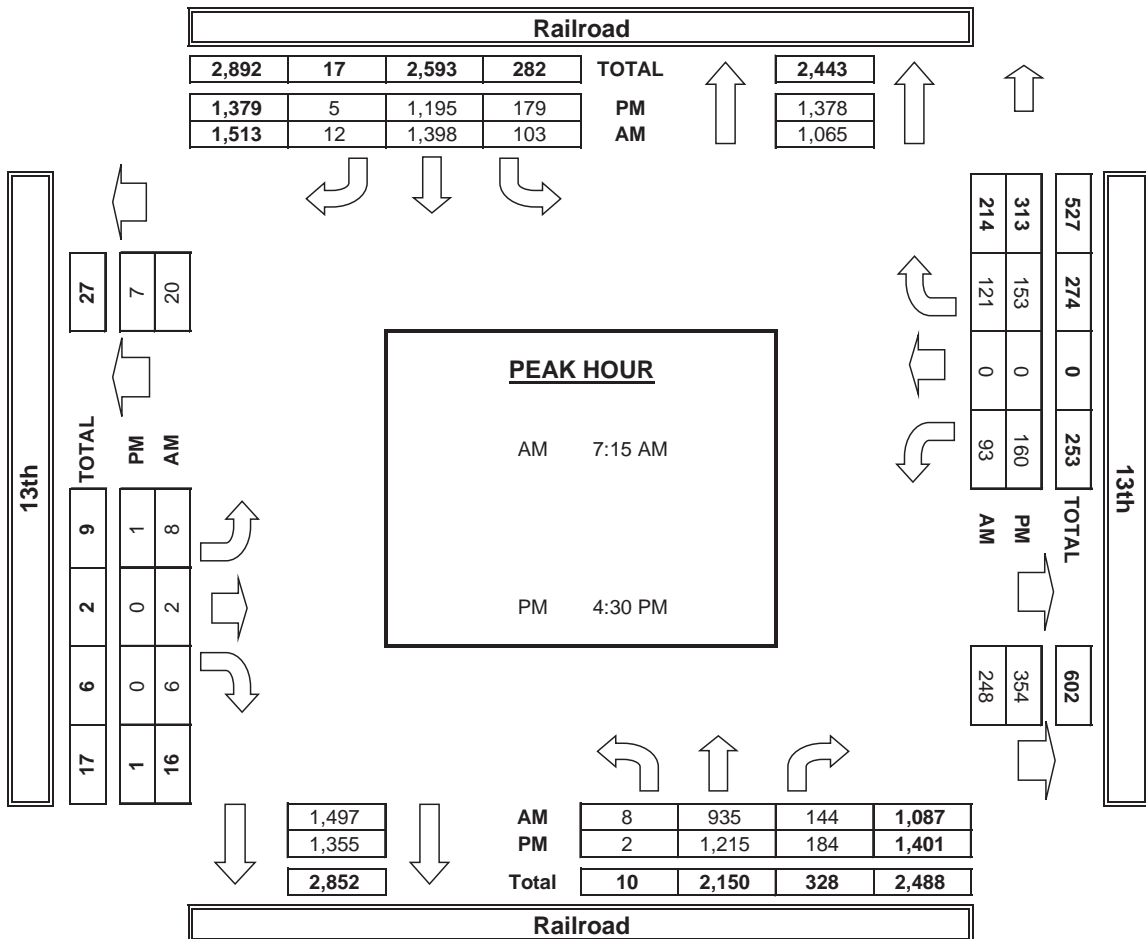
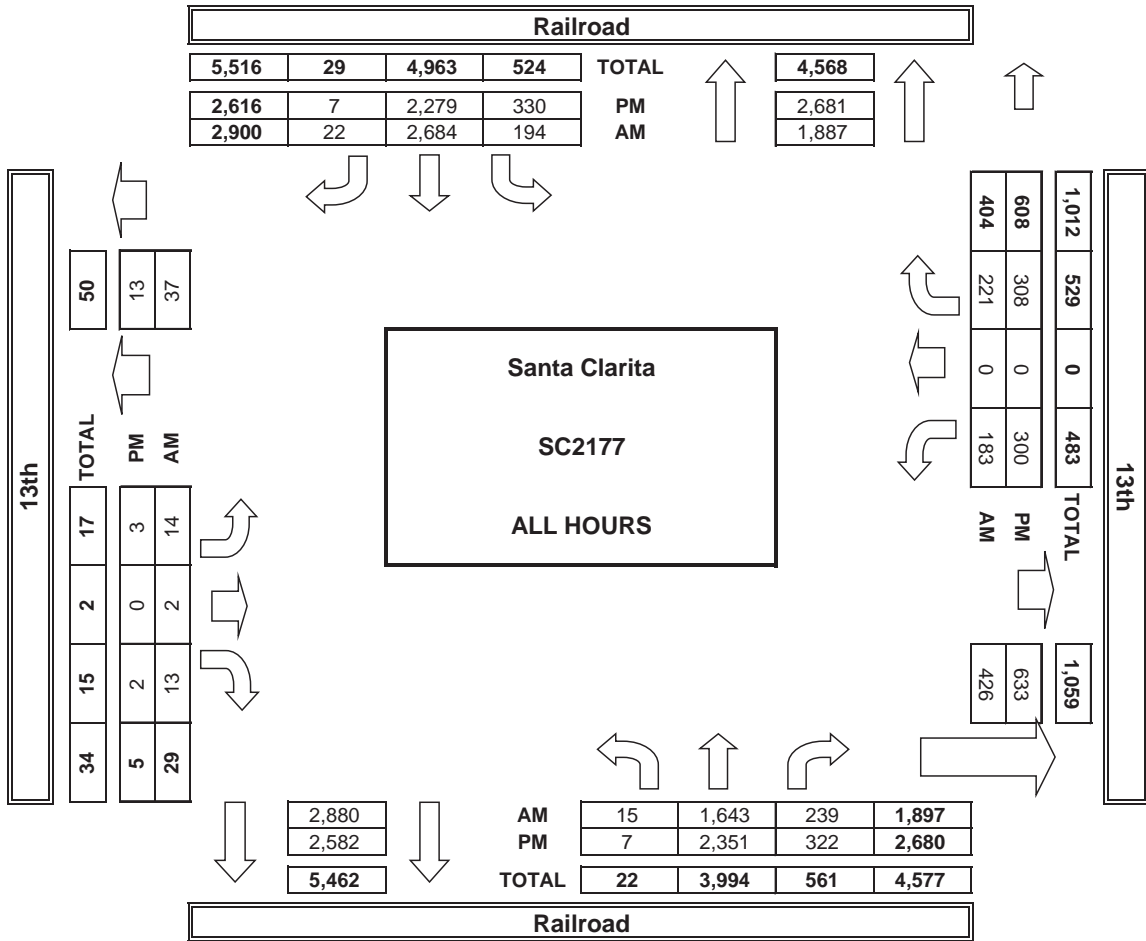
AM	7:00 AM	4	0	0	5	9
	7:15 AM	5	0	5	4	14
	7:30 AM	4	0	15	1	20
	7:45 AM	15	0	2	7	24
	8:00 AM	4	0	3	0	7
	8:15 AM	1	0	1	0	2
	8:30 AM	0	0	0	0	0
	8:45 AM	2	0	1	0	3
TOTAL	35	0	27	17	79	
AM BEGIN PEAK HR	7:15 AM					
PM	4:00 PM	4	0	2	3	9
	4:15 PM	2	0	2	0	4
	4:30 PM	1	0	2	3	6
	4:45 PM	0	0	0	1	1
	5:00 PM	6	0	4	2	12
	5:15 PM	2	0	0	3	5
	5:30 PM	1	0	2	0	3
	5:45 PM	2	0	0	2	4
TOTAL	18	0	12	14	44	
PM BEGIN PEAK HR	4:30 PM					

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
4	0	0	5	9
5	0	5	4	14
4	0	15	1	20
15	0	2	7	24
4	0	3	0	7
1	0	1	0	2
0	0	0	0	0
2	0	1	0	3
35	0	27	17	79
7:15 AM				
4	0	2	3	9
2	0	2	0	4
1	0	2	3	6
0	0	0	1	1
6	0	4	2	12
2	0	0	3	5
1	0	2	0	3
2	0	0	2	4
18	0	12	14	44
4:30 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
4	0	0	5	9
5	0	5	4	14
4	0	15	1	20
15	0	2	7	24
4	0	3	0	7
0	0	0	0	0
0	0	0	0	0
1	0	1	0	2
33	0	26	17	76
28	0	25	12	65
4	0	2	3	9
0	0	0	0	0
0	0	0	2	2
0	0	0	1	1
6	0	3	2	11
0	0	0	0	0
1	0	2	0	3
0	0	0	2	2
11	0	7	10	28
6	0	3	5	14

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	1	0	2
0	0	0	0	0
1	0	0	0	1
2	0	1	0	3
0	0	0	0	0
2	0	2	0	4
1	0	2	1	4
0	0	0	0	0
0	0	1	0	1
2	0	0	3	5
0	0	0	0	0
2	0	0	0	2
7	0	5	4	16

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION:
NORTH & SOUTH: Santa Clarita
Railroad Avenue
EAST & WEST: Lyons Avenue

PROJECT #: SC2177
LOCATION #: 4
CONTROL: SIGNAL

NOTES:	AM PM MD OTHER OTHER	▲ N ▼ S	◀ W E ▶	
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Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Railroad			Railroad			Lyons			Lyons			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	2	X	X	2	1	2	X	1	X	X	X	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

AM

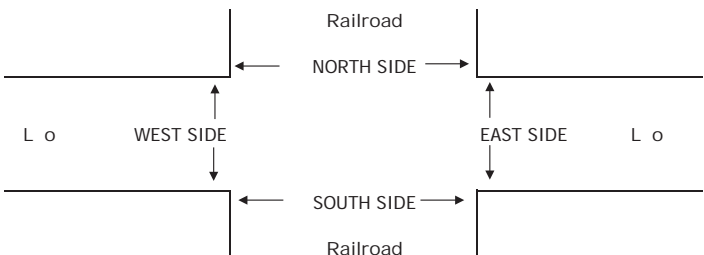
7:00 AM	42	151	0	0	288	52	28	0	17	0	0	0	578
7:15 AM	40	194	0	0	297	72	42	0	17	0	0	0	662
7:30 AM	82	210	0	0	312	124	56	0	21	0	0	0	805
7:45 AM	97	239	0	0	269	72	86	0	29	0	0	0	792
8:00 AM	77	212	0	0	278	63	72	0	19	0	0	0	721
8:15 AM	70	154	0	0	264	75	63	0	16	0	0	0	642
8:30 AM	56	151	0	0	259	97	53	0	14	0	0	0	630
8:45 AM	47	165	0	0	226	98	65	0	13	0	0	0	614
VOLUMES	511	1,476	0	0	2,193	653	465	0	146	0	0	0	5,444
APPROACH %	26%	74%	0%	0%	77%	23%	76%	0%	24%	0%	0%	0%	
APP/DEPART	1,987	/	1,941	2,846	/	2,339	611	/	0	0	/	1,164	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	296	855	0	0	1,156	331	256	0	86	0	0	0	2,980
APPROACH %	26%	74%	0%	0%	78%	22%	75%	0%	25%	0%	0%	0%	
PEAK HR FACTOR	0.856			0.853			0.743			0.000			0.925
APP/DEPART	1,151	/	1,111	1,487	/	1,242	342	/	0	0	/	627	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

PM

4:00 PM	50	209	0	0	206	88	106	0	42	0	0	0	701
4:15 PM	68	217	0	0	213	106	118	0	26	0	0	0	748
4:30 PM	61	239	0	0	279	80	113	0	23	0	0	0	795
4:45 PM	63	220	0	0	236	86	104	0	35	0	0	0	744
5:00 PM	49	227	0	0	262	77	138	0	40	0	0	0	793
5:15 PM	54	237	0	0	262	85	129	0	30	0	0	0	797
5:30 PM	61	226	0	0	213	81	92	0	40	0	0	0	713
5:45 PM	78	286	0	0	232	90	81	0	37	0	0	0	804
VOLUMES	484	1,861	0	0	1,903	693	881	0	273	0	0	0	6,095
APPROACH %	21%	79%	0%	0%	73%	27%	76%	0%	24%	0%	0%	0%	
APP/DEPART	2,345	/	2,742	2,596	/	2,176	1,154	/	0	0	/	1,177	0
BEGIN PEAK HR	4:30 PM												
VOLUMES	227	923	0	0	1,039	328	484	0	128	0	0	0	3,129
APPROACH %	20%	80%	0%	0%	76%	24%	79%	0%	21%	0%	0%	0%	
PEAK HR FACTOR	0.958			0.952			0.860			0.000			0.981
APP/DEPART	1,150	/	1,407	1,367	/	1,167	612	/	0	0	/	555	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



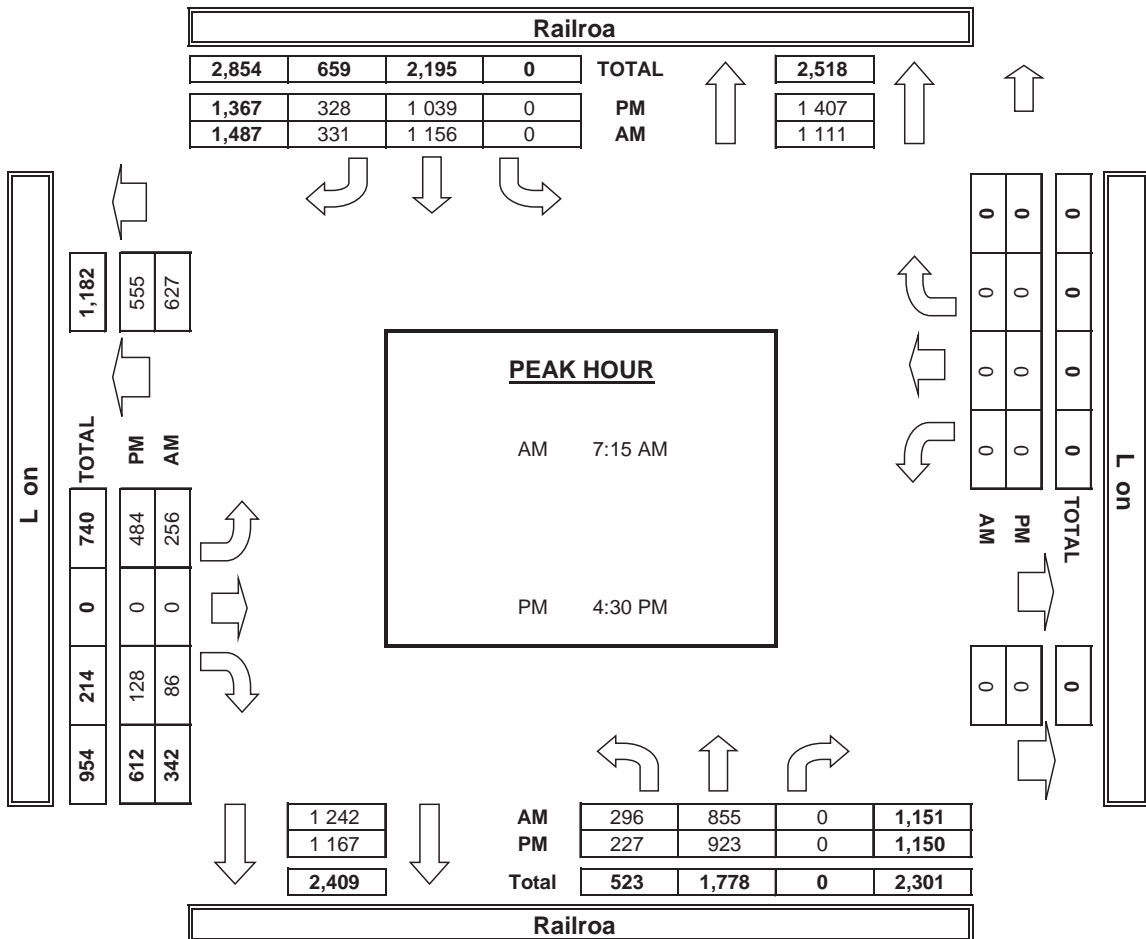
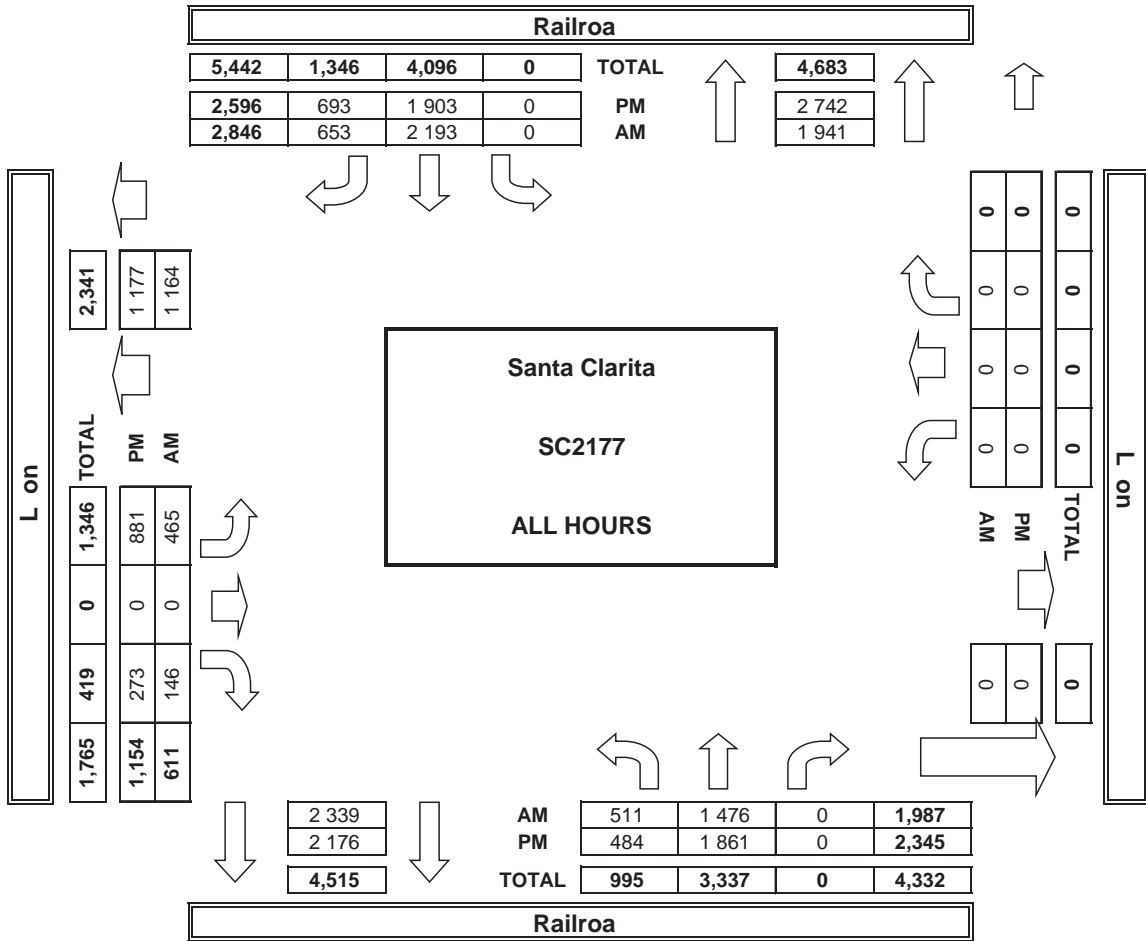
7:00 AM	1	0	0	0	1
7:15 AM	1	0	0	0	1
7:30 AM	0	0	0	0	0
7:45 AM	1	0	0	0	1
8:00 AM	0	0	0	1	1
8:15 AM	2	0	0	0	2
8:30 AM	1	0	0	1	2
8:45 AM	1	0	0	0	1
TOTAL	7	0	0	2	9
AM BEGIN PEAK HR	7:15 AM				
4:00 PM	2	0	1	0	3
4:15 PM	2	0	4	0	6
4:30 PM	0	0	0	0	0
4:45 PM	1	0	3	0	4
5:00 PM	0	0	0	1	1
5:15 PM	0	0	1	1	2
5:30 PM	0	0	1	0	1
5:45 PM	2	0	3	0	5
TOTAL	7	0	13	2	22
PM BEGIN PEAK HR	4:30 PM				

PEDESTRIAN + BIKE CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
1	0	0	0	1	
1	0	0	0	1	
0	0	0	0	0	
1	0	0	0	1	
0	0	0	1	1	
2	0	0	0	2	
1	0	0	1	2	
1	0	0	0	1	
7	0	0	2	9	
7:15 AM					
2	0	1	0	3	
2	0	4	0	6	
0	0	0	0	0	
1	0	3	0	4	
0	0	0	1	1	
0	0	1	1	2	
0	0	1	0	1	
2	0	3	0	5	
7	0	13	2	22	
4:30 PM					

PEDESTRIAN CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
1	0	0	0	1	
1	0	0	0	1	
0	0	0	0	0	
1	0	0	0	1	
0	0	0	1	1	
1	0	0	0	1	
1	0	0	1	2	
1	0	0	0	1	
6	0	0	2	8	
2	0	0	1	3	
2	0	1	0	3	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	1	0	1	
2	0	3	0	5	
6	0	6	0	12	
0	0	0	0	0	

BICYCLE CROSSINGS					
NS	SS	ES	WS	TOTAL	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
1	0	0	0	1	
0	0	0	0	0	
0	0	0	0	0	
1	0	3	0	4	
0	0	0	1	1	
0	0	1	1	2	
0	0	0	0	0	
0	0	0	0	0	
1	0	7	2	10	

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION: Santa Clarita
North & South: Railroad Avenue
East & West: Newhall Avenue

PROJECT #: SC2177
LOCATION #: 3
CONTROL: SIGNAL

NOTES:

AM	▲ N	
PM		
MD	◀ W E ▶	
OTHER		
OTHER	S	
OTHER	▼	

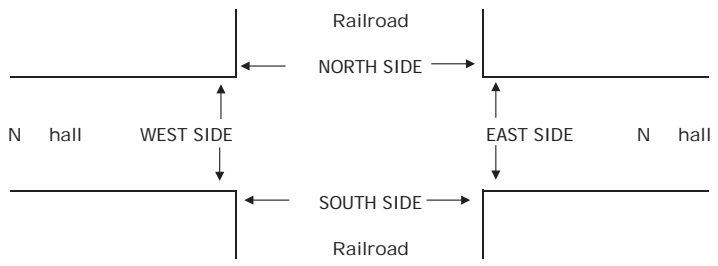
Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	X	X	X	2	X	X	X	2	X	X	1	2	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
AM													
7:00 AM	0	0	0	237	0	0	0	105	0	0	46	184	572
7:15 AM	0	0	0	292	0	0	0	116	0	0	99	200	707
7:30 AM	0	0	0	308	0	0	0	147	0	0	144	298	897
7:45 AM	0	0	0	232	0	0	0	165	0	0	142	347	886
8:00 AM	0	0	0	303	0	0	0	175	0	0	93	257	828
8:15 AM	0	0	0	268	0	0	0	119	0	0	113	191	691
8:30 AM	0	0	0	247	0	0	0	117	0	0	132	220	716
8:45 AM	0	0	0	197	0	0	0	117	0	0	136	213	663
VOLUMES	0	0	0	2,084	0	0	0	1,061	0	0	905	1,910	5,960
APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	32%	68%	
APP/DEPART	0	/	1,910	2,084	/	0	1,061	/	3,145	2,815	/	905	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	0	0	0	1,135	0	0	0	603	0	0	478	1,102	3,318
APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	30%	70%	
PEAK HR FACTOR	0.000			0.921			0.861			0.808			0.925
APP/DEPART	0	/	1,102	1,135	/	0	603	/	1,738	1,580	/	478	0
PM													
4:00 PM	0	0	0	244	0	0	0	167	0	0	123	251	785
4:15 PM	0	0	0	219	0	0	0	170	0	0	121	246	756
4:30 PM	0	0	0	254	0	0	0	155	0	0	113	286	808
4:45 PM	0	0	0	264	0	0	0	179	0	0	142	247	832
5:00 PM	0	0	0	241	0	0	0	207	0	0	126	274	848
5:15 PM	0	0	0	278	0	0	0	193	0	0	123	253	847
5:30 PM	0	0	0	213	0	0	0	192	0	0	109	281	795
5:45 PM	0	0	0	275	0	0	0	178	0	0	127	263	843
VOLUMES	0	0	0	1,988	0	0	0	1,441	0	0	984	2,101	6,514
APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	32%	68%	
APP/DEPART	0	/	2,101	1,988	/	0	1,441	/	3,429	3,085	/	984	0
BEGIN PEAK HR	4:30 PM												
VOLUMES	0	0	0	1,037	0	0	0	734	0	0	504	1,060	3,335
APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	32%	68%	
PEAK HR FACTOR	0.000			0.933			0.886			0.978			0.983
APP/DEPART	0	/	1,060	1,037	/	0	734	/	1,771	1,564	/	504	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

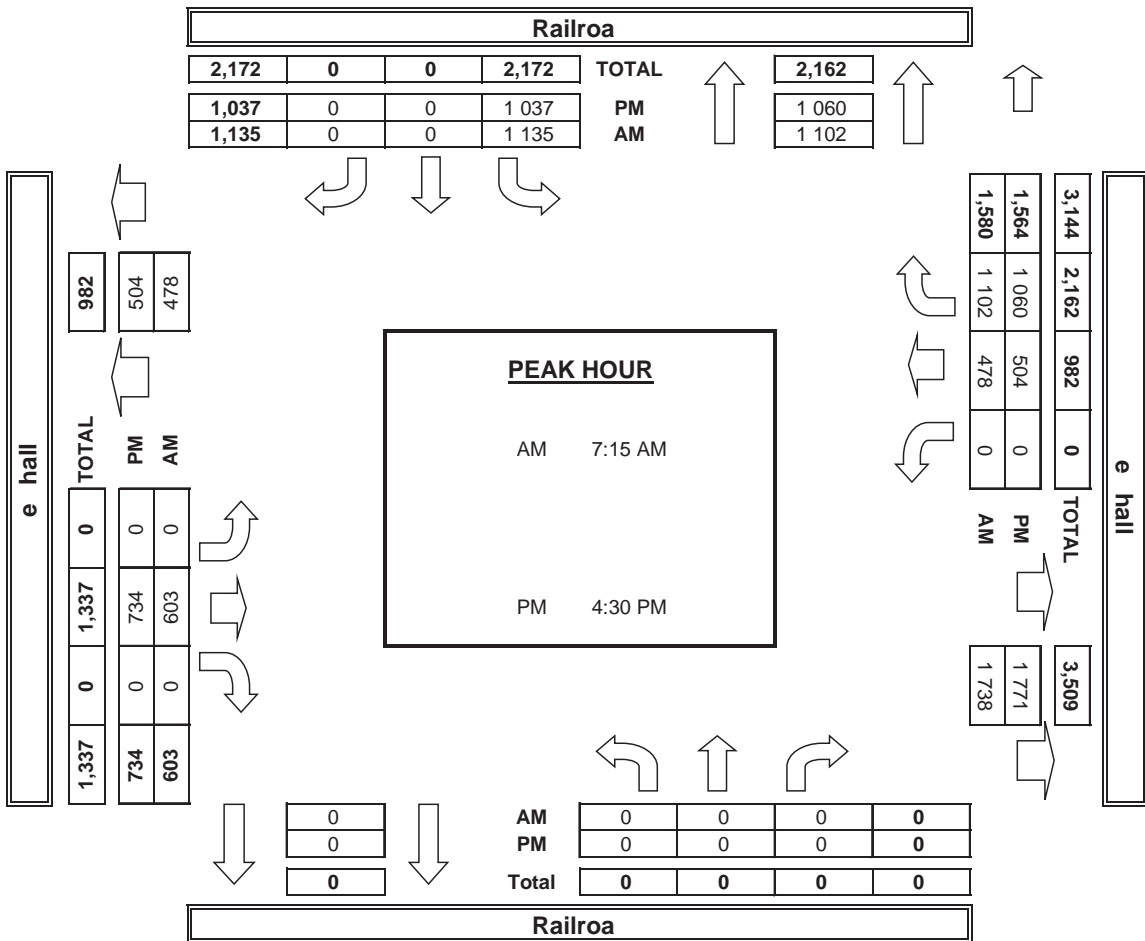
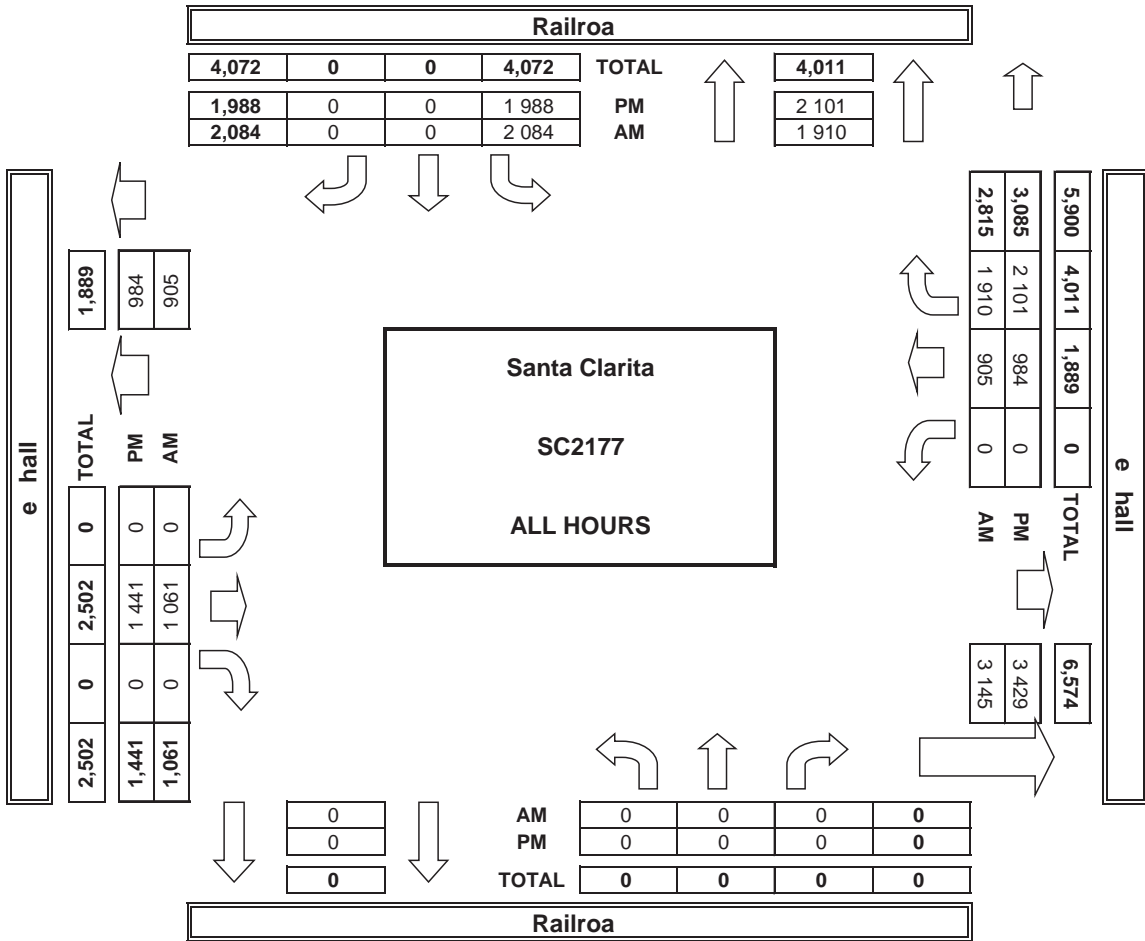


	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	2	0	0	0	2
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	1	0	0	0	1
8:30 AM	2	0	0	0	2
8:45 AM	1	0	0	0	1
TOTAL	6	0	0	0	6
AM BEGIN PEAK HR	7:15 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	1	0	0	0	1
4:45 PM	2	0	0	0	2
5:00 PM	3	0	0	0	3
5:15 PM	0	0	0	0	0
5:30 PM	1	0	0	0	1
5:45 PM	0	1	0	0	1
TOTAL	7	1	0	0	8
PM BEGIN PEAK HR	4:30 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	2	0	0	0	2
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	1	0	0	0	1
8:30 AM	1	0	0	0	1
8:45 AM	1	0	0	0	1
TOTAL	5	0	0	0	5
AM BEGIN PEAK HR	7:15 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	1	0	0	0	1
4:45 PM	2	0	0	0	2
5:00 PM	3	0	0	0	3
5:15 PM	0	0	0	0	0
5:30 PM	1	0	0	0	1
5:45 PM	0	0	0	0	0
TOTAL	7	0	0	0	7
PM BEGIN PEAK HR	4:30 PM				

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	1	0	0	0	1
8:45 AM	0	0	0	0	0
TOTAL	1	0	0	0	1
AM BEGIN PEAK HR	7:15 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	1	0	0	1
TOTAL	0	1	0	0	1
PM BEGIN PEAK HR	4:30 PM				

AimTD LLC
TURNING MOVEMENT COUNTS



147 SCTUE - TMC

Tue Jan 29, 2019

Full Length (7 AM-9 AM, 11:30 AM-1:30 PM, 4:30 PM-6:30 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 618768, Location: 34.370753, -118.514726



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US

Leg Direction	Valle del Oro Southbound					Newhall Ave Westbound					Newhall Ave Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2019-01-29 7:00AM	295	127	0	422	15	73	1183	0	1256	0	1580	145	0	1725	46	3403
8:00AM	188	105	0	293	8	62	1213	0	1275	0	1396	112	1	1509	8	3077
11:00AM	72	15	0	87	1	17	520	0	537	0	518	58	1	577	2	1201
12:00PM	109	46	0	155	12	34	1082	0	1116	0	1117	112	3	1232	15	2503
1:00PM	62	20	0	82	5	24	533	0	557	0	568	63	1	632	1	1271
4:00PM	60	25	0	85	9	39	734	0	773	0	787	110	1	898	14	1756
5:00PM	174	54	0	228	18	92	1272	0	1364	0	1656	281	0	1937	11	3529
6:00PM	80	29	0	109	7	60	694	0	754	0	696	103	1	800	5	1663
Total	1040	421	0	1461	75	401	7231	0	7632	0	8318	984	8	9310	102	18403
% Approach	71.2%	28.8%	0%	-	-	5.3%	94.7%	0%	-	-	89.3%	10.6%	0.1%	-	-	-
% Total	5.7%	2.3%	0%	7.9%	-	2.2%	39.3%	0%	41.5%	-	45.2%	5.3%	0%	50.6%	-	-
Lights and Motorcycles	1029	415	0	1444	-	390	6961	0	7351	-	8085	976	8	9069	-	17864
% Lights and Motorcycles	98.9%	98.6%	0%	98.8%	-	97.3%	96.3%	0%	96.3%	-	97.2%	99.2%	100%	97.4%	-	97.1%
Heavy	10	6	0	16	-	11	269	0	280	-	233	8	0	241	-	537
% Heavy	1.0%	1.4%	0%	1.1%	-	2.7%	3.7%	0%	3.7%	-	2.8%	0.8%	0%	2.6%	-	2.9%
Bicycles on Road	1	0	0	1	-	0	1	0	1	-	0	0	0	0	-	2
% Bicycles on Road	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	72	-	-	-	-	0	-	-	-	-	102	-
% Pedestrians	-	-	-	-	96.0%	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	4.0%	-	-	-	-	-	-	-	-	-	0%	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

147 SCTUE - TMC

Tue Jan 29, 2019

Full Length (7 AM-9 AM, 11:30 AM-1:30 PM, 4:30 PM-6:30 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 618768, Location: 34.370753, -118.514726



DATA SOLUTIONS

Provided by: IDAX Data Solutions

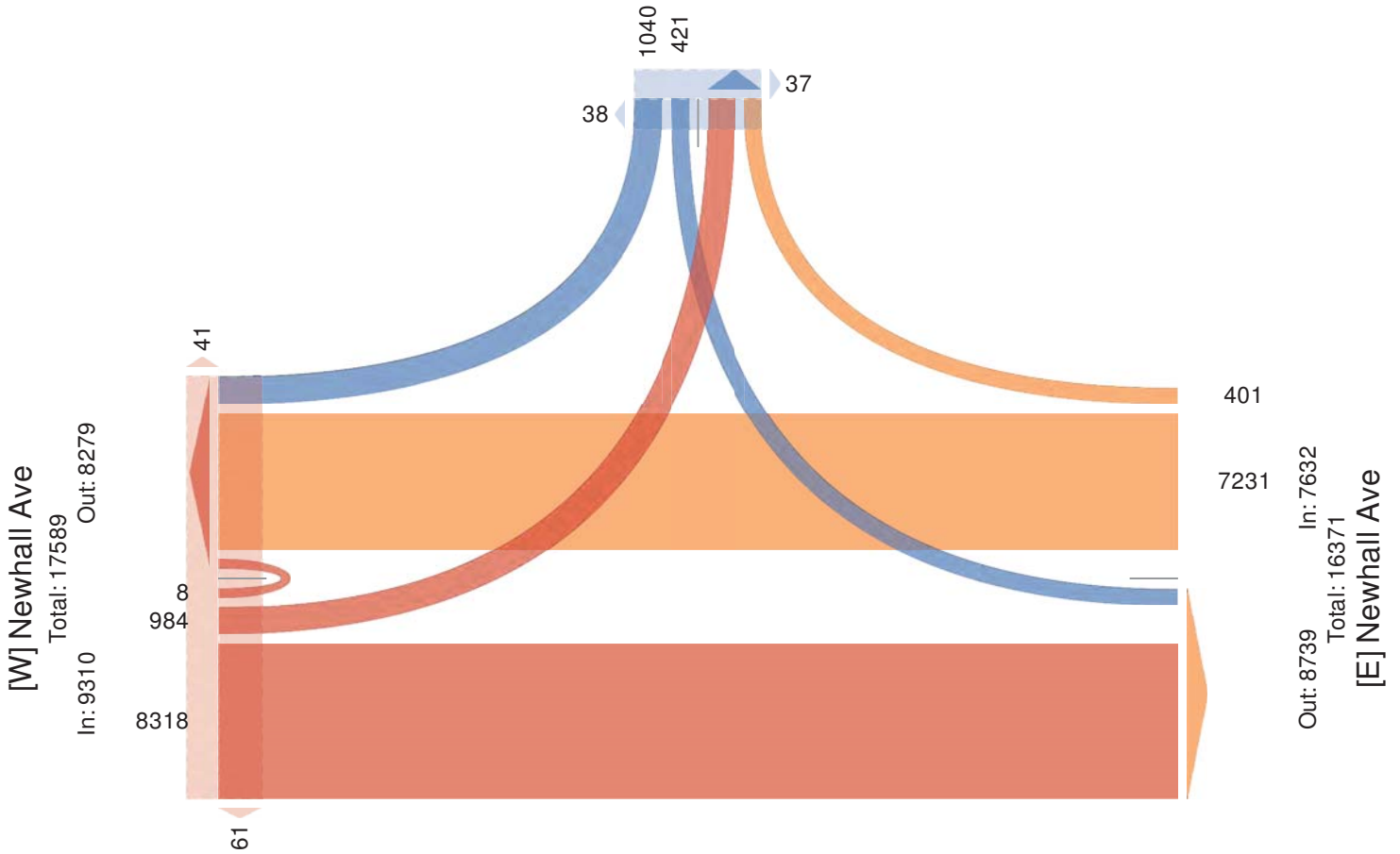
1305 N 30th St,

Renton, WA, 98056, US

[N] Valle del Oro

Total: 2846

In: 1461 Out: 1385



147 SCTUE - TMC

Tue Jan 29, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 618768, Location: 34.370753, -118.514726



DATA SOLUTIONS

Provided by: IDAX Data Solutions

1305 N 30th St,

Renton, WA, 98056, US

Leg Direction	Valle del Oro Southbound					Newhall Ave Westbound					Newhall Ave Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2019-01-29 7:15AM	64	23	0	87	3	15	228	0	243	0	464	30	0	494	3	824
7:30AM	96	38	0	134	5	27	386	0	413	0	336	45	0	381	12	928
7:45AM	94	42	0	136	4	24	383	0	407	0	336	47	0	383	30	926
8:00AM	76	51	0	127	1	27	271	0	298	0	366	42	0	408	3	833
Total	330	154	0	484	13	93	1268	0	1361	0	1502	164	0	1666	48	3511
% Approach	68.2%	31.8%	0%	-	-	6.8%	93.2%	0%	-	-	90.2%	9.8%	0%	-	-	-
% Total	9.4%	4.4%	0%	13.8%	-	2.6%	36.1%	0%	38.8%	-	42.8%	4.7%	0%	47.5%	-	-
PHF	0.859	0.755	-	0.890	-	0.861	0.821	-	0.824	-	0.809	0.872	-	0.843	-	0.946
Lights and Motorcycles	329	152	0	481	-	92	1223	0	1315	-	1461	162	0	1623	-	3419
% Lights and Motorcycles	99.7%	98.7%	0%	99.4%	-	98.9%	96.5%	0%	96.6%	-	97.3%	98.8%	0%	97.4%	-	97.4%
Heavy	1	2	0	3	-	1	45	0	46	-	41	2	0	43	-	92
% Heavy	0.3%	1.3%	0%	0.6%	-	1.1%	3.5%	0%	3.4%	-	2.7%	1.2%	0%	2.6%	-	2.6%
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	12	-	-	-	-	0	-	-	-	-	48	-
% Pedestrians	-	-	-	-	92.3%	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	7.7%	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

147 SCTUE - TMC

Tue Jan 29, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 618768, Location: 34.370753, -118.514726



DATA SOLUTIONS

Provided by: IDAX Data Solutions

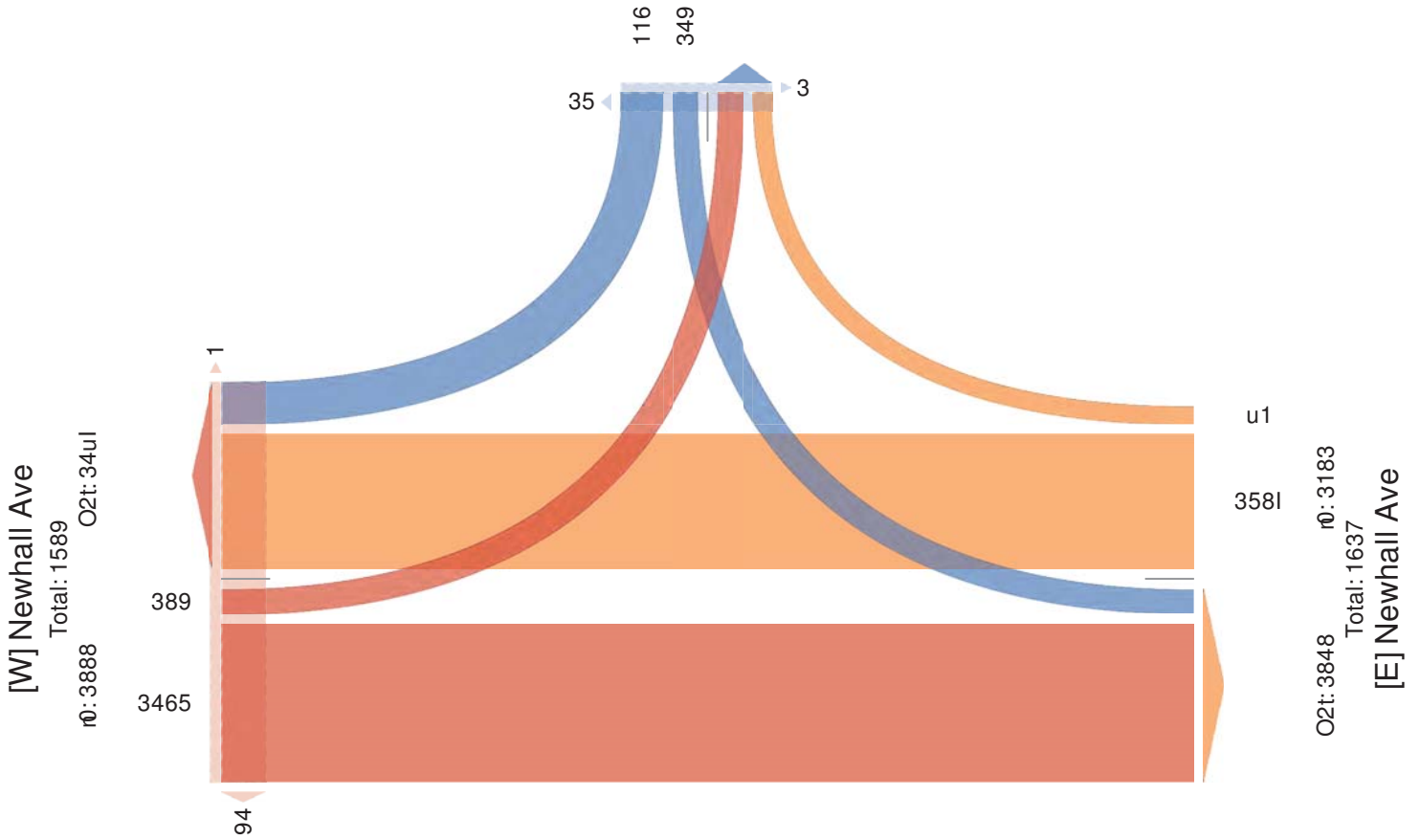
1305 N 30th St,

Renton, WA, 98056, US

[N] Valle del Oro

Total: 793

r0: 91 9 O2t: 547



147 SCTUE - TMC

Tue Jan 29, 2019

AMPak (ea7:115 8) A l 125 8 (AC

) sLsaiiei :gMt d anP Aodrckcsei, yeaHk, (ePeidMni, vMkcsei on BoaP, vMkcsei on Lroi i Ras7C

) sAoHewend

ni 5Dl63D6, gocadn5- .430384, l116.81- 32D



DATA SOLUTIONS
(roHMeP bk5ni) X I ad SoudMni
1408 N 40d Sd
Bendn, W) , 9608D, US

geh I Me cdMn	Vasse Pes Oro Soud bounP					Ne Rt ass) Hē Wei dounP					Ne Rt ass) Hē Eai dounP					
TMe	B	g	U	App (eP*		B	T	U	App (eP*		T	g	U	App (eP*		Int
2019101129 115 8) A	43	10	0	87	1	11	24D	0	287	0	233	26	1	439	2	933
1250(A	44	18	0	81	4	9	292	0	436	0	281	40	0	216	4	943
12518(A	41	14	0	88	2	6	234	0	216	0	241	26	2	296	2	019
12540(A	22	9	0	46	8	14	28D	0	29T	0	4D9	44	0	832	1	732
o atl 5	124	- 3	0	673	11	- 1	1083	0	63T1	0	1126	119	4	6203	6	2061
% Appral ch	32.- %	23.D%	0%	-	1	4.3%	9D.4%	0%	-	1	90.2%	9.8%	0.2%	-	1	1
% o atl 5	- .9%	1.9%	0%	9.1%	1	1.D%	- 2.0%	0%	84.9%	1	-- .6%	-.3%	0.1%	8T.9%	1	1
PHF	0.641	0.364	1	3.110	1	0.366	0.908	1	3.T62	1	0.3D-	0.902	0.438	3.777	1	0.693
Lights l nd Matarcyc 5es	121	- 3	0	691	1	49	1010	0	638 T	1	103-	119	4	66T9	1	2- 14
% Lights l nd Matarcyc 5es	96.- %	100%	0%	T1.1%	1	98.1%	98.D%	0%	T0.0%	1	98.2%	100%	100%	T0.7%	1	98.6%
Hel vy	2	0	0	2	1	2	- 3	0	8 T	1	8-	0	0	08	1	108
% Hel vy	1.D%	0%	0%	6.2%	1	- .9%	- .-	0%	8.0%	1	- .6%	0%	0%	8.4%	1	- .2%
Bicyc 5es an Ral d	0	0	0	3	1	0	0	0	3	1	0	0	0	3	1	0
% Bicyc 5es an Ral d	0%	0%	0%	3%	1	0%	0%	0%	3%	1	0%	0%	0%	3%	1	0%
(ePeidMni	1	1	1	1	11	1	1	1	1	0	1	1	1	1	1	6
% (ePeidMni	1	1	1	1	100%	1	1	1	1	1	1	1	1	1	1	100%
v Mkcsei on Lroi i Ras7	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	
% v Mkcsei on Lroi i Ras7	1	1	1	1	0%	1	1	1	1	1	1	1	1	1	0%	1

*(ePeidMni anP vMkcsei on Lroi i Ras7. g5gef d B5B Mt d T5Tt ru, U5UITurn

147 SCTUE - TMC

Tue Jan 29, 2019

AMPak (ea7:115 8) A l 125 8 (AC

) sLsaiiei :gMt d anP Aodrckcxi, yeahk, (ePeidmi, vMkcei on BoaP, vMkcei on Lroii Ras7C

) sAoHewend

m 5Dl63D6, gocadn54- .430384, l116.81- 32D



DATA SOLUTIONS

(roHMeP bk5m) X I ad Soudmi

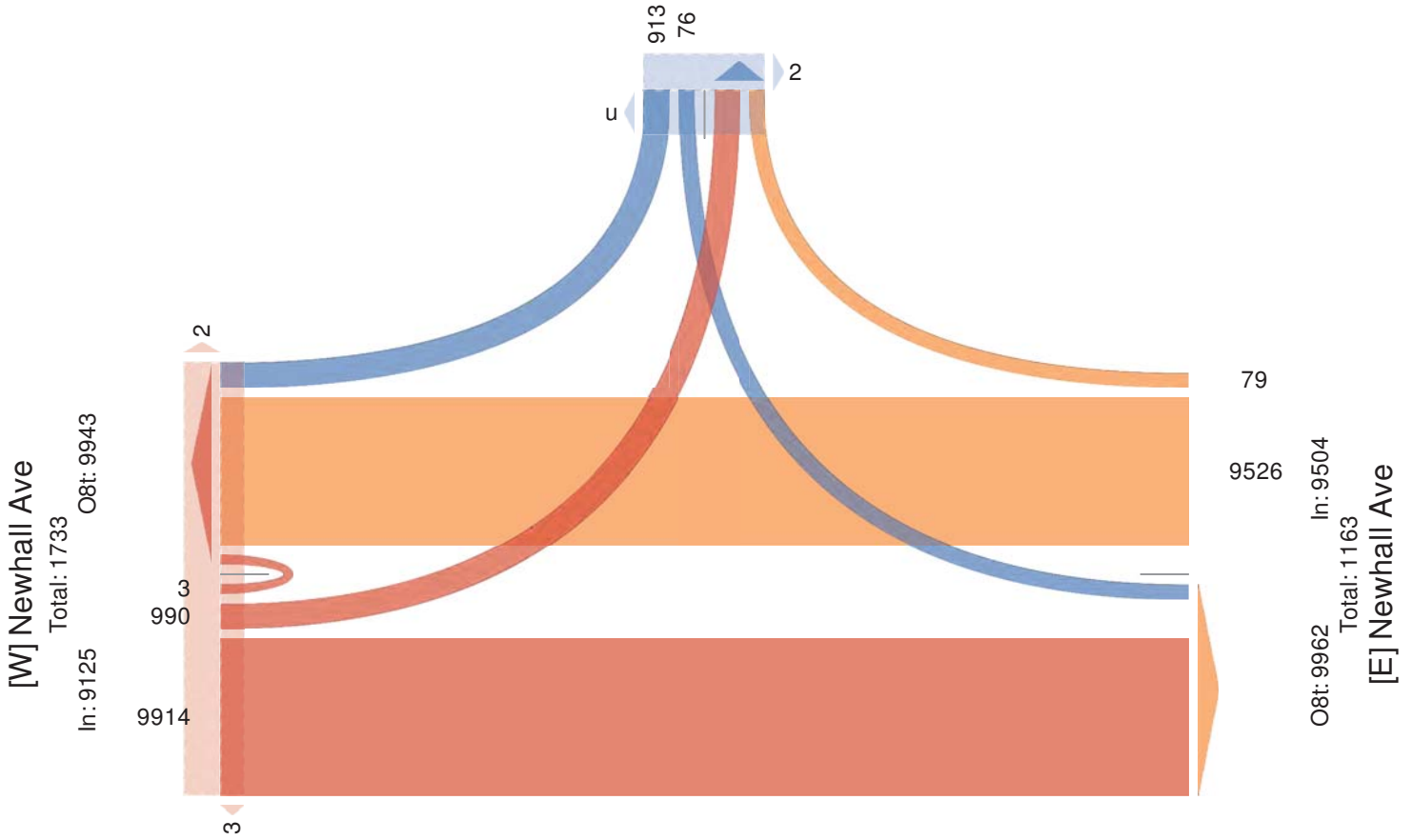
1408 N 40d Sd

Bendn, W) , 9608D, US

[N] Valle del Oro

Total: 335

In: 965 O8t: 9u5



147 SCTUE - TMC

Tue Jan 29, 2019

AM AeaPk (7: AM 5: 7: AM- 58) el aC AeaPs Lul

i Cg Ahheh kt d r ch any MLdLHVHh, s ea) v, Aeyehd anh, BdHVHh Ln RLay, BdHVHh Ln glLhhwaP-

i CML) emendh

ID7613463, t LHacdLn7. (b 404: . , 5l13b 1(426



DATA SOLUTIONS

AL) d yey Xv7IDI S Daga NLacdLn

1. 0: W. 0α Nc

RenLn, Ui , 930: 6, VN

teo DdeHdLn	OaCē yeC8 lL NLuα XLuny	Wē wr aCī)e UehcXLuny	Wē wr aCī)e EahcXLuny	
Tdne	R t V App Aey*	R T V App Aey*	T t V App Aey*	Int
2019D1529 (7: AM	24 14 0 88 9	13 . (3 0 722 0	(06 61 0 824 :	344
: 700AM	: 0 14 0 24 0	20 . 41 0 791 0	(. 9 : 2 0 891 0	989
: 7: AM	((1: 0 69 (	( 20 296 0 712 0	. 96 31 0 844 :	360
: 7. 0AM	(2 10 0 60 (	( . 0 . 03 0 773 0	(. 0 3: 0 616 .	9T6
o ad 5	16. : 9 0 000 14	33 1. 2. 0 18 11 0	1641 249 0 196T 1.	7637
% Appral ch	4. h % 26b6% 0% - 5	6b2% 9. b3% 0% - 5	3: b4% 1(b % 0% - 5	5
% o ad 5	(h % 1b6% 0% 2.0% 5	2h % . 6b9% 0% 79.8% 5	(6b6% 4b3% 0% 68.8% 5	5
PHF	0b1: 0b363 5 T.303 5	0b4. . 0b91 5 T.9T0 5	0b9: 2 0b21 5 T.984 5	0b9((
Lights l nd Matarcyc5es	161 : 3 0 019 5	36 1291 0 1744 5	16: 0 244 0 1904 5	. : 2.
% Lights l nd Matarcyc5es	93b3% 93h % 0% 93.2% 5	94b4% 94b6% 0% 94.2% 5	93b4% 99b % 0% 93.3% 5	93h %
Hel vy	2 1 0 7 5	2 . 1 0 77 5	21 2 0 07 5	: 9
% Hel vy	1b2% 1b4% 0% 1.8 % 5	2b % 2b % 0% 0.7% 5	1b % 0b4% 0% 1.0% 5	1b6%
Bicyc5es an Ral d	0 0 0 T 5	0 1 0 1 5	0 0 0 T 5	1
% Bicyc5es an Ral d	0% 0% 0% T% 5	0% 0b1% 0% T.1% 5	0% 0% 0% T% 5	0%
Aeyehd anh	5 5 5 5 1:	5 5 5 5 0	5 5 5 5 1.	
% Aeyehd anh	5 5 5 5 33b2%	5 5 5 5 5	5 5 5 5 100%	5
BdHVHh Ln glLhhwaP	5 5 5 5 2	5 5 5 5 0	5 5 5 5 0	
% BdHVHh Ln glLhhwaP	5 5 5 5 11b3%	5 5 5 5 5	5 5 5 5 0%	5

*Aeyehd anh any BdHVHh Ln glLhhwaPbt 7t efc, R7Rd r c, T7Tr lu, V7V5T uln

147 SCTUE - TMC

Tue Jan 29, 2019

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 618768, Location: 34.370753, -118.514726



DATA SOLUTIONS

Provided by: IDAX Data Solutions

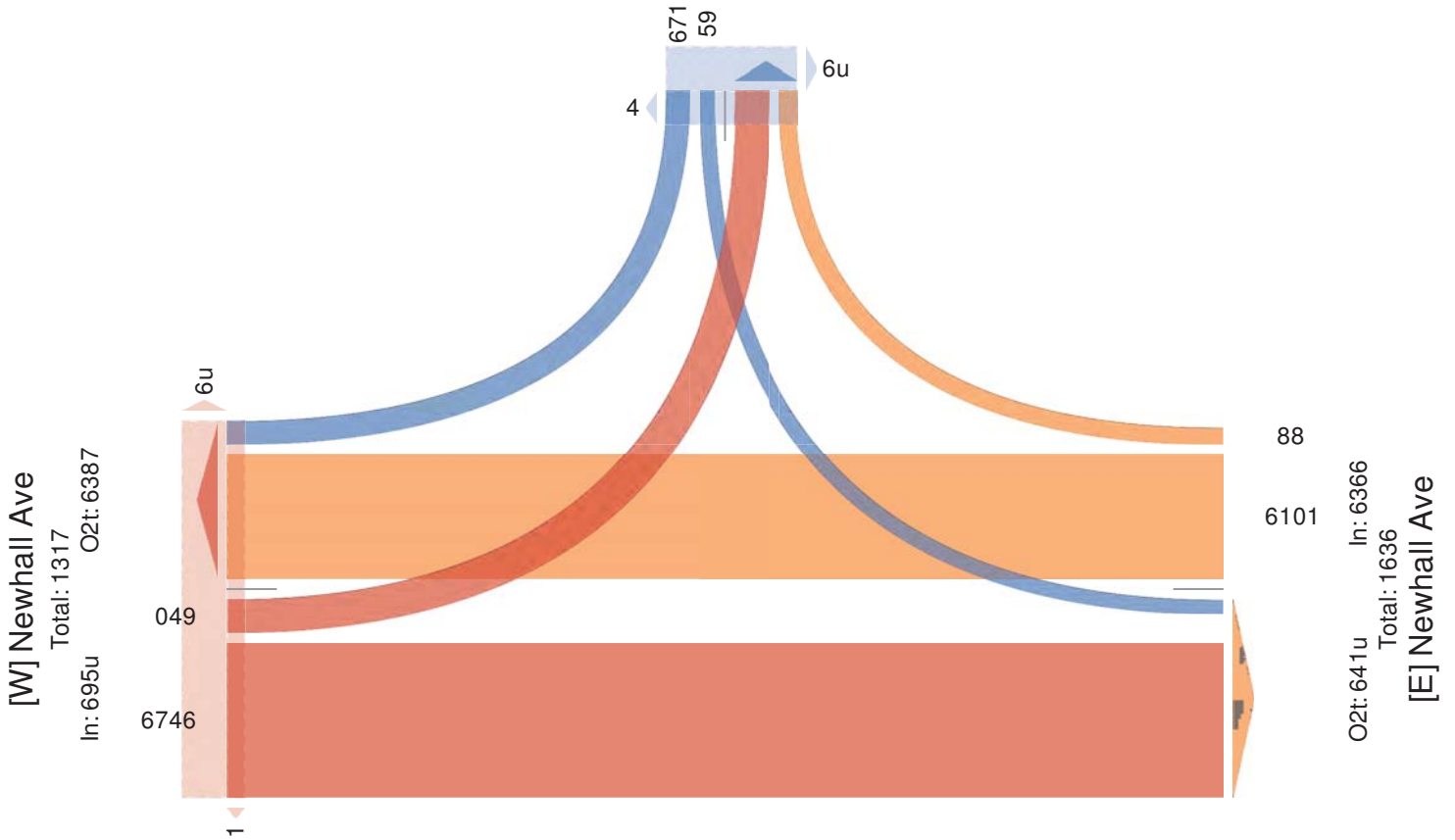
1305 N 30th St,

Renton, WA, 98056, US

[N] Valle del Oro

Total: 589

In: 000 O2t: 174



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION:
NORTH & SOUTH: Santa Clarita
EAST & WEST: Newhall
Sierra

PROJECT #: SC2177
LOCATION #: 8
CONTROL: SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

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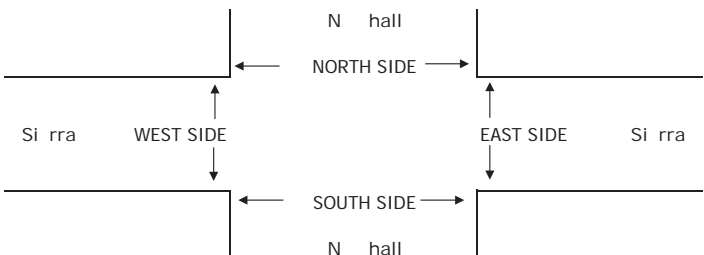
Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Ne hall			Ne hall			Sierra			Sierra			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	1	2	3	1	2	2	0	1	2.5	0.5	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
1	1	0	0	2
0	1	1	0	2
0	0	2	0	2
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
1	2	5	0	8

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Ne hall			Ne hall			Sierra			Sierra			
AM													
7:00 AM	13	130	5	16	354	37	12	11	5	126	264	51	1,024
7:15 AM	21	138	7	35	332	28	19	14	2	108	306	71	1,081
7:30 AM	21	205	14	43	325	52	13	12	4	115	219	110	1,133
7:45 AM	16	213	15	47	332	49	37	13	6	73	171	95	1,067
8:00 AM	14	216	11	52	304	42	20	16	8	78	140	74	975
8:15 AM	9	197	9	27	352	38	23	16	4	42	99	92	908
8:30 AM	10	175	5	25	306	61	15	20	3	32	92	85	829
8:45 AM	24	235	6	31	277	34	23	16	4	40	62	66	818
VOLUMES	128	1,509	72	276	2,582	341	162	118	36	614	1,353	644	7,835
APPROACH %	7%	88%	4%	9%	81%	11%	51%	37%	11%	24%	52%	25%	
APP/DEPART	1,709	/	2,312	3,199	/	3,233	316	/	464	2,611	/	1,826	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	71	686	41	141	1,343	166	81	50	17	422	960	327	4,305
APPROACH %	9%	86%	5%	9%	81%	10%	55%	34%	11%	25%	56%	19%	
PEAK HR FACTOR	0.818			0.964			0.661			0.881			0.950
APP/DEPART	798	/	1,093	1,650	/	1,783	148	/	230	1,709	/	1,199	0
PM													
4:00 PM	14	248	161	87	253	23	59	264	34	11	23	70	1,247
4:15 PM	17	267	153	99	262	14	50	256	28	12	17	67	1,242
4:30 PM	16	270	155	86	296	20	80	255	26	14	14	56	1,288
4:45 PM	17	245	130	72	307	14	72	289	28	12	22	81	1,289
5:00 PM	15	277	166	80	281	18	85	284	26	14	18	71	1,335
5:15 PM	9	260	159	93	298	22	57	286	20	11	20	62	1,297
5:30 PM	19	288	158	103	297	14	75	290	19	11	14	56	1,344
5:45 PM	16	303	180	102	292	24	57	245	19	21	15	68	1,342
VOLUMES	123	2,158	1,262	722	2,286	149	535	2,169	200	106	143	531	10,384
APPROACH %	3%	61%	36%	23%	72%	5%	18%	75%	7%	14%	18%	68%	
APP/DEPART	3,543	/	3,207	3,157	/	2,592	2,904	/	4,150	780	/	435	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	59	1,128	663	378	1,168	78	274	1,105	84	57	67	257	5,318
APPROACH %	3%	61%	36%	23%	72%	5%	19%	76%	6%	15%	18%	67%	
PEAK HR FACTOR	0.927			0.971			0.926			0.916			0.989
APP/DEPART	1,850	/	1,654	1,624	/	1,309	1,463	/	2,144	381	/	211	0

NB	SB	EB	WB	TTL
0	0	0	0	0
1	1	0	0	2
0	1	1	0	2
0	0	2	0	2
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
1	2	5	0	8
0	0	4	0	4
0	1	0	0	1
0	0	5	0	5
0	0	4	0	4
0	1	1	0	2
0	0	2	0	2
0	1	3	0	4
0	0	1	0	1
0	3	20	0	23

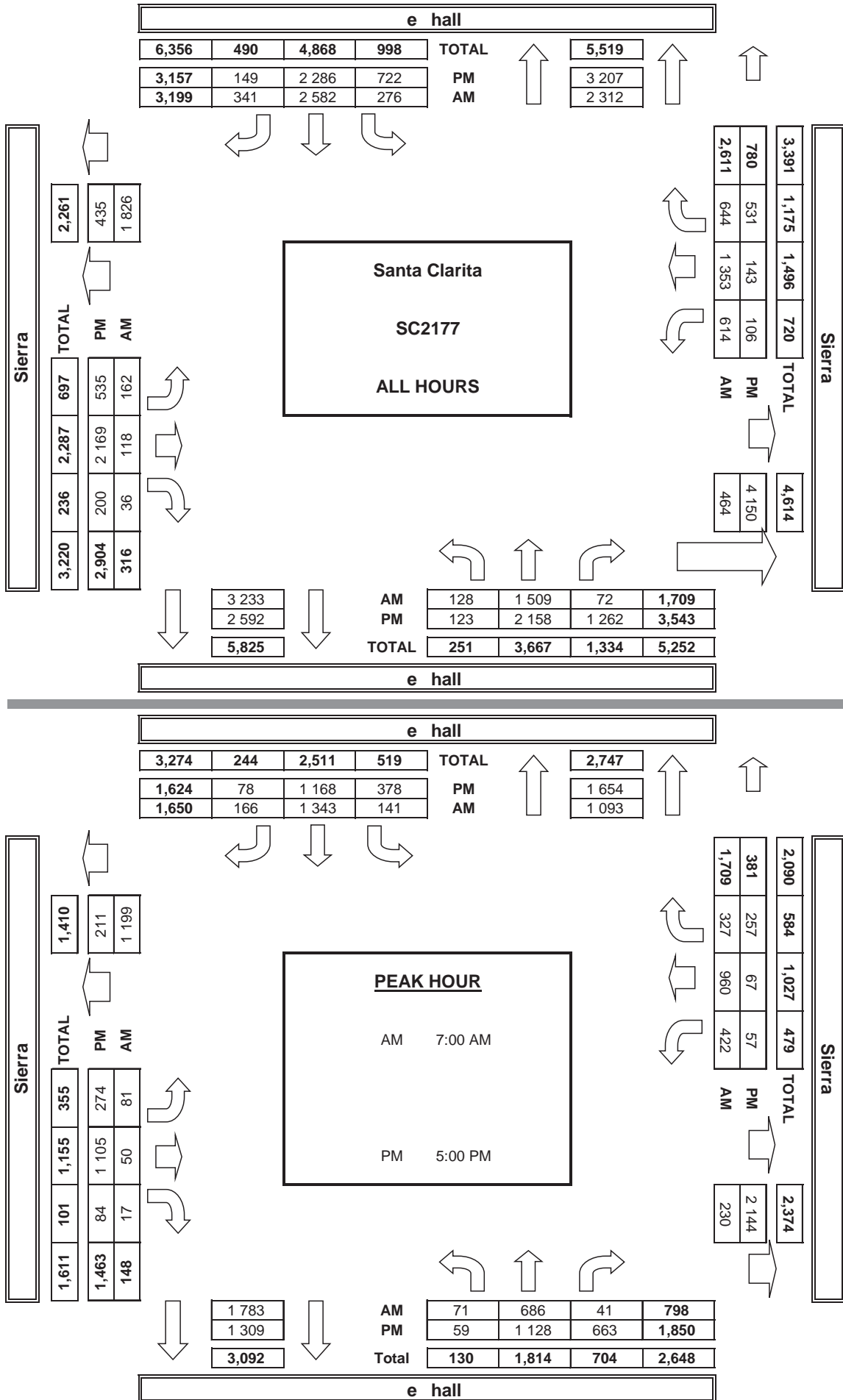


	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	2	0	2
7:15 AM	3	0	2	0	5
7:30 AM	0	0	5	0	5
7:45 AM	0	0	2	0	2
8:00 AM	0	0	0	0	0
8:15 AM	0	0	3	0	3
8:30 AM	1	0	2	0	3
8:45 AM	0	0	2	0	2
TOTAL	4	0	18	0	22
AM BEGIN PEAK HR	7:00 AM				
4:00 PM	1	0	2	0	3
4:15 PM	0	0	1	0	1
4:30 PM	8	0	6	0	14
4:45 PM	3	0	10	0	13
5:00 PM	6	0	7	0	13
5:15 PM	4	0	5	0	9
5:30 PM	23	0	15	0	38
5:45 PM	15	0	3	0	18
TOTAL	60	0	49	0	109
PM BEGIN PEAK HR	5:00 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	2	0	2
7:15 AM	3	0	2	0	5
7:30 AM	0	0	5	0	5
7:45 AM	0	0	2	0	2
8:00 AM	0	0	0	0	0
8:15 AM	0	0	3	0	3
8:30 AM	1	0	2	0	3
8:45 AM	0	0	2	0	2
TOTAL	4	0	18	0	22
AM BEGIN PEAK HR	7:00 AM				
4:00 PM	1	0	2	0	3
4:15 PM	0	0	1	0	1
4:30 PM	8	0	5	0	13
4:45 PM	3	0	10	0	13
5:00 PM	6	0	7	0	13
5:15 PM	4	0	5	0	9
5:30 PM	21	0	15	0	36
5:45 PM	15	0	3	0	18
TOTAL	58	0	48	0	106
PM BEGIN PEAK HR	5:00 PM				

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:00 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	2	0	0	0	2
5:45 PM	0	0	0	0	0
TOTAL	2	0	1	0	3
PM BEGIN PEAK HR	5:00 PM				

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION: Santa Clarita
NORTH & SOUTH: Newhall
EAST & WEST: SR 14 EB Ramps

PROJECT #: SC2177
LOCATION #: 10
CONTROL: SIGNAL

NOTES:

AM	▲	N
PM		
MD	◀	W
OTHER		
OTHER	▼	S
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		E

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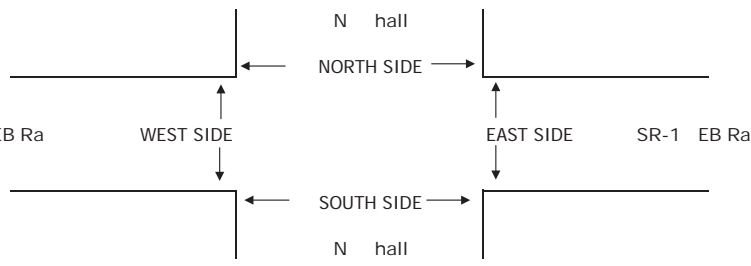
Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	X	1	X	X	2	X	X	X	1	X	X	2	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	0	6	0	0	56	0	0	0	3	0	0	123	188
7:15 AM	0	9	0	0	54	0	1	0	6	0	0	119	189
7:30 AM	0	13	0	0	74	0	1	0	2	0	0	154	244
7:45 AM	0	17	0	0	105	0	0	0	0	0	0	165	287
8:00 AM	0	15	0	0	68	0	5	0	1	0	0	157	246
8:15 AM	0	13	0	0	69	0	0	0	6	0	0	110	198
8:30 AM	0	14	0	0	62	0	1	0	1	0	0	116	194
8:45 AM	0	13	0	0	59	0	2	0	4	0	0	129	207
VOLUMES	0	100	0	0	547	0	10	0	23	0	0	1,073	1,753
APPROACH %	0%	100%	0%	0%	100%	0%	30%	0%	70%	0%	0%	100%	
APP/DEPART	100	/	1,183	547	/	570	33	/	0	1,073	/	0	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	0	58	0	0	316	0	6	0	9	0	0	586	975
APPROACH %	0%	100%	0%	0%	100%	0%	40%	0%	60%	0%	0%	100%	
PEAK HR FACTOR	0.853			0.752			0.625			0.888			0.849
APP/DEPART	58	/	650	316	/	325	15	/	0	586	/	0	0
4:00 PM	0	13	0	0	125	0	0	0	135	0	0	351	624
4:15 PM	0	14	0	0	121	0	0	0	167	0	0	331	633
4:30 PM	0	25	0	0	118	0	1	0	134	0	0	364	642
4:45 PM	0	26	0	0	144	0	1	0	168	0	0	322	661
5:00 PM	0	35	0	0	118	0	1	0	157	0	0	372	683
5:15 PM	0	29	0	0	134	0	1	0	161	0	0	358	683
5:30 PM	0	25	0	0	123	0	3	0	139	0	0	367	657
5:45 PM	0	20	0	0	137	0	1	0	168	0	0	384	710
VOLUMES	0	187	0	0	1,020	0	8	0	1,229	0	0	2,849	5,293
APPROACH %	0%	100%	0%	0%	100%	0%	1%	0%	99%	0%	0%	100%	
APP/DEPART	187	/	3,044	1,020	/	2,249	1,237	/	0	2,849	/	0	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	0	109	0	0	512	0	6	0	625	0	0	1,481	2,733
APPROACH %	0%	100%	0%	0%	100%	0%	1%	0%	99%	0%	0%	100%	
PEAK HR FACTOR	0.779			0.934			0.933			0.964			0.962
APP/DEPART	109	/	1,596	512	/	1,137	631	/	0	1,481	/	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



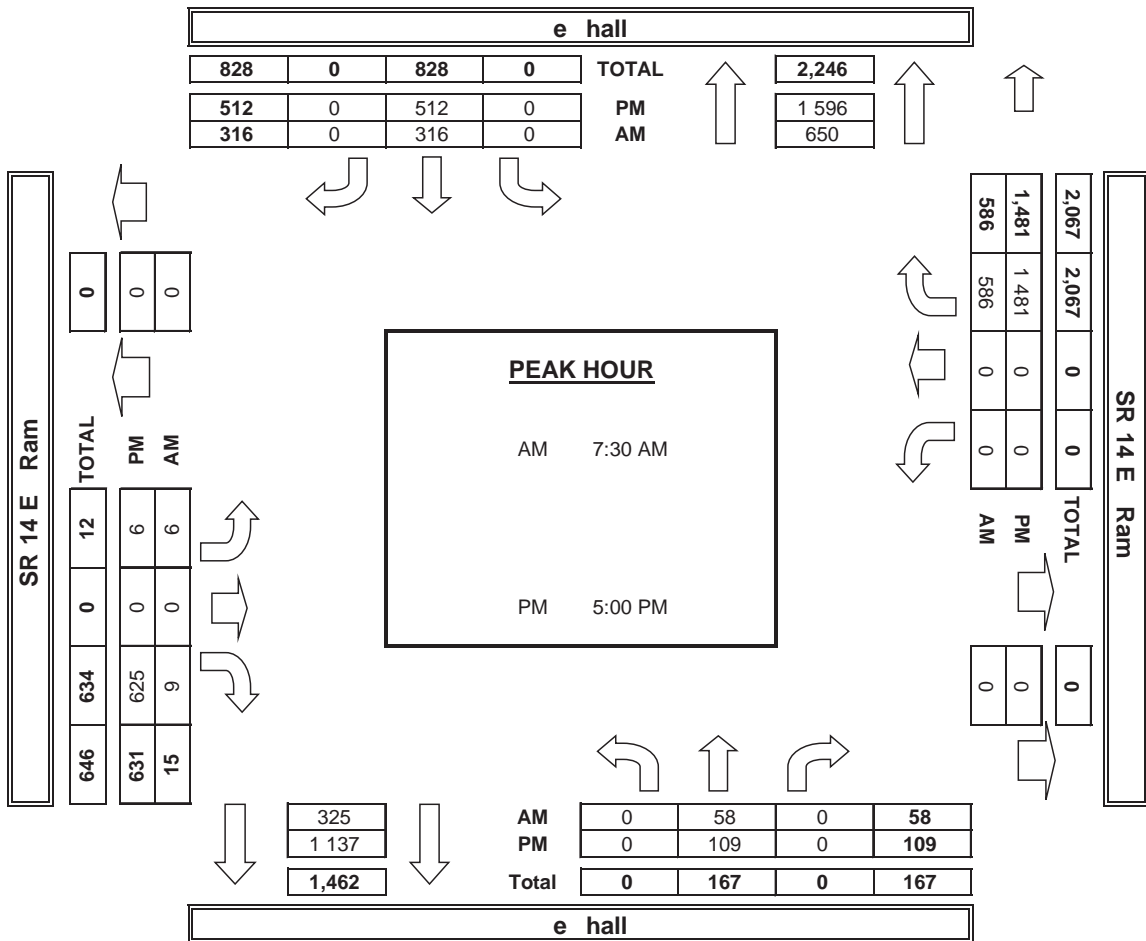
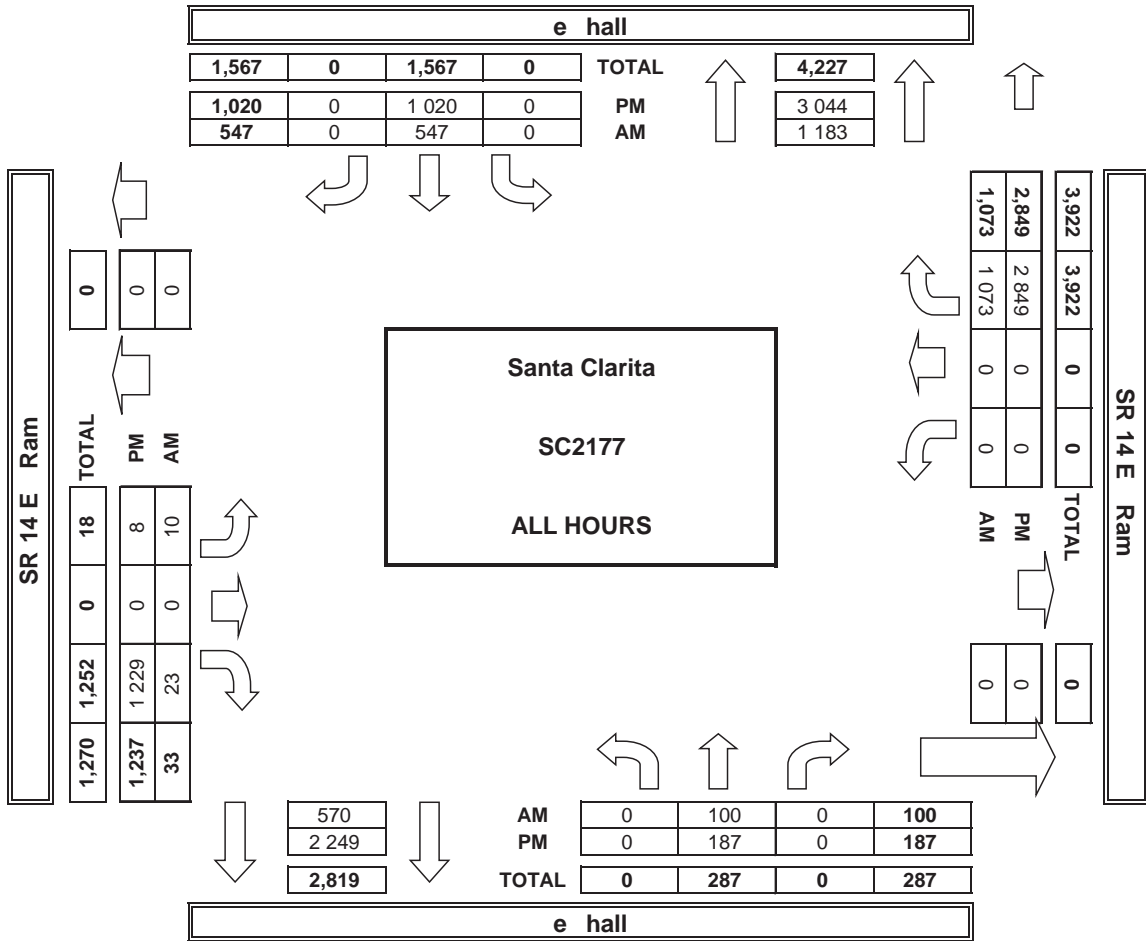
	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	1	0	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	1	0	1
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	1	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	1	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	1	1	2
PM BEGIN PEAK HR	5:00 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	1	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	1	1
PM BEGIN PEAK HR	5:00 PM				

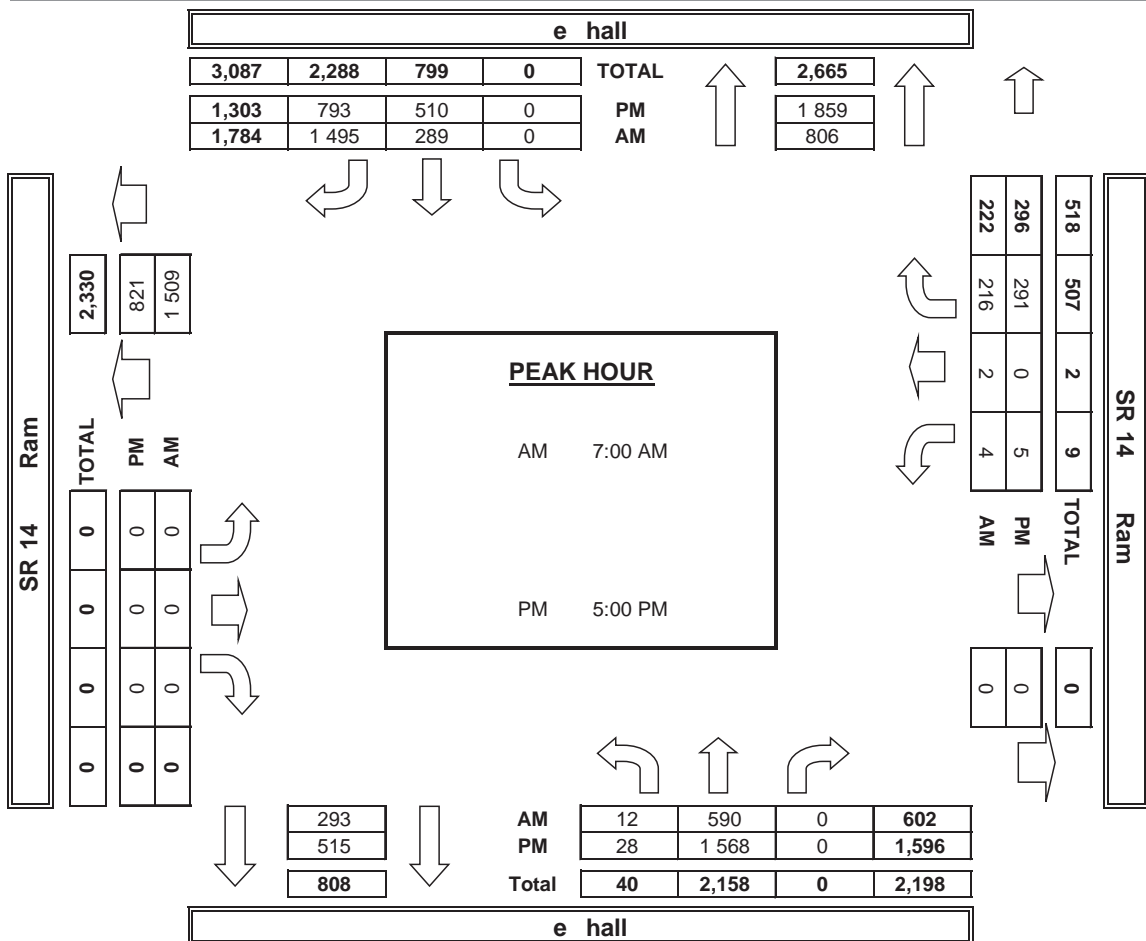
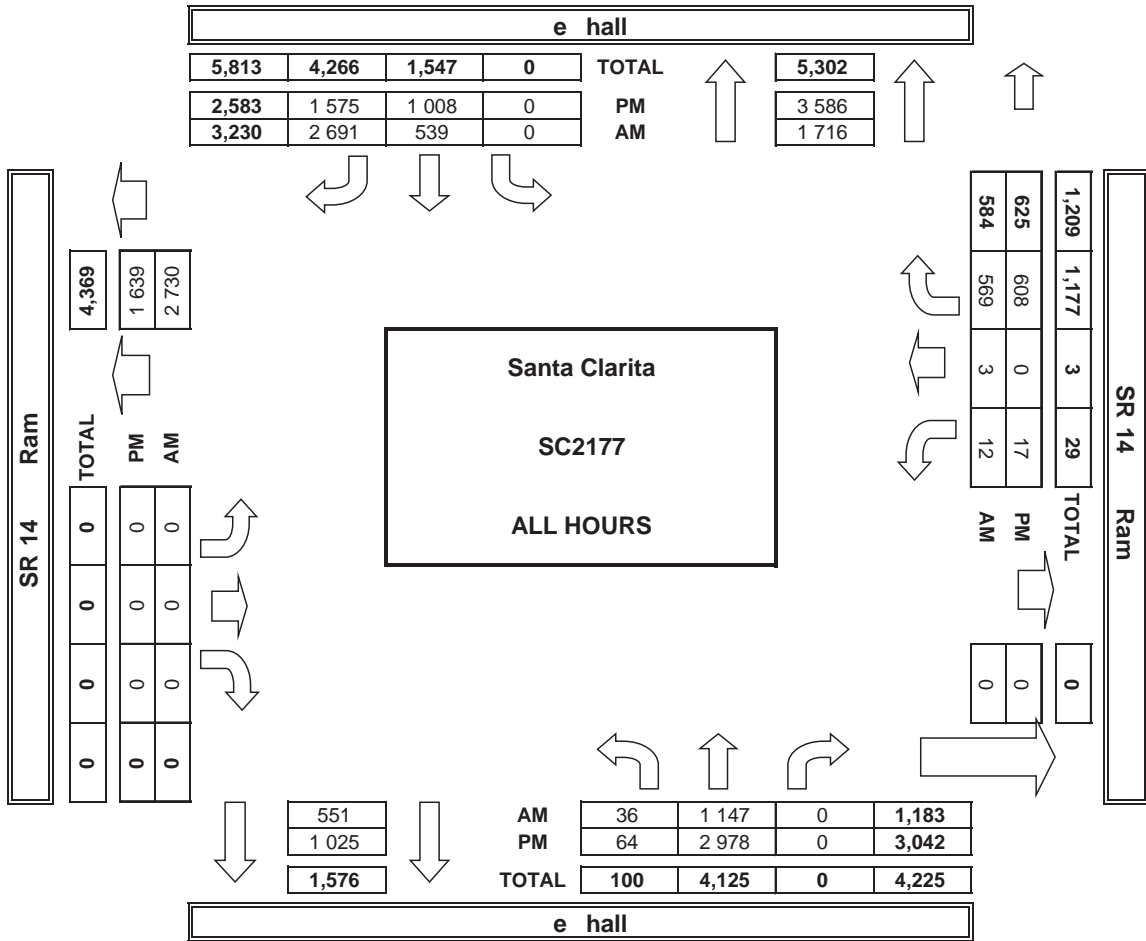
	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	1	0	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	1	0	1
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	1	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	1	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	1	0	1
PM BEGIN PEAK HR	5:00 PM				

0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

AimTD LLC
TURNING MOVEMENT COUNTS



AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION: Santa Clarita
NORTH & SOUTH: I 5 NB Ramps
EAST & WEST: Lyons

PROJECT #: SC2177
LOCATION #: 13
CONTROL: SIGNAL

NOTES:	AM PM MD OTHER OTHER	▲ N ▼ S	◀ W E ▶
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Add U-Turns to Left Turns

LANES:	NORTHBOUND I 5 NB Ram s			SOUTHBOUND I 5 NB Ram s			EASTBOUND Lyons			WESTBOUND Lyons			TOTAL
	NL 1.5	NT 0.5	NR 1	SL X	ST X	SR X	EL 1	ET 2	ER X	WL X	WT 3	WR 0	

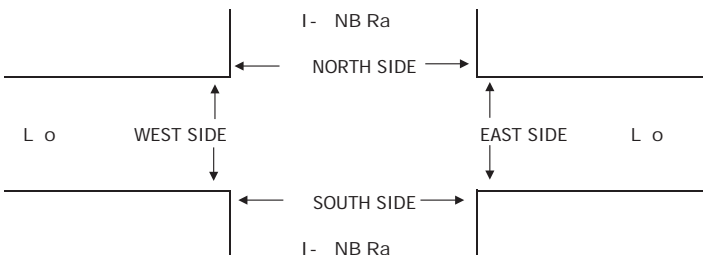
U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL 0

AM	7:00 AM	54	1	45	0	0	0	14	57	0	0	144	73	388	0	0	0	0	0	
	7:15 AM	77	0	56	0	0	0	23	96	0	0	131	72	455	0	0	0	0	0	
	7:30 AM	69	0	66	0	0	0	42	160	0	0	194	107	638	0	0	0	0	0	
	7:45 AM	73	0	69	0	0	0	51	171	0	0	215	120	699	0	0	0	0	0	
	8:00 AM	78	0	73	0	0	0	39	131	0	0	199	111	631	0	0	0	0	0	
	8:15 AM	66	0	69	0	0	0	35	127	0	0	145	88	530	0	0	0	0	0	0
	8:30 AM	57	0	81	0	0	0	29	143	0	0	126	85	521	0	0	0	0	0	0
	8:45 AM	77	0	78	0	0	0	38	164	0	0	148	76	581	0	0	0	0	0	0
	VOLUMES	551	1	537	0	0	0	271	1,049	0	0	1,302	732	4,443	0	0	0	0	0	0
	APPROACH %	51%	0%	49%	0%	0%	0%	21%	79%	0%	0%	64%	36%							
APP/DEPART	1,089	/	1,004	0	/	0	1,320	/	1,586	2,034	/	1,853	0							

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

PM	4:00 PM	103	0	121	0	0	0	28	195	0	0	192	76	715	0	0	0	0	0	
	4:15 PM	120	1	130	0	0	0	30	252	0	0	205	83	821	0	0	0	0	0	
	4:30 PM	130	0	117	0	0	0	32	233	0	0	189	73	774	0	0	0	0	0	
	4:45 PM	124	0	138	0	0	0	61	246	0	0	226	104	899	0	0	1	0	1	
	5:00 PM	146	0	139	0	0	0	29	204	0	0	191	90	799	0	0	0	0	0	
	5:15 PM	128	0	156	0	0	0	38	245	0	0	199	85	851	0	0	0	0	0	0
	5:30 PM	134	0	154	0	0	0	38	242	0	0	208	74	850	0	0	0	0	0	0
	5:45 PM	127	0	142	0	0	0	38	255	0	0	206	82	850	0	0	0	0	0	0
	VOLUMES	1,012	1	1,097	0	0	0	294	1,872	0	0	1,616	667	6,559	0	0	1	0	1	1
	APPROACH %	48%	0%	52%	0%	0%	0%	14%	86%	0%	0%	71%	29%							
APP/DEPART	2,110	/	961	0	/	0	2,166	/	2,969	2,283	/	2,629	0							

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1



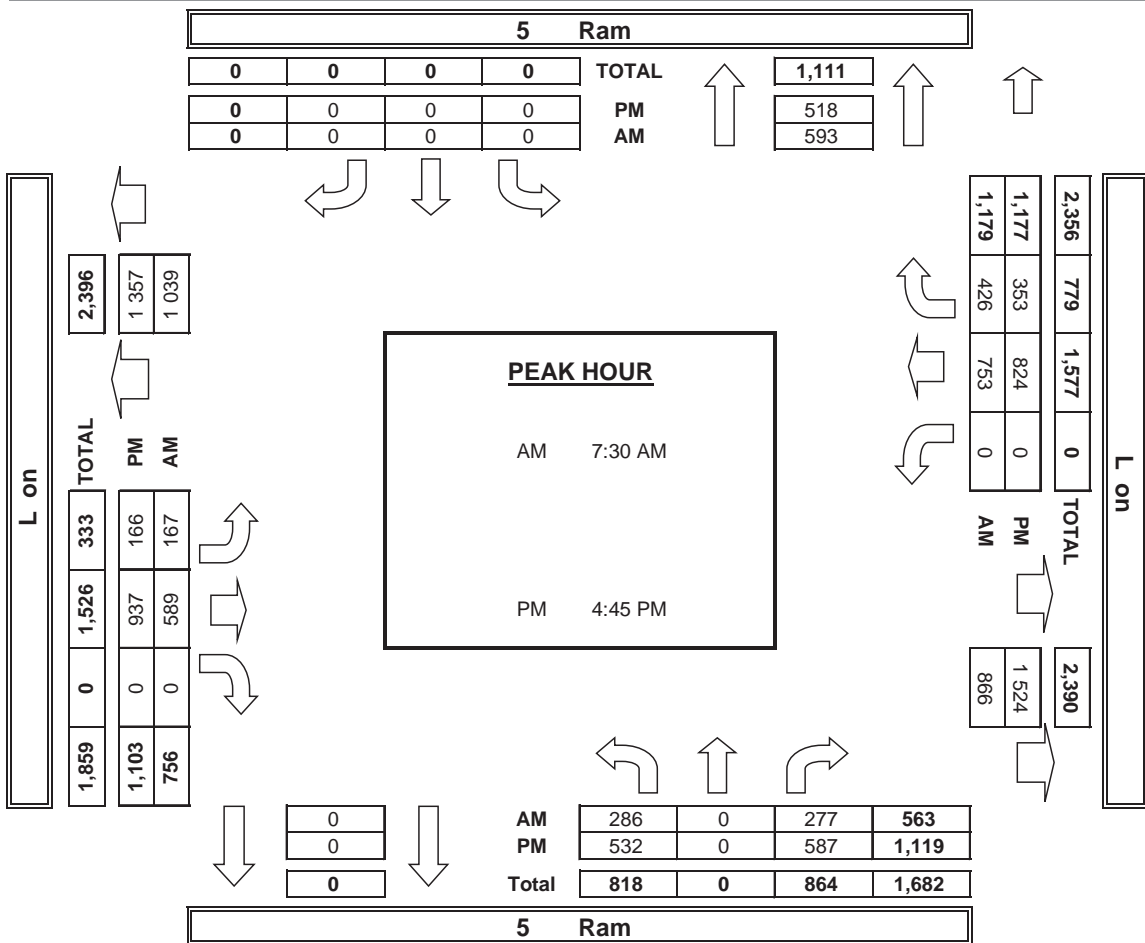
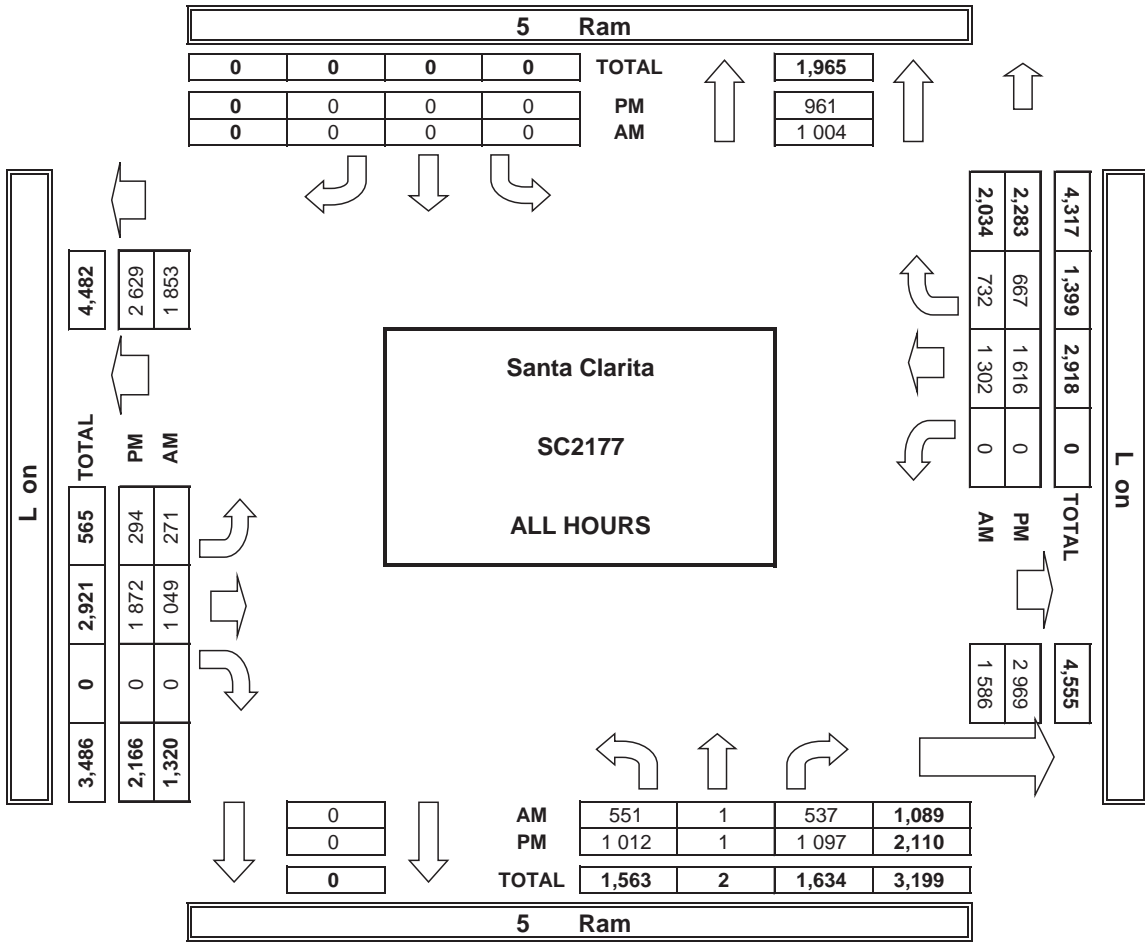
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	1	0	0	1
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	1	0	0	0	1
	8:30 AM	0	2	0	0	2
	8:45 AM	0	0	0	0	0
TOTAL	1	3	0	0	4	
AM BEGIN PEAK HR	7:30 AM					

PEDESTRIAN + BIKE CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
0	0	0	0	0	0
0	0	0	0	0	0
0	1	0	0	1	1
0	0	0	0	0	0
0	0	0	0	0	0
1	0	0	0	1	1
0	2	0	0	2	2
0	0	0	0	0	0
1	0	1	0	2	2
0	0	0	0	0	0
0	2	0	0	2	2
0	1	4	0	5	5
5	7	9	0	21	21
PM BEGIN PEAK HR	4:45 PM				

PEDESTRIAN CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
0	0	0	0	0	
0	0	0	0	0	
0	1	0	0	1	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	1	0	0	1	
0	0	0	0	0	
0	1	0	0	1	
0	0	0	0	0	
0	2	0	0	2	
0	1	4	0	5	
5	6	9	0	20	
PM BEGIN PEAK HR	2	3	2	0	7

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION: Santa Clarita
NORTH & SOUTH: Wiley Canyon
EAST & WEST: Lyons

PROJECT #: SC2177
LOCATION #: 14
CONTROL: SIGNAL

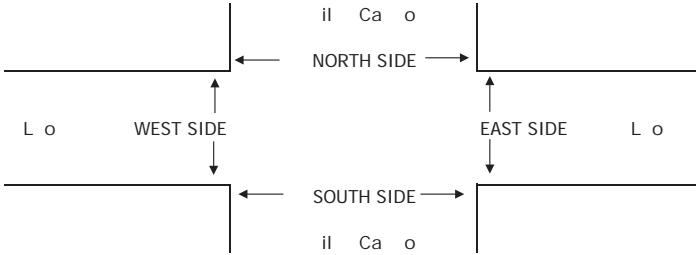
NOTES:	AM		▲	
	PM		N	
	MD	◀ W	S	E ▶
	OTHER		▼	

Add U-Turns to Left Turns

LANES:	NORTHBOUND <small>Wiley Canyon</small>			SOUTHBOUND <small>Wiley Canyon</small>			EASTBOUND <small>Lyons</small>			WESTBOUND <small>Lyons</small>			TOTAL	
	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 2	ET 2	ER 1	WL 1	WT 3	WR 0		
AM	7:00 AM	15	26	18	11	119	74	21	62	4	49	113	9	521
	7:15 AM	17	37	31	17	105	64	30	99	13	43	126	13	595
	7:30 AM	28	67	53	34	76	67	34	158	18	47	182	26	790
	7:45 AM	39	58	52	35	132	79	35	137	16	71	238	46	938
	8:00 AM	41	55	48	27	102	67	32	137	25	73	192	27	826
	8:15 AM	34	38	45	25	87	43	35	118	23	46	150	15	659
	8:30 AM	13	55	42	31	78	53	43	151	8	46	134	19	673
	8:45 AM	23	41	42	26	59	77	33	163	21	29	149	14	677
	VOLUMES	210	377	331	206	758	524	263	1,025	128	404	1,284	169	5,679
	APPROACH %	23%	41%	36%	14%	51%	35%	19%	72%	9%	22%	69%	9%	
APP/DEPART	918	/	838	1,488	/	1,288	1,416	/	1,534	1,857	/	2,019	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	142	218	198	121	397	256	136	550	82	237	762	114	3,213	
APPROACH %	25%	39%	35%	16%	51%	33%	18%	72%	11%	21%	68%	10%		
PEAK HR FACTOR	0.936			0.787			0.914			0.784			0.856	
APP/DEPART	558	/	483	774	/	715	768	/	855	1,113	/	1,160	0	
PM	4:00 PM	23	78	58	35	59	68	65	204	16	30	180	20	836
	4:15 PM	29	88	62	33	66	56	76	267	30	44	187	24	962
	4:30 PM	29	87	69	51	58	70	95	233	21	38	182	18	951
	4:45 PM	29	79	62	33	58	73	71	249	18	39	224	29	964
	5:00 PM	27	97	70	40	87	69	103	214	28	42	171	10	958
	5:15 PM	29	108	50	49	100	58	100	212	21	39	163	25	954
	5:30 PM	33	121	54	42	78	58	87	224	34	36	197	28	992
	5:45 PM	31	113	60	43	117	81	109	256	44	60	189	21	1,124
	VOLUMES	230	771	485	326	623	533	706	1,859	212	328	1,493	175	7,741
	APPROACH %	15%	52%	33%	22%	42%	36%	25%	67%	8%	16%	75%	9%	
APP/DEPART	1,486	/	1,681	1,482	/	1,154	2,777	/	2,650	1,996	/	2,256	0	
BEGIN PEAK HR	5:00 PM													
VOLUMES	120	439	234	174	382	266	399	906	127	177	720	84	4,028	
APPROACH %	15%	55%	30%	21%	46%	32%	28%	63%	9%	18%	73%	9%		
PEAK HR FACTOR	0.953			0.853			0.875			0.908			0.896	
APP/DEPART	793	/	939	822	/	682	1,432	/	1,301	981	/	1,106	0	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	2	1	0	3
0	2	0	0	2
0	2	0	0	2
0	6	0	1	7
0	4	0	0	4
0	3	0	0	3
0	8	0	0	8
0	3	0	1	4
0	30	1	2	33

0	3	0	0	3
0	1	0	2	3
0	3	0	0	3
0	5	0	3	8
0	3	0	0	3
0	3	0	1	4
0	4	0	1	5
0	7	0	2	9
0	29	0	9	38

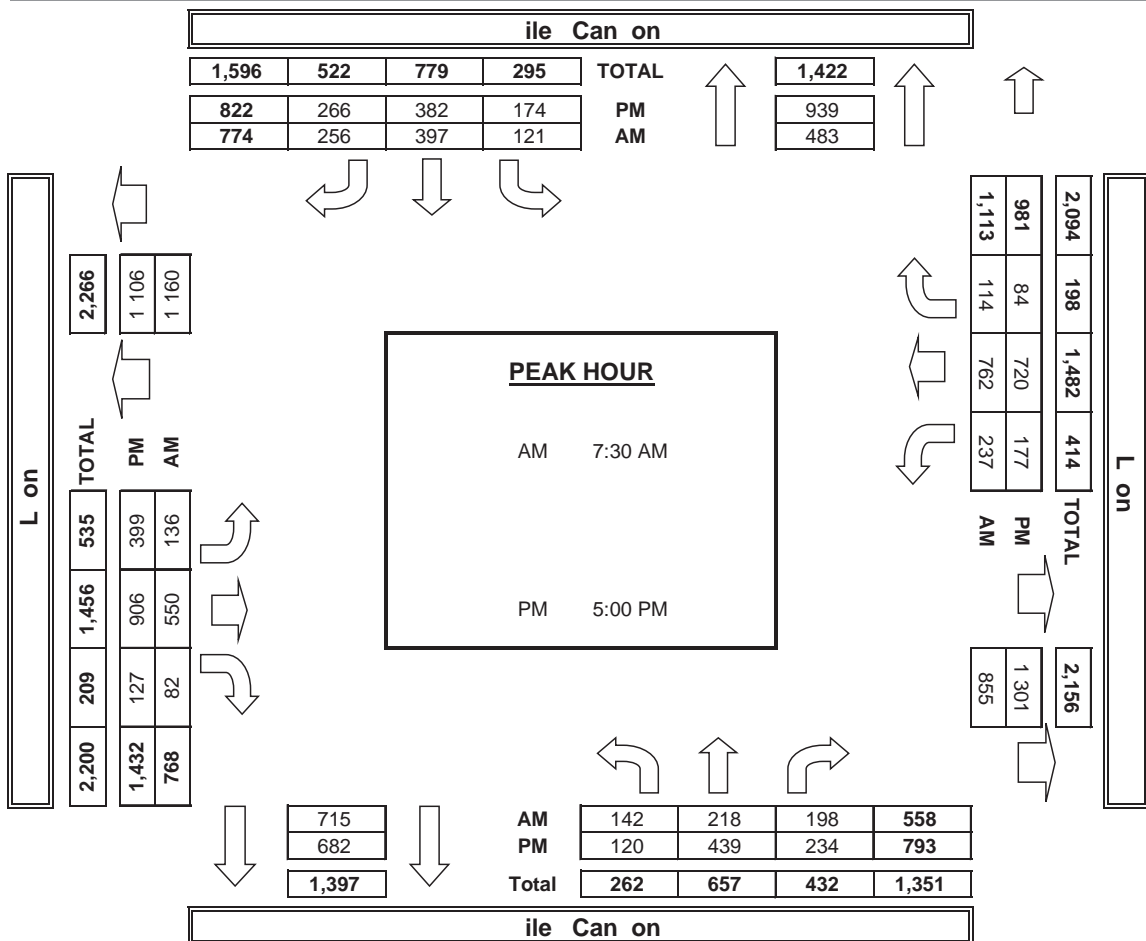
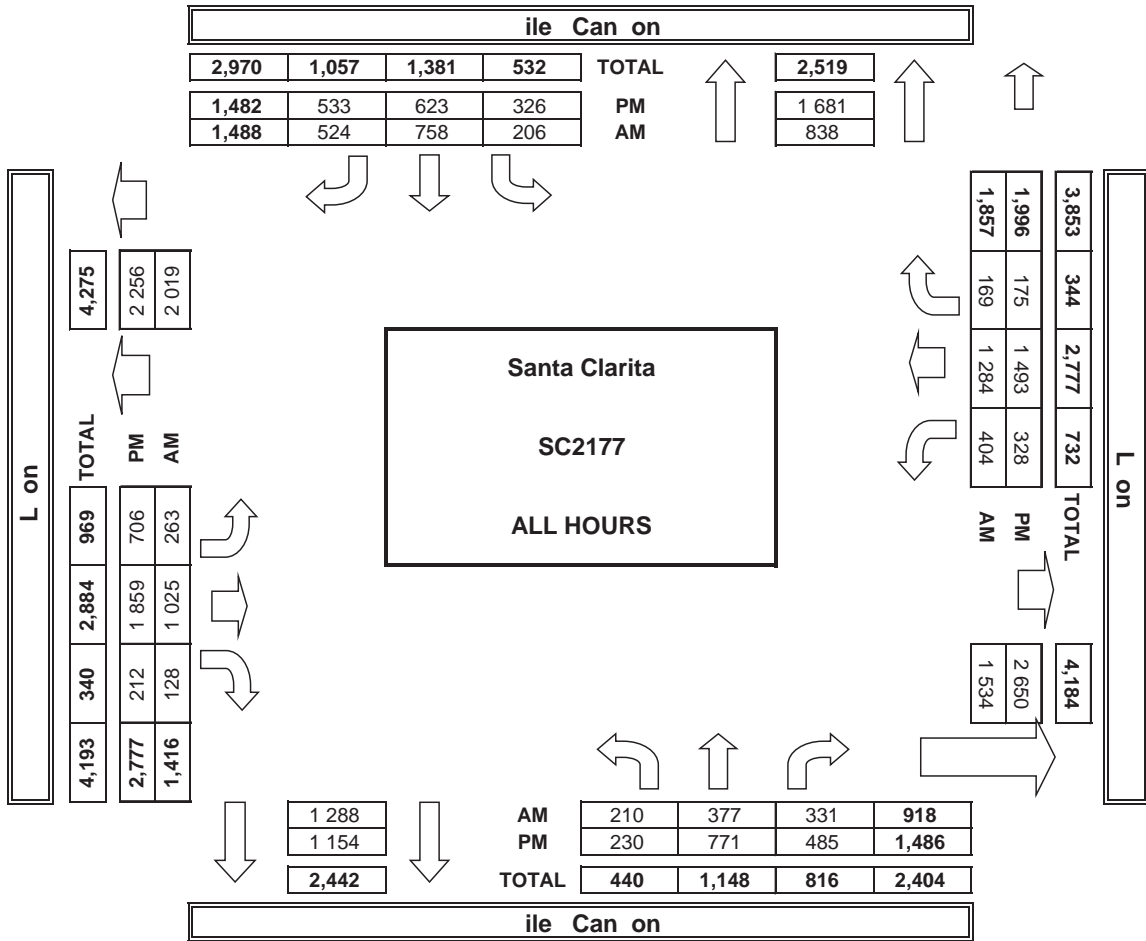


	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	1	1	2
7:15 AM	1	1	0	1	3
7:30 AM	1	0	3	0	4
7:45 AM	0	1	3	0	4
8:00 AM	0	1	1	2	4
8:15 AM	1	5	4	0	10
8:30 AM	0	1	1	1	3
8:45 AM	1	2	6	1	10
TOTAL	4	11	19	6	40
AM BEGIN PEAK HR	7:30 AM				
PM					
4:00 PM	0	4	1	1	6
4:15 PM	0	3	5	2	10
4:30 PM	2	4	3	1	10
4:45 PM	0	1	0	1	2
5:00 PM	0	1	6	0	7
5:15 PM	0	6	4	2	12
5:30 PM	0	4	3	0	7
5:45 PM	1	0	3	0	4
TOTAL	3	23	25	7	58
PM BEGIN PEAK HR	5:00 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	1	1	2
7:15 AM	1	1	0	1	3
7:30 AM	1	0	3	0	4
7:45 AM	0	1	3	0	4
8:00 AM	0	1	1	1	3
8:15 AM	0	4	4	0	8
8:30 AM	0	0	1	0	1
8:45 AM	1	2	5	1	9
TOTAL	3	9	18	4	34
AM BEGIN PEAK HR	1	6	11	1	19
PM					
4:00 PM	0	4	1	1	6
4:15 PM	0	3	5	2	10
4:30 PM	2	4	3	1	10
4:45 PM	0	1	0	1	2
5:00 PM	0	1	6	0	7
5:15 PM	0	4	4	0	8
5:30 PM	0	4	1	0	5
5:45 PM	1	0	3	0	4
TOTAL	3	21	23	5	52
PM BEGIN PEAK HR	1	9	14	0	24

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	1	1	0	0	2
8:30 AM	0	1	0	1	2
8:45 AM	0	0	1	0	1
TOTAL	1	2	1	2	6
AM BEGIN PEAK HR					
PM					
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	2	0	2	4
5:30 PM	0	0	2	0	2
5:45 PM	0	0	0	0	0
TOTAL	0	2	2	2	6
PM BEGIN PEAK HR					

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, May 2, 19

LOCATION: Santa Clarita
Orchard Village
Lyons

PROJECT #: SC2177
LOCATION #: 1
CONTROL: SIGNAL

NOTES:	AM PM MD OTHER OTHER	▲ N ▼	◀ W E ▶	
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Add U-Turns to Left Turns

LANES:	NORTHBOUND <small>Orchard Villa e</small>			SOUTHBOUND <small>Orchard Villa e</small>			EASTBOUND <small>Lyons</small>			WESTBOUND <small>Lyons</small>			TOTAL
	NL 1	NT 2	NR 1	SL 2	ST 1	SR 1	EL 2	ET 2	ER 1	WL 1	WT 3	WR 1	

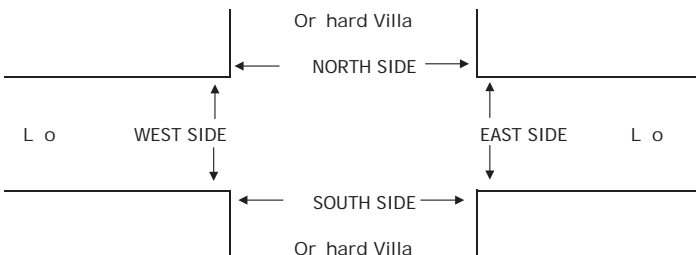
U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL

AM	7:00 AM	18	13	13	38	10	17	11	60	8	6	125	32	351	0	0	0	0	0
	7:15 AM	19	19	6	80	16	40	37	100	6	11	130	51	515	0	0	0	0	0
	7:30 AM	23	43	21	145	19	53	49	203	16	14	257	103	946	1	0	0	0	1
	7:45 AM	25	28	33	152	24	67	60	217	17	24	286	133	1,066	2	0	0	4	6
	8:00 AM	36	20	16	101	35	78	28	131	13	23	196	81	758	0	0	1	0	1
	8:15 AM	30	24	20	60	22	23	23	109	11	15	158	64	559	1	0	1	0	2
	8:30 AM	22	18	21	54	21	32	29	108	13	14	147	48	527	0	0	1	0	1
	8:45 AM	18	19	14	81	32	37	33	151	17	23	169	56	650	1	0	0	1	2
VOLUMES	191	184	144	711	179	347	270	1,079	101	130	1,468	568	5,372	5	0	3	5	13	
APPROACH %	37%	35%	28%	57%	14%	28%	19%	74%	7%	6%	68%	26%							
APP/DEPART	519	/	1,019	1,237	/	410	1,450	/	1,939	2,166	/	2,004	0						

0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
2	0	0	4	6
0	0	1	0	1
1	0	1	0	2
0	0	1	0	1
1	0	0	1	2
5	0	3	5	13

PM	4:00 PM	27	33	25	85	46	48	65	235	24	32	217	72	909	0	0	0	6	6
	4:15 PM	26	29	20	80	36	47	72	215	33	17	237	75	887	2	0	0	0	2
	4:30 PM	33	38	26	102	48	54	74	211	34	23	178	63	884	2	0	1	1	4
	4:45 PM	26	35	34	103	37	51	64	239	29	20	232	70	940	0	0	1	2	3
	5:00 PM	22	40	17	91	36	44	73	234	26	28	200	91	902	1	0	2	2	5
	5:15 PM	26	34	19	94	45	52	71	239	27	19	224	67	917	0	0	0	0	0
	5:30 PM	29	46	17	103	40	54	75	234	37	24	230	71	960	2	0	2	3	7
	5:45 PM	25	40	21	85	37	60	61	249	25	25	233	84	945	0	0	2	1	3
VOLUMES	214	295	179	743	325	410	555	1,856	235	188	1,751	593	7,344	7	0	8	15	30	
APPROACH %	31%	43%	26%	50%	22%	28%	21%	70%	9%	7%	69%	23%							
APP/DEPART	688	/	1,435	1,478	/	740	2,646	/	2,793	2,532	/	2,376	0						

0	0	0	6	6
2	0	0	0	2
2	0	1	1	4
0	0	1	2	3
1	0	2	2	5
0	0	0	0	0
2	0	2	3	7
0	0	2	1	3
7	0	8	15	30



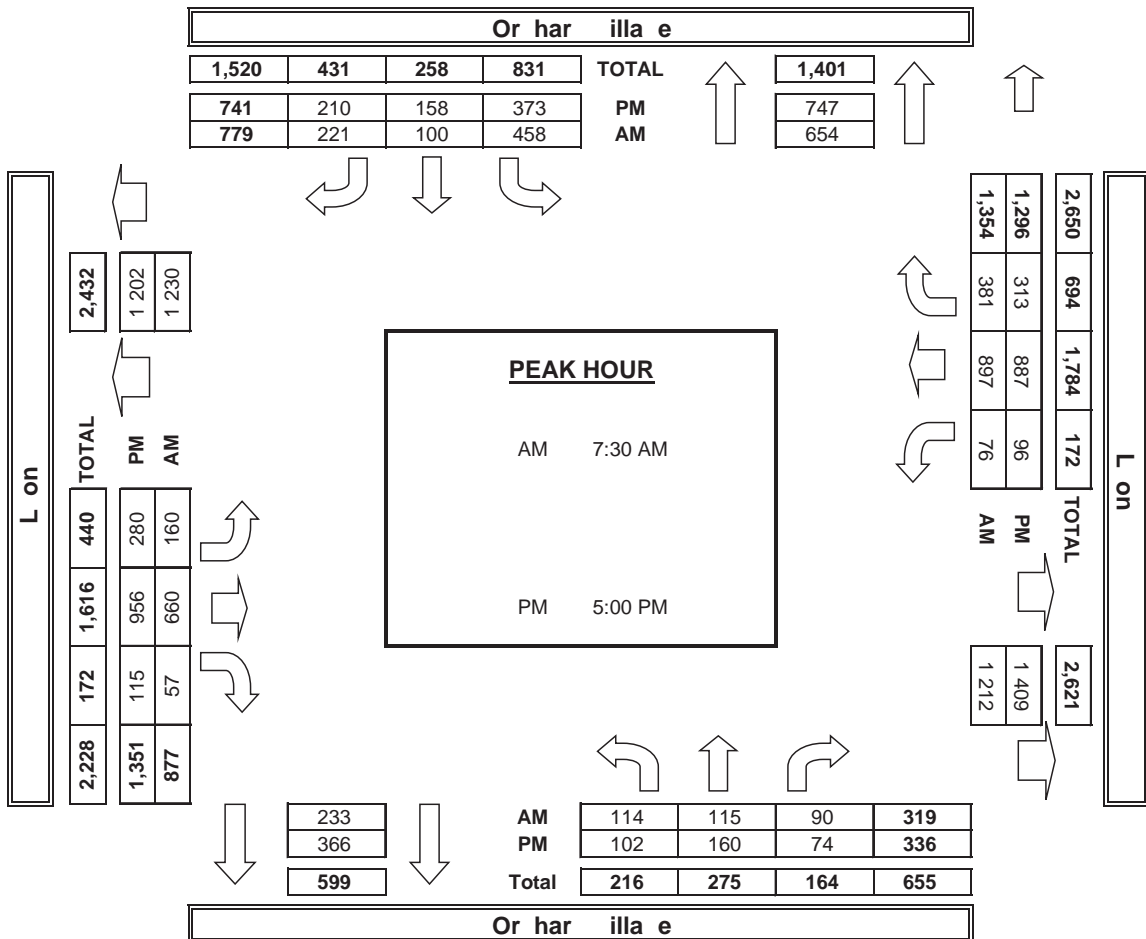
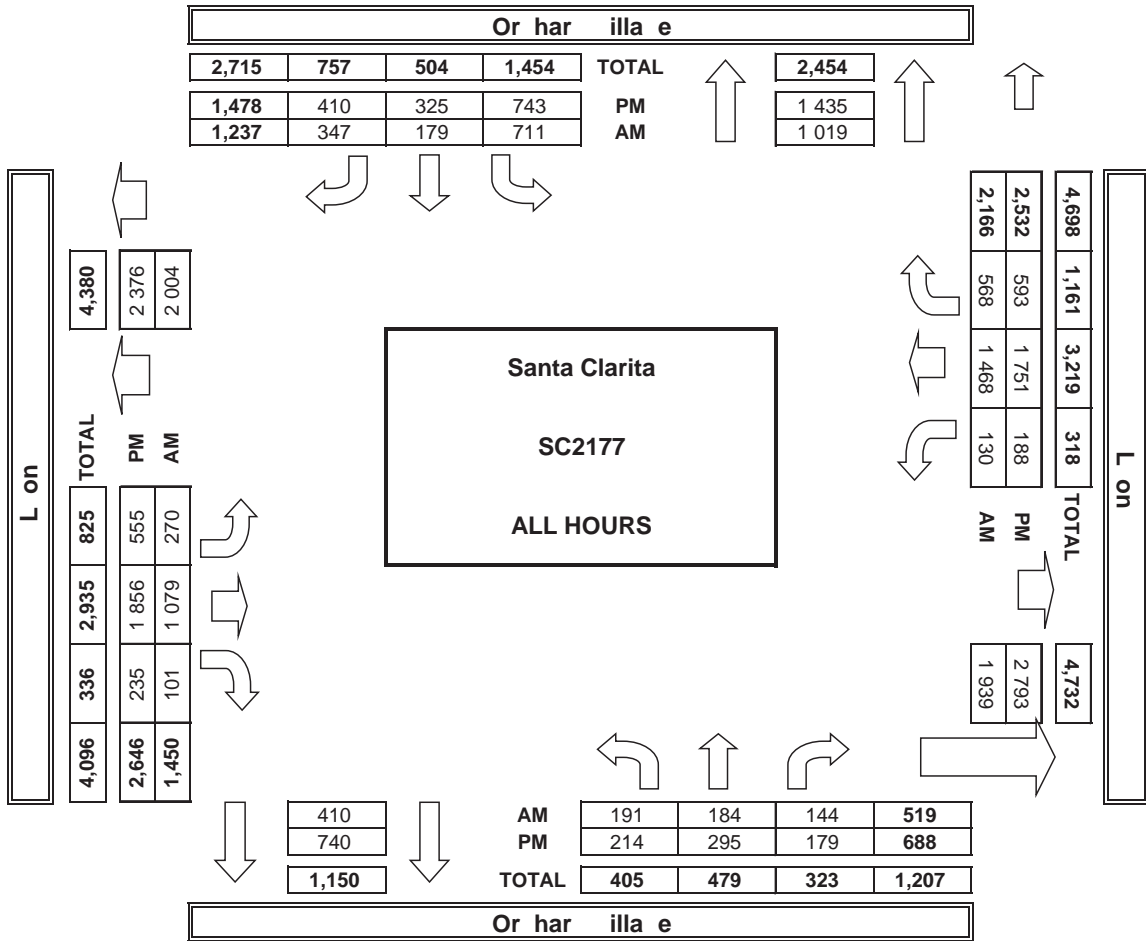
AM	7:00 AM	1	2	3	0	6
	7:15 AM	0	2	2	0	4
	7:30 AM	2	1	1	0	4
	7:45 AM	7	2	4	0	13
	8:00 AM	1	2	1	3	7
	8:15 AM	0	1	1	1	3
	8:30 AM	2	0	0	1	3
	8:45 AM	5	0	1	3	9
TOTAL	18	10	13	8	49	
AM BEGIN PEAK HR	7:30 AM					

PEDESTRIAN + BIKE CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
1	3	2	1	7	
3	5	0	1	9	
5	6	1	2	14	
9	2	2	7	20	
10	4	0	0	14	
7	1	0	0	8	
4	2	0	0	6	
1	5	1	2	9	
40	28	6	13	87	
5:00 PM					

PEDESTRIAN CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
1	2	0	1	4	
2	4	0	0	6	
4	5	1	2	12	
9	2	2	7	20	
9	4	0	0	13	
6	1	0	0	7	
4	2	0	0	6	
0	3	0	1	4	
35	23	3	11	72	
19	10	0	1	30	

BICYCLE CROSSINGS					
NS	SS	ES	WS	TOTAL	
0	1	1	0	2	
0	0	0	0	0	
0	1	0	0	1	
0	1	2	0	3	
0	1	0	1	2	
0	0	0	0	0	
0	0	0	1	1	
1	0	0	2	3	
1	4	3	4	12	
0	1	2	0	3	
1	1	0	1	3	
1	1	0	0	2	
0	0	0	0	0	
1	0	0	0	1	
1	0	0	0	1	
0	0	0	0	0	
1	2	1	1	5	
5	5	3	2	15	

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Tue, Apr 30, 19

LOCATION: Santa Clarita
Newhall Avenue
Lyons Avenue

PROJECT #: SC2177
LOCATION #: 2
CONTROL: SIGNAL

NOTES:

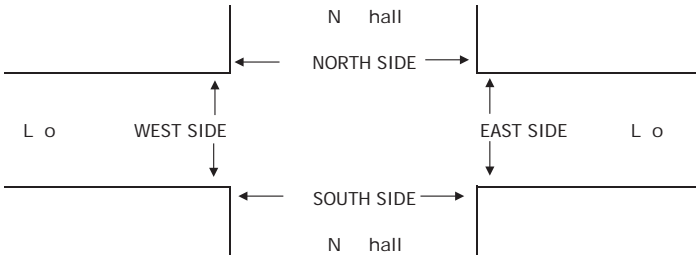
AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Ne hall			Ne hall			Lyons			Lyons			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	40	15	2	0	43	19	7	61	60	4	92	2	345
7:15 AM	88	20	4	4	31	19	13	53	64	12	122	8	438
7:30 AM	102	39	11	3	40	43	41	68	108	5	163	7	630
7:45 AM	102	50	7	19	48	64	46	106	112	10	151	10	725
8:00 AM	99	15	7	10	48	37	18	97	101	21	134	8	595
8:15 AM	84	8	10	6	16	24	15	90	89	10	109	1	462
8:30 AM	81	9	8	2	20	17	8	90	81	3	133	4	456
8:45 AM	88	12	6	3	15	9	7	81	93	10	164	4	492
VOLUMES	684	168	55	47	261	232	155	646	708	75	1,068	44	4,143
APPROACH %	75%	19%	6%	9%	48%	43%	10%	43%	47%	6%	90%	4%	
APP/DEPART	907	/	357	540	/	1,040	1,509	/	752	1,187	/	1,994	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	387	112	35	38	152	168	120	361	410	46	557	26	2,412
APPROACH %	72%	21%	7%	11%	42%	47%	13%	41%	46%	7%	89%	4%	
PEAK HR FACTOR	0.840			0.683			0.844			0.899			0.832
APP/DEPART	534	/	251	358	/	607	891	/	435	629	/	1,119	0
4:00 PM	114	25	7	5	19	20	19	158	120	13	133	6	639
4:15 PM	100	27	9	4	38	24	19	135	138	9	131	5	639
4:30 PM	90	25	19	6	19	25	31	143	163	10	142	7	680
4:45 PM	112	24	10	6	23	31	20	133	173	14	153	9	708
5:00 PM	104	23	6	3	27	25	32	186	169	10	128	2	715
5:15 PM	101	21	10	3	25	20	22	124	155	6	131	10	628
5:30 PM	107	31	5	4	23	20	30	135	153	7	141	4	660
5:45 PM	84	31	3	4	19	21	24	129	147	4	144	6	616
VOLUMES	812	207	69	35	193	186	197	1,143	1,218	73	1,103	49	5,285
APPROACH %	75%	19%	6%	8%	47%	45%	8%	45%	48%	6%	90%	4%	
APP/DEPART	1,088	/	398	414	/	1,482	2,558	/	1,249	1,225	/	2,156	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	406	99	44	19	107	105	102	597	643	43	554	23	2,742
APPROACH %	74%	18%	8%	8%	46%	45%	8%	44%	48%	7%	89%	4%	
PEAK HR FACTOR	0.940			0.875			0.867			0.881			0.959
APP/DEPART	549	/	197	231	/	792	1,342	/	661	620	/	1,092	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	3	3
0	0	1	0	1
0	0	3	1	4
0	0	1	0	1
0	0	2	0	2
0	0	2	0	2
0	0	1	0	1
0	0	10	4	14

0	0	7	1	8
0	0	2	1	3
0	0	9	0	9
0	0	5	0	5
0	0	11	0	11
0	0	9	0	9
0	0	7	0	7
0	0	5	0	5
0	0	55	2	57



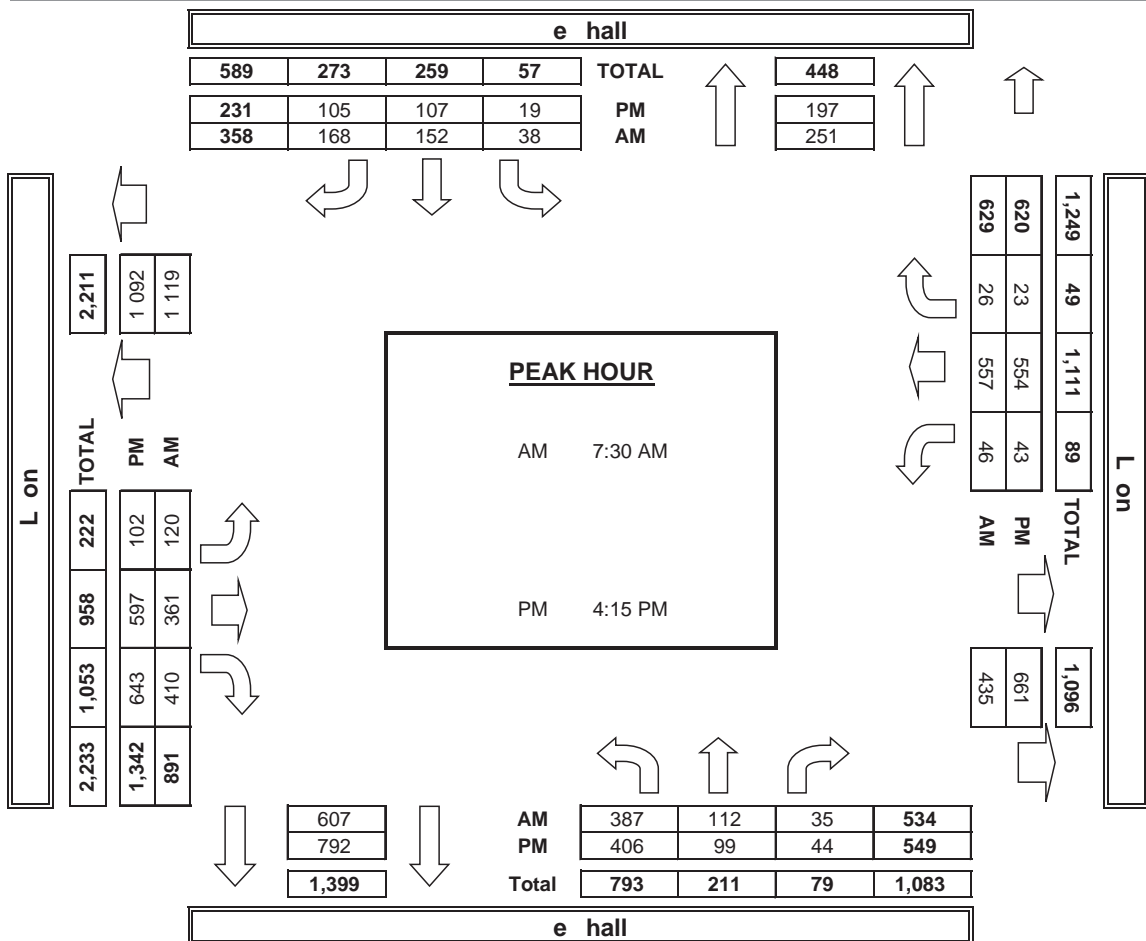
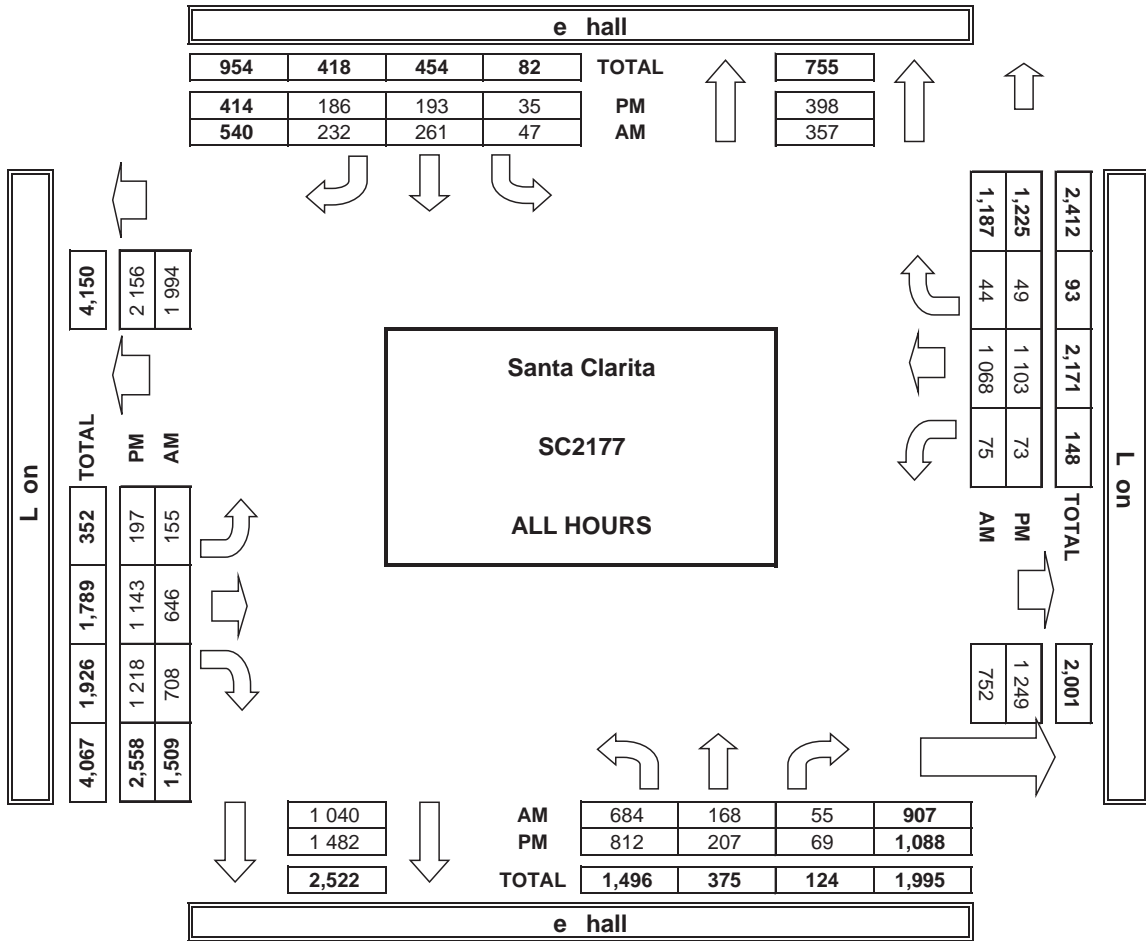
Time	AM	PM
7:00 AM		
7:15 AM		
7:30 AM		
7:45 AM		
8:00 AM		
8:15 AM		
8:30 AM		
8:45 AM		
TOTAL		
AM BEGIN PEAK HR		
4:00 PM		
4:15 PM		
4:30 PM		
4:45 PM		
5:00 PM		
5:15 PM		
5:30 PM		
5:45 PM		
TOTAL		
PM BEGIN PEAK HR		

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
3	0	1	4	8
1	6	1	4	12
4	2	3	6	15
3	1	14	14	32
4	6	11	0	21
1	1	1	2	5
1	2	0	0	3
1	2	1	1	5
18	20	32	31	101
7:30 AM				
2	8	0	6	16
8	4	1	8	21
9	2	4	6	21
5	5	4	6	20
2	4	1	2	9
0	1	1	4	6
2	1	3	8	14
3	1	1	3	8
31	26	15	43	115
4:15 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
3	0	0	4	7
1	5	1	4	11
4	2	3	6	15
3	1	14	14	32
4	6	11	0	21
1	1	1	1	4
1	2	0	0	3
1	2	0	1	4
18	19	30	30	97
12	10	29	21	72
2	8	0	6	16
8	4	1	7	20
9	2	4	4	19
3	5	3	6	17
2	4	1	2	9
0	1	0	2	3
2	1	3	8	14
2	1	1	2	6
28	26	13	37	104
22	15	9	19	65

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	1	0	1
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	1	0	1
0	1	2	1	4
0	0	0	0	0
0	0	0	1	1
0	0	0	2	2
2	0	1	0	3
0	0	0	0	0
0	0	1	2	3
0	0	0	0	0
1	0	0	1	2
3	0	2	6	11

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

T218

DATE:
Tue, Se 10, 19

LOCATION:
NORTH & SOUTH: Santa Clarita
EAST & WEST: Valle del Oro Dockweiler

PROJECT #: SC2341
LOCATION #: 1
CONTROL: STOP N/S

NOTES:

	AM PM	← W	N ▲	E ▶
	OTHER		S ▼	

Add U-Turns to Left Turns

LANES:	NORTHBOUND <small>Valle Del Oro</small>			SOUTHBOUND <small>Valle Del Oro</small>			EASTBOUND <small>Doc eiler</small>			WESTBOUND <small>Doc eiler</small>			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

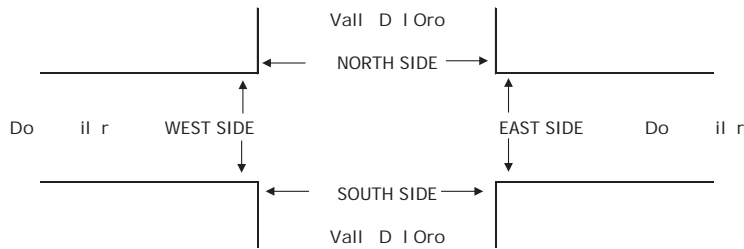
U-TURNS				
NB	SB	EB	WB	TTL

7:00 AM	1	0	28	2	0	0	0	2	4	33	0	0	70
7:15 AM	3	1	35	2	1	0	1	6	6	66	0	0	121
7:30 AM	4	1	60	2	4	0	2	3	5	96	2	1	180
7:45 AM	2	2	55	1	7	1	0	1	1	84	2	2	158
8:00 AM	1	4	66	2	1	0	0	1	4	67	3	0	149
8:15 AM	2	1	40	2	4	1	0	4	3	27	2	0	86
8:30 AM	3	2	15	3	1	0	0	4	1	23	0	1	53
8:45 AM	2	1	15	0	2	2	1	4	2	31	1	0	61
VOLUMES	18	12	314	14	20	4	4	25	26	427	10	4	878
APPROACH %	5%	3%	91%	37%	53%	11%	7%	45%	47%	97%	2%	1%	
APP/DEPART	344	/	20	38	/	470	55	/	357	441	/	31	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	10	8	216	7	13	1	3	11	16	313	7	3	608
APPROACH %	4%	3%	92%	33%	62%	5%	10%	37%	53%	97%	2%	1%	
PEAK HR FACTOR	0.824			0.583			0.577			0.816			0.844
APP/DEPART	234	/	14	21	/	340	30	/	237	323	/	17	0
4:00 PM	5	2	37	1	1	1	0	3	3	26	1	2	82
4:15 PM	3	4	48	0	2	0	2	3	6	48	5	1	122
4:30 PM	3	0	36	0	1	1	0	2	2	61	2	0	108
4:45 PM	2	1	39	0	2	0	0	1	2	55	2	1	105
5:00 PM	3	3	57	0	1	0	0	2	1	48	0	1	116
5:15 PM	6	1	34	0	4	0	0	4	2	33	3	1	88
5:30 PM	2	6	48	1	2	0	0	3	7	38	4	0	111
5:45 PM	1	4	36	0	2	2	0	1	0	49	0	0	93
VOLUMES	25	21	335	2	15	2	2	19	23	358	17	6	825
APPROACH %	7%	6%	88%	11%	79%	11%	5%	43%	52%	94%	4%	2%	
APP/DEPART	381	/	28	19	/	395	44	/	359	381	/	43	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	11	8	180	0	6	1	2	8	11	212	9	3	451
APPROACH %	6%	4%	90%	0%	86%	14%	10%	38%	52%	95%	4%	1%	
PEAK HR FACTOR	0.790			0.875			0.477			0.889			0.924
APP/DEPART	199	/	12	7	/	228	21	/	190	224	/	21	0

0	0	0	0	1	1
0	0	0	0	0	0
0	0	0	0	0	0
1	0	0	2	3	
0	0	0	1	1	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
1	0	0	4	5	

4:00 PM	5	2	37	1	1	1	0	3	3	26	1	2	82
4:15 PM	3	4	48	0	2	0	2	3	6	48	5	1	122
4:30 PM	3	0	36	0	1	1	0	2	2	61	2	0	108
4:45 PM	2	1	39	0	2	0	0	1	2	55	2	1	105
5:00 PM	3	3	57	0	1	0	0	2	1	48	0	1	116
5:15 PM	6	1	34	0	4	0	0	4	2	33	3	1	88
5:30 PM	2	6	48	1	2	0	0	3	7	38	4	0	111
5:45 PM	1	4	36	0	2	2	0	1	0	49	0	0	93
VOLUMES	25	21	335	2	15	2	2	19	23	358	17	6	825
APPROACH %	7%	6%	88%	11%	79%	11%	5%	43%	52%	94%	4%	2%	
APP/DEPART	381	/	28	19	/	395	44	/	359	381	/	43	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	11	8	180	0	6	1	2	8	11	212	9	3	451
APPROACH %	6%	4%	90%	0%	86%	14%	10%	38%	52%	95%	4%	1%	
PEAK HR FACTOR	0.790			0.875			0.477			0.889			0.924
APP/DEPART	199	/	12	7	/	228	21	/	190	224	/	21	0

1	0	0	0	1	
0	0	1	1	2	
0	0	0	1	1	
0	0	0	0	0	
1	0	0	0	1	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	1	1	
2	0	1	3	6	



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

T218

DATE:
Tue, Se 10, 19

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Clarita
Sierra
Dockweiler

PROJECT #: SC2341
LOCATION #: 2
CONTROL: SIGNAL

NOTES:

AM	▲ N ◀ W E ▶ S ▼
PM	
MD	
OTHER	

Add U-Turns to Left Turns

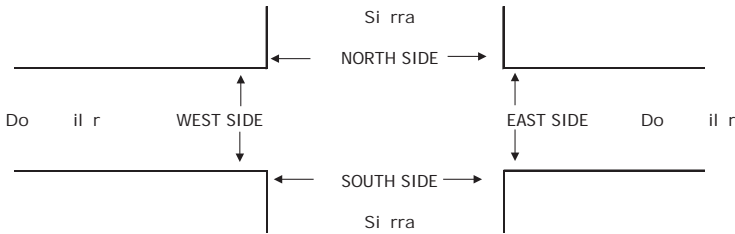
LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Sierra NL 1	Sierra NT 2	Sierra NR X	Sierra SL X	Sierra ST 2	Sierra SR 0	Doc EL 1.5	Doc ET X	Doc ER 1.5	Doc WL X	Doc WT X	Doc WR X	

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	4	25	0	0	457	25	25	0	52	0	0	0	588
	7:15 AM	17	50	0	0	538	33	34	0	41	0	0	0	713
	7:30 AM	12	51	0	0	420	49	61	0	37	0	0	0	630
	7:45 AM	19	54	0	0	433	37	52	0	24	0	0	0	619
	8:00 AM	11	49	0	0	469	44	35	0	22	0	0	0	630
	8:15 AM	5	66	0	0	399	25	33	0	33	0	0	0	561
	8:30 AM	11	71	0	0	252	21	20	0	32	0	0	0	407
	8:45 AM	2	46	0	0	192	19	16	0	19	0	0	0	294
	VOLUMES	81	412	0	0	3,160	253	276	0	260	0	0	0	4,442
	APPROACH %	16%	84%	0%	0%	93%	7%	51%	0%	49%	0%	0%	0%	
APP/DEPART	493	/	688	3,413	/	3,424	536	/	0	0	/	330	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	59	204	0	0	1,860	163	182	0	124	0	0	0	2,592	
APPROACH %	22%	78%	0%	0%	92%	8%	59%	0%	41%	0%	0%	0%		
PEAK HR FACTOR	0.901			0.886										
APP/DEPART	263	/	386	2,023	/	1,986	306	/	0	0	/	220	0	
PM	4:00 PM	16	389	0	0	79	20	25	0	9	0	0	0	538
	4:15 PM	14	317	0	0	150	51	29	0	14	0	0	0	575
	4:30 PM	15	301	0	0	156	48	29	0	6	0	0	0	555
	4:45 PM	19	227	0	0	99	60	33	0	16	0	0	0	454
	5:00 PM	9	238	0	0	99	46	30	0	8	0	0	0	430
	5:15 PM	19	249	0	0	114	40	27	0	6	0	0	0	455
	5:30 PM	22	235	0	0	105	20	30	0	14	0	0	0	426
	5:45 PM	18	256	0	0	106	32	17	0	11	0	0	0	440
	VOLUMES	132	2,212	0	0	908	317	220	0	84	0	0	0	3,873
	APPROACH %	6%	94%	0%	0%	74%	26%	72%	0%	28%	0%	0%	0%	
APP/DEPART	2,344	/	2,432	1,225	/	994	304	/	0	0	/	447	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	64	1,234	0	0	484	179	116	0	45	0	0	0	2,122	
APPROACH %	5%	95%	0%	0%	73%	27%	72%	0%	28%	0%	0%	0%		
PEAK HR FACTOR	0.801			0.813										
APP/DEPART	1,298	/	1,350	663	/	529	161	/	0	0	/	243	0	

1	0	0	0	1
0	0	0	0	0
1	0	0	0	1
1	0	0	0	1
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
4	0	0	0	4

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
1	0	0	0	1
2	0	0	0	2

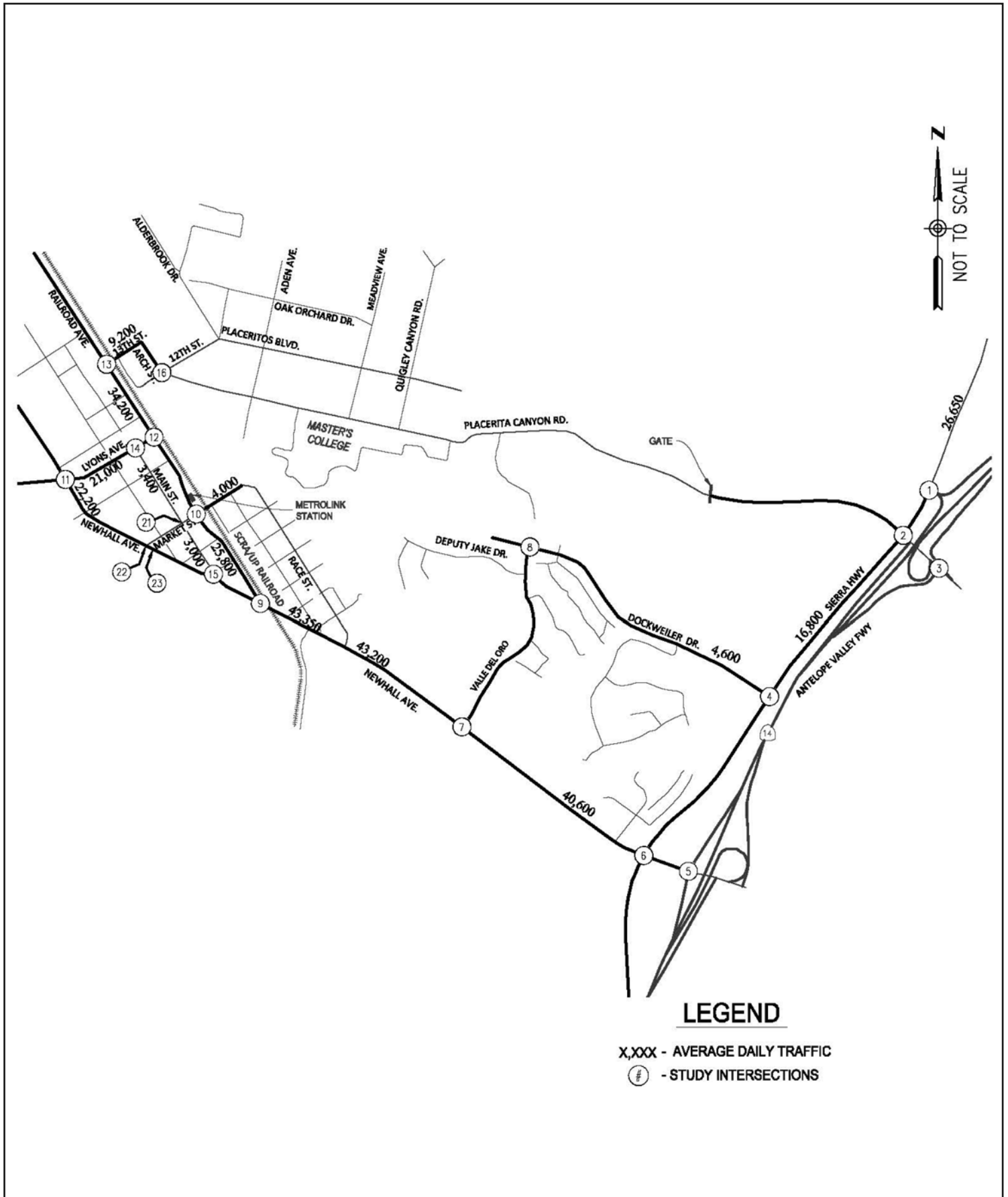


AM	7:00 AM	
	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
TOTAL		
AM BEGIN PEAK HR		
PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
TOTAL		
PM BEGIN PEAK HR		

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	6	0	0	6
0	3	0	0	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	9	0	0	9
7:15 AM				
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	1	0	1
0	0	0	0	0
0	0	2	0	2
4:00 PM				
0	0	0	0	0

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	6	0	0	6
0	3	0	0	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	9	0	0	9
7:15 AM				
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
4:00 PM				
0	0	0	0	0

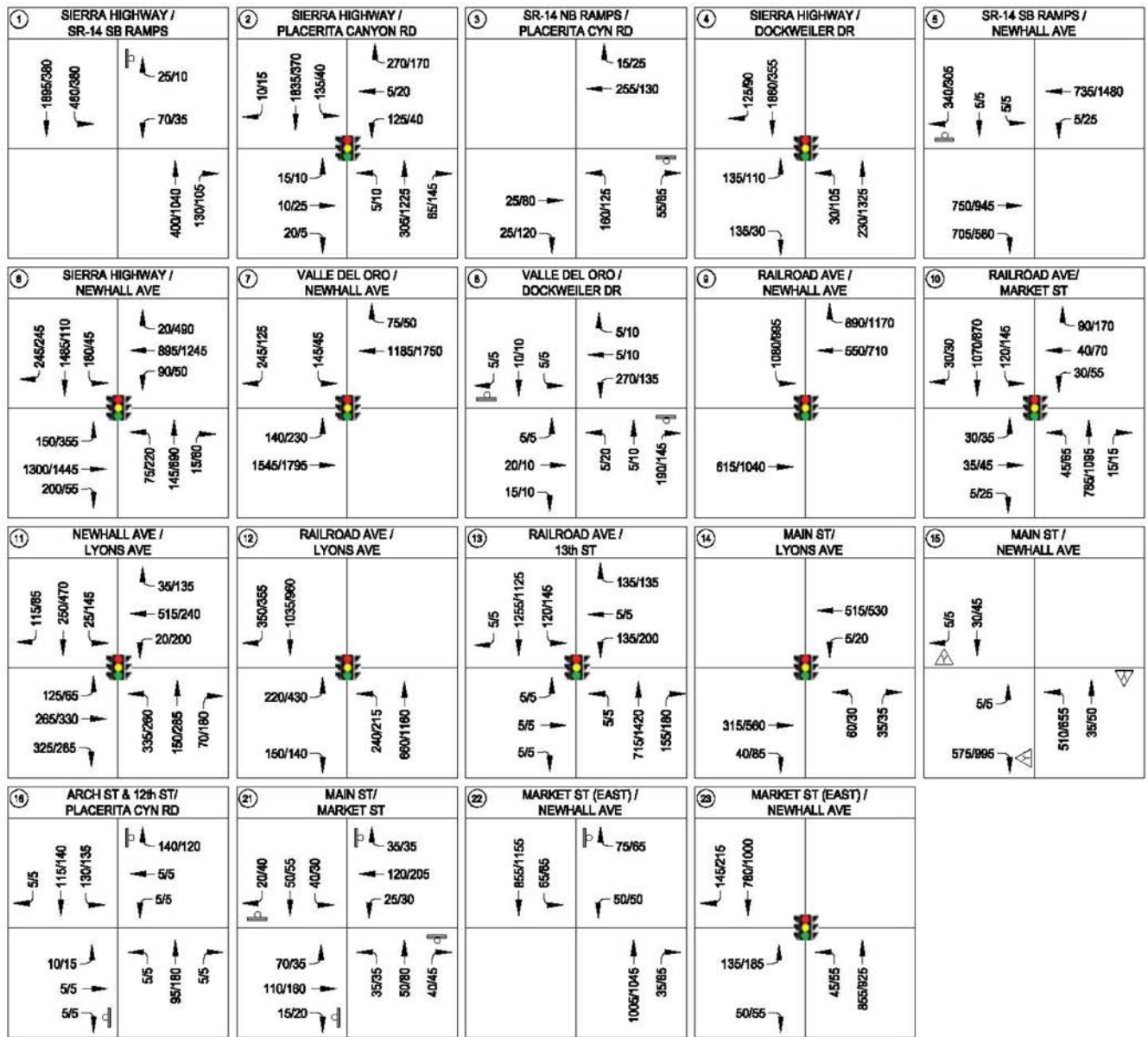
BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	1	0	1
0	0	0	0	0
0	0	2	0	2



Source: David Evans and Associates Inc., January 2018.



Figure 6.1-7
Existing Study Intersections



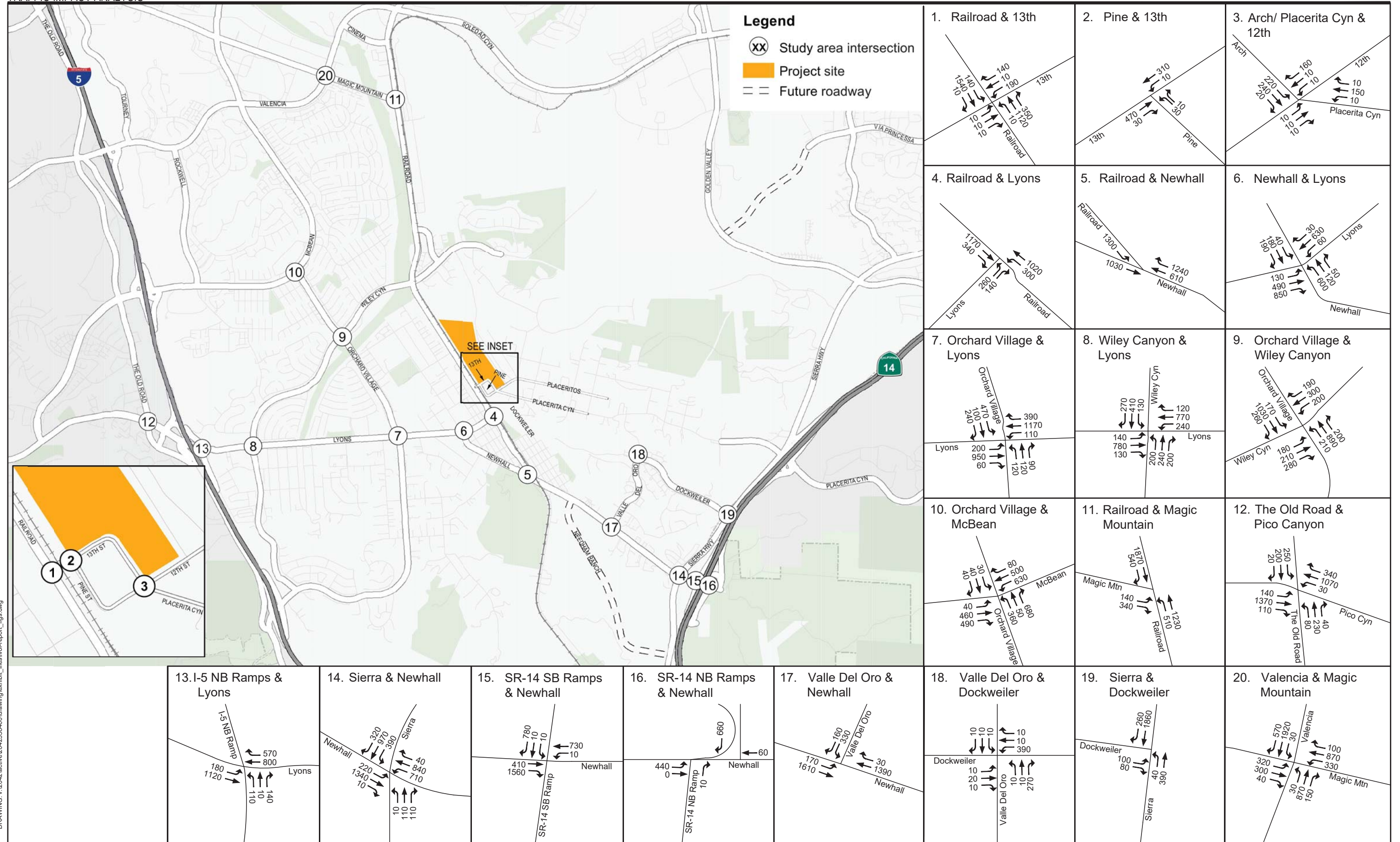
LEGEND

- ▽ - ROUNDABOUT CONTROLLED INTERSECTION
- ⓪ - STOP CONTROLLED INTERSECTION
- 🚦 - SIGNAL CONTROLLED INTERSECTION
- XX/YY - AM/PM PEAK HOUR VOLUMES
- ① - STUDY INTERSECTIONS

Source: David Evans and Associates Inc., January 2018.



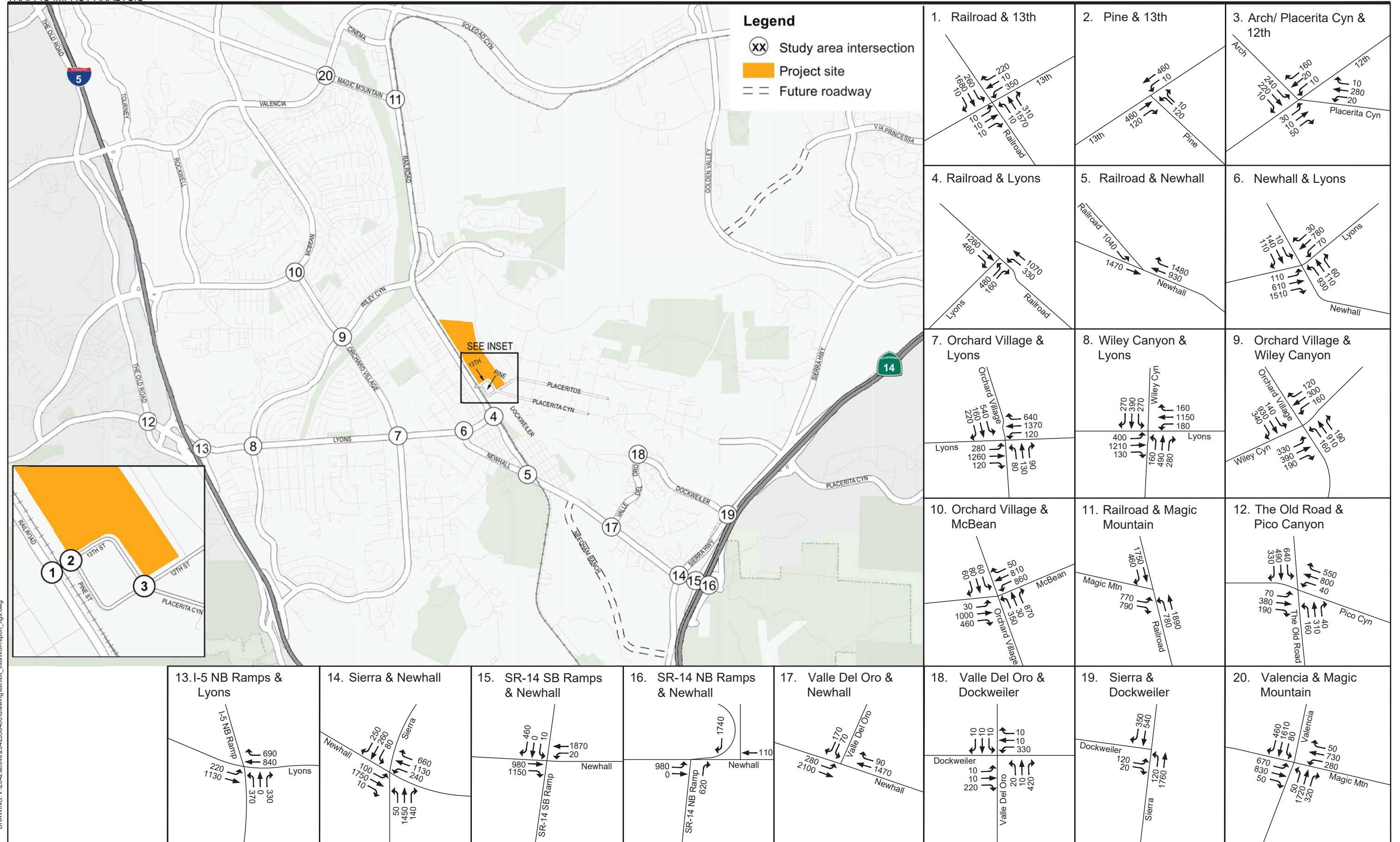
Figure 6.1-8
Existing Traffic Volumes



DRAWING: v:\2042\active\204256400\drawing\exhibit_files\ivc-report_figs.dwg

Figure 4-8

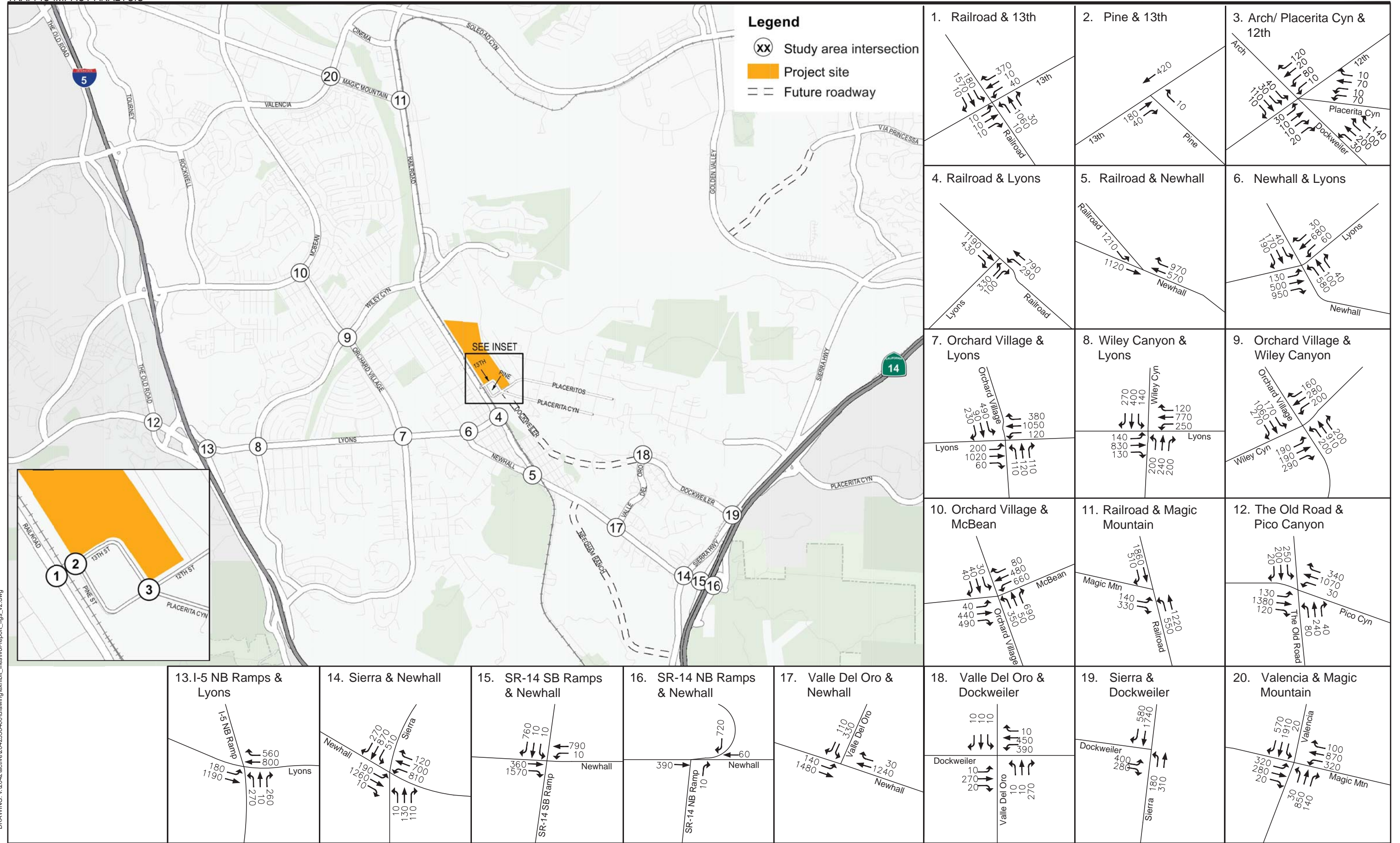
Interim Year Cumulative without Project AM Peak Hour Volumes - without Dockweiler Drive Extension



DRAWING: v:\2042\active\204258400\drawing\exhibit_files\ivc-report_figs.dwg

Figure 4-9

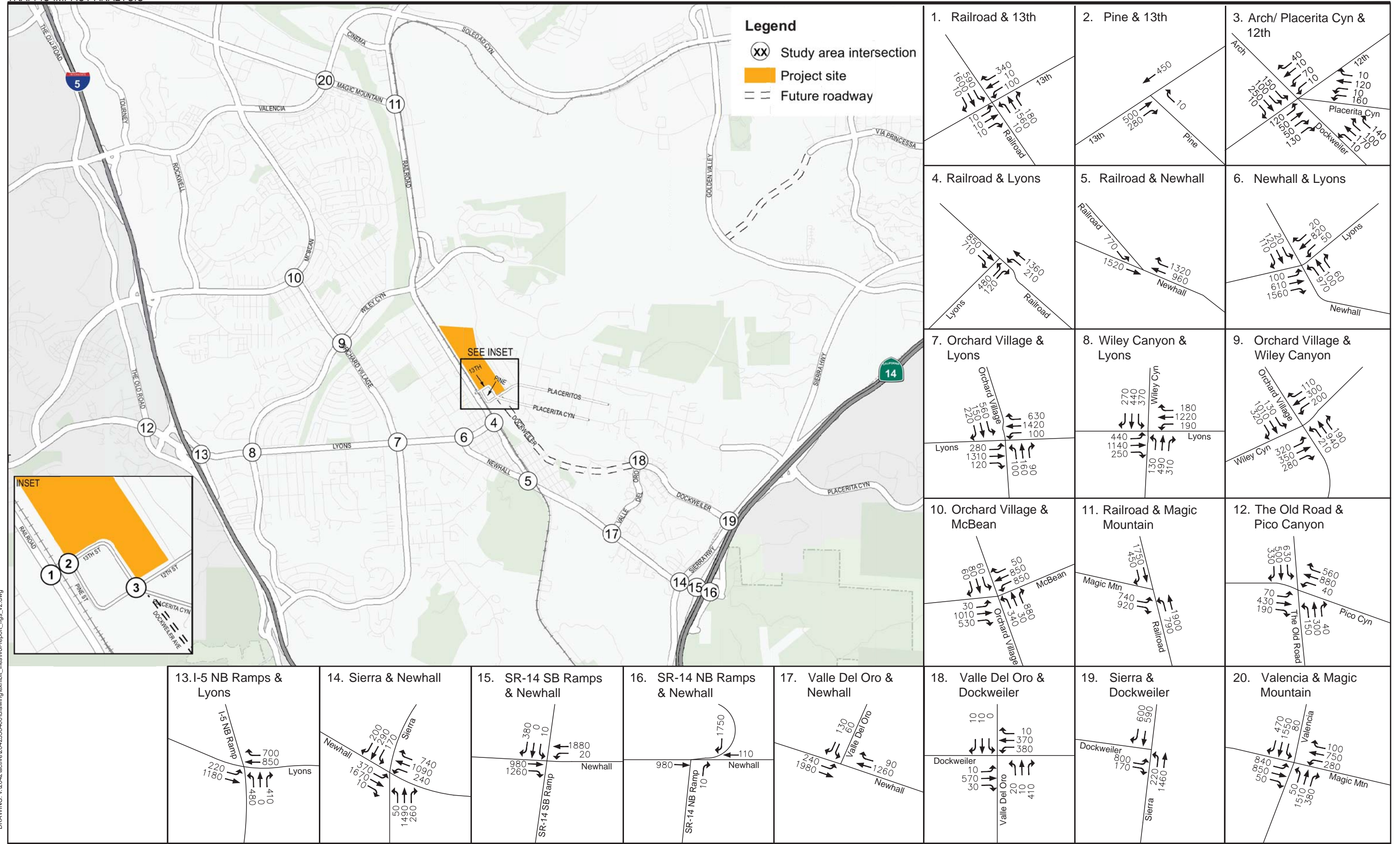
Interim Year Cumulative without Project PM Peak Hour Volumes - without Dockweiler Drive Extension



DRAWING: v:\2042\active\204256400\drawing\exhibit_files\vol-report_figs_v2.dwg

Figure 4-14

Interim Year Cumulative without Project AM Peak Hour Volumes - with Dockweiler Drive Extension



DRAWING: v:\2042\active\204256400\drawing\exhibit_files\ivol-report_figs_v2.dwg

Figure 4-15

Interim Year Cumulative without Project PM Peak Hour Volumes - with Dockweiler Drive Extension

**ADDITIONAL TRAFFIC VOLUMES FROM SANTA CLARITA
FUTURE WITHOUT PROJECT WITHOUT DOCKWEILER DRIVE EXTENSION PROJECT**

Int	Hour	Southbound			Westbound			Northbound			Eastbound		
		Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
1	AM	1030	10	150	430	2180	0	0	0	0	0	920	910
1	PM	600	0	130	80	1850	0	0	0	0	0	1070	870
2	AM	0	0	0	0	1360	220	1280	0	470	70	1900	0
2	PM	0	0	0	0	1150	490	840	0	630	150	1610	0
4	AM	300	60	380	40	920	250	0	0	40	0	1510	30
4	PM	510	90	70	60	1390	270	0	0	20	0	940	50
5	AM	510	1240	0	90	0	690	0	1150	60	0	0	0
5	PM	910	1680	0	100	0	790	0	1250	90	0	0	0
7	AM	450	1790	1550	570	1030	390	20	560	280	350	910	40
7	PM	200	1460	610	420	1000	170	20	2010	600	1120	1620	10
15	AM	200	2510	460	670	1850	90	440	610	180	150	870	240
15	PM	420	1450	230	390	1330	550	450	1910	690	890	1770	360
20	AM	0	0	0	0	780	10	430	0	90	0	220	110
20	PM	0	0	0	0	230	100	280	0	200	0	280	500
25	AM	1250	2100	0	10	0	30	0	890	280	0	0	0
25	PM	800	900	0	40	0	40	0	2940	60	0	0	0
26	AM	550	1440	40	360	30	680	10	380	130	10	40	10
26	PM	290	790	20	80	30	650	10	2200	600	30	50	10
27	AM	0	0	150	0	0	0	610	0	0	0	0	860
27	PM	0	0	100	0	0	0	860	0	0	0	0	970

**ADDITIONAL TRAFFIC VOLUMES FROM SANTA CLARITA
FUTURE WITHOUT PROJECT WITH DOCKWEILER DRIVE EXTENSION PROJECT**

Int	Hour	Southbound			Westbound			Northbound			Eastbound		
		Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
1	AM	1020	10	150	440	2200	0	0	0	0	0	930	900
1	PM	600	0	140	80	1890	0	0	0	0	0	1120	880
2	AM	0	0	0	0	1380	220	1270	0	470	70	1900	0
2	PM	0	0	0	0	1150	510	890	0	870	170	1630	0
4	AM	210	2530	450	670	1840	70	450	620	170	140	880	250
4	PM	410	1500	230	390	1320	430	450	1930	650	820	1800	360
5	AM	470	1790	1560	550	1000	410	20	550	280	360	900	40
5	PM	220	1520	590	380	990	160	20	2100	600	1040	1620	10
7	AM	490	1270	0	90	0	680	0	1170	70	0	0	0
7	PM	890	1850	0	100	0	790	0	1380	100	0	0	0
15	AM	310	60	390	50	930	230	0	0	40	0	1510	30
15	PM	520	90	70	60	1240	340	0	0	20	0	970	50
20	AM	0	0	110	0	0	0	680	0	0	0	0	720
20	PM	0	0	80	0	0	0	830	0	0	0	0	880
25	AM	550	1560	50	380	30	680	20	400	210	10	40	10
25	PM	280	940	20	90	30	560	10	2180	890	30	50	10
26	AM	1210	2200	0	20	0	40	0	890	320	0	0	0
26	PM	790	1010	0	90	0	40	0	2830	70	0	0	0
27	AM	0	0	0	0	780	10	440	0	100	0	220	190
27	PM	0	0	0	0	230	100	230	0	190	0	290	730

























Appendix E

HCM Analysis Worksheets

Existing Conditions

Lanes, Volumes, Timings
1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	728	379	467	1560	348	369	665	129	505	2047	513
Future Volume (vph)	234	728	379	467	1560	348	369	665	129	505	2047	513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	0		230
Storage Lanes	3		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			341			186			112
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			2037			1105	
Travel Time (s)		13.2			11.3			30.9			16.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	254	791	412	508	1696	378	401	723	140	549	2225	558
Shared Lane Traffic (%)												
Lane Group Flow (vph)	254	791	412	508	1696	378	401	723	140	549	2225	558
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	21.0	36.0	22.0	21.0	36.0	36.0	22.0	45.0	45.0	30.0	53.0	21.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

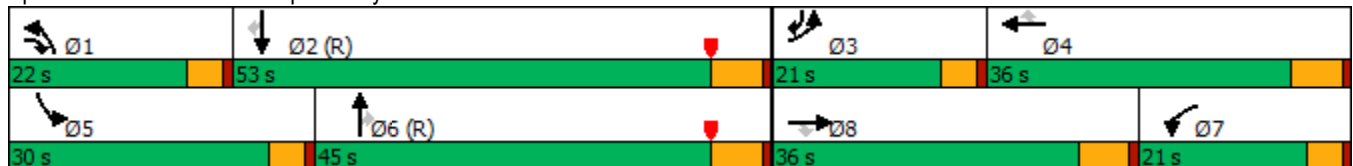
01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	15.9%	27.3%	16.7%	15.9%	27.3%	27.3%	16.7%	34.1%	34.1%	22.7%	40.2%	15.9%
Maximum Green (s)	16.5	30.0	17.5	16.5	30.0	30.0	17.5	39.0	39.0	25.5	47.0	16.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	10.6	26.6	43.9	22.4	38.4	38.4	17.4	43.1	43.1	23.9	49.6	64.3
Actuated g/C Ratio	0.08	0.20	0.33	0.17	0.29	0.29	0.13	0.33	0.33	0.18	0.38	0.49
v/c Ratio	0.63	0.61	0.69	0.87	0.91	0.54	0.89	0.35	0.22	0.89	0.92	0.67
Control Delay	65.9	49.9	21.0	70.0	53.6	9.0	65.6	49.9	16.3	69.5	47.1	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.9	21.0	70.0	53.6	9.0	65.6	49.9	16.3	69.5	47.1	24.8
LOS	E	D	C	E	D	A	E	D	B	E	D	C
Approach Delay		44.5			50.3			51.2			47.0	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 105 (80%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 48.2
 Intersection LOS: D
 Intersection Capacity Utilization 80.6%
 ICU Level of Service D
 Analysis Period (min) 15

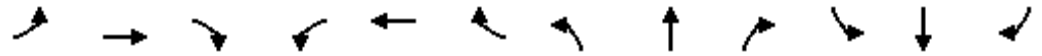
Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	254	791	412	508	1696	378	401	723	140	549	2225	558
v/c Ratio	0.63	0.61	0.69	0.87	0.91	0.54	0.89	0.35	0.22	0.89	0.92	0.67
Control Delay	65.9	49.9	21.0	70.0	53.6	9.0	65.6	49.9	16.3	69.5	47.1	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.9	21.0	70.0	53.6	9.0	65.6	49.9	16.3	69.5	47.1	24.8
Queue Length 50th (ft)	76	181	138	221	407	23	143	181	34	236	529	292
Queue Length 95th (ft)	104	206	214	#376	#507	116	#253	216	78	300	583	410
Internal Link Dist (ft)		790			665			1957			1025	
Turn Bay Length (ft)	270		265	280		340	300					230
Base Capacity (vph)	642	1553	608	583	1863	702	468	2094	642	676	2409	899
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.51	0.68	0.87	0.91	0.54	0.86	0.35	0.22	0.81	0.92	0.62

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔↔	↕↕↕	↔↔↔
Traffic Volume (vph)	297	536	9	529	1122	279	33	616	353	307	1353	962
Future Volume (vph)	297	536	9	529	1122	279	33	616	353	307	1353	962
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		225	450		400
Storage Lanes	3		0	3		1	1		1	1		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Frt		0.997				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5070	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5070	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				99			112			405
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			888			2037	
Travel Time (s)		32.4			35.4			13.5			30.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	323	583	10	575	1220	303	36	670	384	334	1471	1046
Shared Lane Traffic (%)												
Lane Group Flow (vph)	323	593	0	575	1220	303	36	670	384	334	1471	1046
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	26.0	39.0		31.0	44.0	20.0	19.0	42.0	31.0	20.0	43.0	26.0

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023

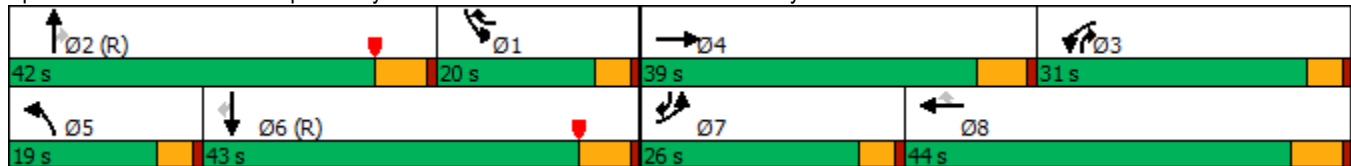


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	19.7%	29.5%		23.5%	33.3%	15.2%	14.4%	31.8%	23.5%	15.2%	32.6%	19.7%
Maximum Green (s)	21.5	33.0		26.5	38.0	15.5	14.5	36.0	26.5	15.5	37.0	21.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	17.9	23.0		33.9	39.1	55.1	8.6	43.1	81.0	16.0	52.4	74.3
Actuated g/C Ratio	0.14	0.17		0.26	0.30	0.42	0.07	0.33	0.61	0.12	0.40	0.56
v/c Ratio	0.48	0.67		0.45	0.81	0.42	0.31	0.40	0.38	0.80	0.73	0.60
Control Delay	54.7	54.4		42.3	47.9	11.4	54.7	29.4	4.7	44.1	18.3	7.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	54.4		42.3	47.9	11.4	54.7	29.4	4.7	44.1	18.3	7.1
LOS	D	D		D	D	B	D	C	A	D	B	A
Approach Delay		54.5			41.1			21.5				17.2
Approach LOS		D			D			C				B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 30.0 Intersection LOS: C
 Intersection Capacity Utilization 70.1% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	323	593	575	1220	303	36	670	384	334	1471	1046
v/c Ratio	0.48	0.67	0.45	0.81	0.42	0.31	0.40	0.38	0.80	0.73	0.60
Control Delay	54.7	54.4	42.3	47.9	11.4	54.7	29.4	4.7	44.1	18.3	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	54.4	42.3	47.9	11.4	54.7	29.4	4.7	44.1	18.3	7.1
Queue Length 50th (ft)	91	175	143	348	71	26	197	2	142	256	55
Queue Length 95th (ft)	120	209	184	409	110	m60	173	26	m156	m420	m275
Internal Link Dist (ft)		2060		2257			808			1957	
Turn Bay Length (ft)						250		225	450		400
Base Capacity (vph)	831	1345	1280	1559	717	201	1659	1014	416	2020	1820
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.44	0.45	0.78	0.42	0.18	0.40	0.38	0.80	0.73	0.57

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	97	242	356	1070	1587	163
Future Volume (vph)	97	242	356	1070	1587	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		14				170
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4834	2595	
Travel Time (s)	44.4			65.9	39.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	263	387	1163	1725	177
Shared Lane Traffic (%)						
Lane Group Flow (vph)	105	263	387	1163	1725	177
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023

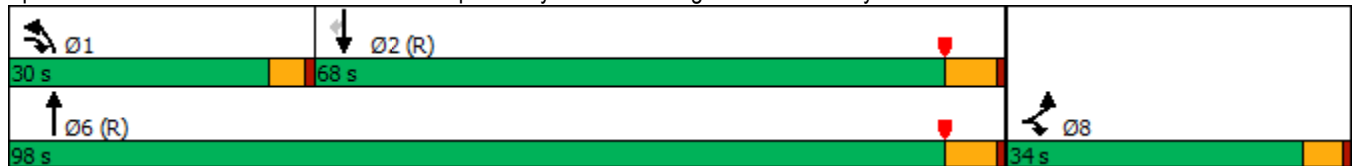


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effct Green (s)	30.0	54.9	20.9	94.0	69.1	69.1
Actuated g/C Ratio	0.23	0.42	0.16	0.71	0.52	0.52
v/c Ratio	0.26	0.23	0.71	0.46	0.93	0.19
Control Delay	44.0	23.4	67.8	6.3	37.4	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.0	23.4	67.8	6.3	37.4	3.8
LOS	D	C	E	A	D	A
Approach Delay	29.3			21.7	34.3	
Approach LOS	C			C	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 77 (58%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 28.7
 Intersection LOS: C
 Intersection Capacity Utilization 69.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	105	263	387	1163	1725	177
v/c Ratio	0.26	0.23	0.71	0.46	0.93	0.19
Control Delay	44.0	23.4	67.8	6.3	37.4	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.0	23.4	67.8	6.3	37.4	3.8
Queue Length 50th (ft)	74	77	172	147	832	14
Queue Length 95th (ft)	129	103	231	146	#981	m28
Internal Link Dist (ft)	2848		4754		2515	
Turn Bay Length (ft)	290		290		386	
Base Capacity (vph)	402	1274	676	2520	1853	910
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.21	0.57	0.46	0.93	0.19

Intersection Summary

















95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/23/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	85	397	1070	57	300	1331
Future Volume (vph)	85	397	1070	57	300	1331
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.895	0.850		0.850		
Flt Protected	0.985				0.950	
Satd. Flow (prot)	3186	1441	3539	1583	3433	3539
Flt Permitted	0.985				0.950	
Satd. Flow (perm)	3186	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	216	216		49		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4834
Travel Time (s)	10.9		27.3			65.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	432	1163	62	326	1447
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	308	216	1163	62	326	1447
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/23/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	11.2	11.2	90.6	90.6	18.3	112.8
Actuated g/C Ratio	0.08	0.08	0.69	0.69	0.14	0.85
v/c Ratio	0.66	0.68	0.48	0.06	0.69	0.48
Control Delay	24.6	17.9	9.6	3.6	39.0	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	17.9	9.6	3.6	39.0	7.0
LOS	C	B	A	A	D	A
Approach Delay	21.9		9.3			12.9
Approach LOS	C		A			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 13.0
 Intersection LOS: B
 Intersection Capacity Utilization 54.7%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/23/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	308	216	1163	62	326	1447
v/c Ratio	0.66	0.68	0.48	0.06	0.69	0.48
Control Delay	24.6	17.9	9.6	3.6	39.0	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	17.9	9.6	3.6	39.0	7.0
Queue Length 50th (ft)	39	0	104	2	134	312
Queue Length 95th (ft)	82	84	143	m4	m164	m287
Internal Link Dist (ft)	558		1922			4754
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1003	540	2427	1101	676	3025
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.40	0.48	0.06	0.48	0.48

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	2	6	95	0	123	8	954	147	105	1426	12
Future Volume (vph)	8	2	6	95	0	123	8	954	147	105	1426	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	100		100	100		0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		0.98			0.97		0.99		0.94	0.99	1.00	
Frt		0.947			0.924				0.850		0.999	
Flt Protected		0.976			0.979		0.950			0.950		
Satd. Flow (prot)	0	1702	0	0	1586	0	1770	3539	1583	1770	3534	0
Flt Permitted		0.724			0.979		0.950			0.950		
Satd. Flow (perm)	0	1246	0	0	1581	0	1759	3539	1489	1743	3534	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			153				100			1
Link Speed (mph)		25			35			45				45
Link Distance (ft)		183			612			1314				3196
Travel Time (s)		5.0			11.9			19.9				48.4
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	2	7	103	0	134	9	1037	160	114	1550	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	18	0	0	237	0	9	1037	160	114	1563	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		custom	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases		8		7	7		1	6	7	5	2	
Permitted Phases	8			7					6			
Detector Phase	8	8		7	7		1	6	7	5	2	
Switch Phase												

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/23/2023

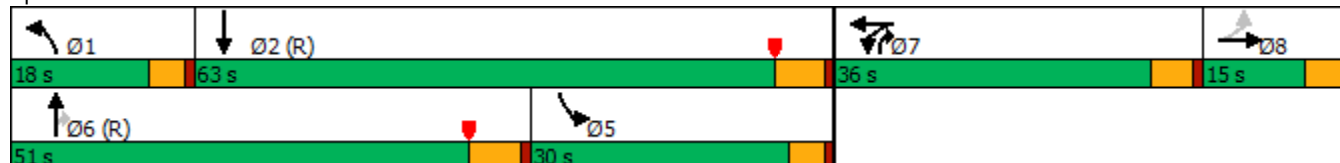


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	15.0	15.0		36.0	36.0		8.5	25.0	36.0	8.5	25.0	
Total Split (s)	15.0	15.0		36.0	36.0		18.0	51.0	36.0	30.0	63.0	
Total Split (%)	11.4%	11.4%		27.3%	27.3%		13.6%	38.6%	27.3%	22.7%	47.7%	
Maximum Green (s)	10.0	10.0		31.0	31.0		13.5	45.0	31.0	25.5	57.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.5	5.0	4.0	3.5	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0		-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	None	None	C-Max	
Walk Time (s)				7.0	7.0			7.0	7.0			7.0
Flash Dont Walk (s)				21.0	21.0			11.0	21.0			11.0
Pedestrian Calls (#/hr)				30	30			17	30			14
Act Effct Green (s)		7.9			20.8		6.8	67.9	88.6	26.0	95.4	
Actuated g/C Ratio		0.06			0.16		0.05	0.51	0.67	0.20	0.72	
v/c Ratio		0.22			0.63		0.10	0.57	0.15	0.33	0.61	
Control Delay		48.9			24.7		67.6	29.1	5.3	48.1	15.9	
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		48.9			24.7		67.6	29.1	5.3	48.1	15.9	
LOS		D			C		E	C	A	D	B	
Approach Delay		48.9			24.7			26.3			18.1	
Approach LOS		D			C			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 45 (34%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 21.9
 Intersection LOS: C
 Intersection Capacity Utilization 73.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 5: Railroad Avenue & 13th Street



Queues

5: Railroad Avenue & 13th Street

01/23/2023



Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	18	237	9	1037	160	114	1563
v/c Ratio	0.22	0.63	0.10	0.57	0.15	0.33	0.61
Control Delay	48.9	24.7	67.6	29.1	5.3	48.1	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.9	24.7	67.6	29.1	5.3	48.1	15.9
Queue Length 50th (ft)	9	60	8	307	27	80	401
Queue Length 95th (ft)	35	145	m19	571	61	123	458
Internal Link Dist (ft)	103	532		1234			3116
Turn Bay Length (ft)			100		100	100	
Base Capacity (vph)	110	500	187	1819	1091	348	2555
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.47	0.05	0.57	0.15	0.33	0.61

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations	↔↔	↗	↔↔	↕↕	↕↕	↗			
Traffic Volume (vph)	261	88	302	872	1179	338			
Future Volume (vph)	261	88	302	872	1179	338			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		96				286			
Link Speed (mph)	35			35	45				
Link Distance (ft)	374			1566	1314				
Travel Time (s)	7.3			30.5	19.9				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	284	96	328	948	1282	367			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	284	96	328	948	1282	367			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	24			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	52.0	30.0	20.0	30.0	30.0

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/23/2023

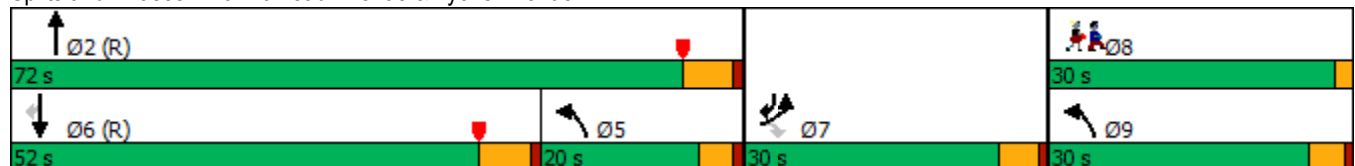


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	39.4%	22.7%	15%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	46.0	25.0	15.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effct Green (s)	18.4	18.4	23.4	92.7	74.2	92.6			
Actuated g/C Ratio	0.14	0.14	0.18	0.70	0.56	0.70			
v/c Ratio	0.59	0.32	0.54	0.38	0.64	0.31			
Control Delay	84.5	48.9	22.4	14.3	15.4	2.1			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	84.5	48.9	22.4	14.3	15.4	2.1			
LOS	F	D	C	B	B	A			
Approach Delay	75.5			16.4	12.4				
Approach LOS	E			B	B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 103 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 21.2
 Intersection LOS: C
 Intersection Capacity Utilization 58.7%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/23/2023

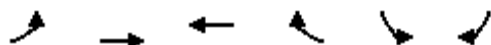


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	284	96	328	948	1282	367
v/c Ratio	0.59	0.32	0.54	0.38	0.64	0.31
Control Delay	84.5	48.9	22.4	14.3	15.4	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.5	48.9	22.4	14.3	15.4	2.1
Queue Length 50th (ft)	133	54	61	182	356	55
Queue Length 95th (ft)	180	109	82	220	321	38
Internal Link Dist (ft)	294			1486	1234	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	676	388	1092	2484	1988	1270
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.25	0.30	0.38	0.64	0.29

Intersection Summary

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/23/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	615	488	1124	1158	0	
Future Volume (vph)	0	615	488	1124	1158	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.97			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1222			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1645		1196		
Travel Time (s)		6.2	28.0		23.3		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	668	530	1222	1259	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	668	530	1222	1259	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		62.0	15.0	70.0	70.0	47.0	
Total Split (%)		47.0%	11.4%	53.0%	53.0%	36%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/23/2023

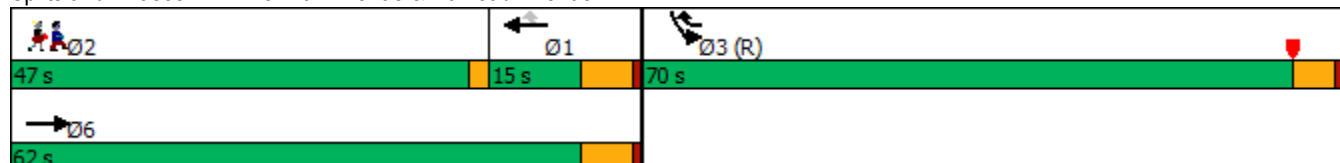


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		56.0	9.0	64.0	64.0		45.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effect Green (s)		58.0	58.0	124.0	66.0		
Actuated g/C Ratio		0.44	0.44	0.94	0.50		
v/c Ratio		0.43	0.65	0.46	0.73		
Control Delay		26.7	14.5	2.8	7.9		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		26.7	14.5	2.8	7.9		
LOS		C	B	A	A		
Approach Delay		26.7	6.3		7.9		
Approach LOS		C	A		A		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	20 (15%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	140
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	10.5
Intersection LOS:	B
Intersection Capacity Utilization:	65.4%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/23/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	668	530	1222	1259
v/c Ratio	0.43	0.65	0.46	0.73
Control Delay	26.7	14.5	2.8	7.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.7	14.5	2.8	7.9
Queue Length 50th (ft)	204	187	65	27
Queue Length 95th (ft)	257	155	55	38
Internal Link Dist (ft)	282	1565		1116
Turn Bay Length (ft)				
Base Capacity (vph)	1555	818	2661	1716
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.43	0.65	0.46	0.73

Intersection Summary

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

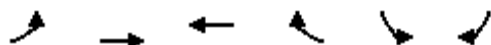
01/23/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑↔		↘	↘
Traffic Volume (vph)	167	1532	1293	95	157	337
Future Volume (vph)	167	1532	1293	95	157	337
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.990			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5034	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5034	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			13			263
Link Speed (mph)		40	40		30	
Link Distance (ft)		1545	3086		2703	
Travel Time (s)		26.3	52.6		61.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	182	1665	1405	103	171	366
Shared Lane Traffic (%)						
Lane Group Flow (vph)	182	1665	1508	0	171	366
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	25.0	98.0	73.0		34.0	34.0

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/23/2023

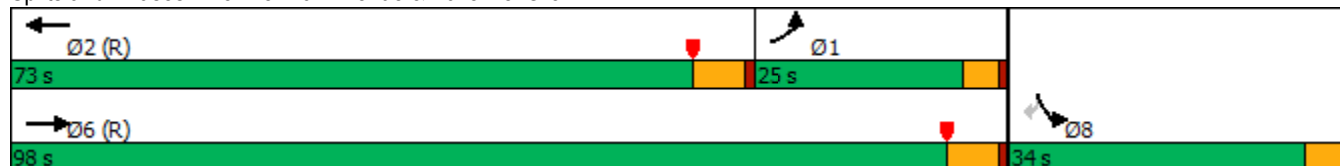


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	18.9%	74.2%	55.3%		25.8%	25.8%
Maximum Green (s)	20.5	92.0	67.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)				7.0	7.0	7.0
Flash Dont Walk (s)				11.0	22.0	22.0
Pedestrian Calls (#/hr)				0	0	0
Act Effct Green (s)	21.0	103.9	78.9		20.1	20.1
Actuated g/C Ratio	0.16	0.79	0.60		0.15	0.15
v/c Ratio	0.65	0.42	0.50		0.64	0.79
Control Delay	59.8	6.1	5.2		61.2	27.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	59.8	6.1	5.2		61.2	27.1
LOS	E	A	A		E	C
Approach Delay			11.4	5.2	38.0	
Approach LOS			B	A	D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 50 (38%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 12.6
 Intersection LOS: B
 Intersection Capacity Utilization 55.0%
 ICU Level of Service B
 Analysis Period (min) 15

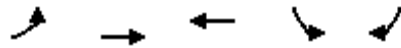
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/23/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	182	1665	1508	171	366
v/c Ratio	0.65	0.42	0.50	0.64	0.79
Control Delay	59.8	6.1	5.2	61.2	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	6.1	5.2	61.2	27.1
Queue Length 50th (ft)	163	152	85	139	85
Queue Length 95th (ft)	m224	187	m124	213	217
Internal Link Dist (ft)		1465	3006	2623	
Turn Bay Length (ft)	150				
Base Capacity (vph)	281	4003	3015	402	563
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.65	0.42	0.50	0.43	0.65

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	1339	206	93	922	21	77	149	15	185	1530	252
Future Volume (vph)	155	1339	206	93	922	21	77	149	15	185	1530	252
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		350
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4979	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4979	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			150			124			161		24	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3086			633			398			2854	
Travel Time (s)		52.6			10.8			9.0			64.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	1455	224	101	1002	23	84	162	16	201	1663	274
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	1455	224	101	1002	23	84	162	16	201	1937	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	45.0	45.0	25.0	45.0	45.0	20.0	20.0	20.0	42.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/23/2023

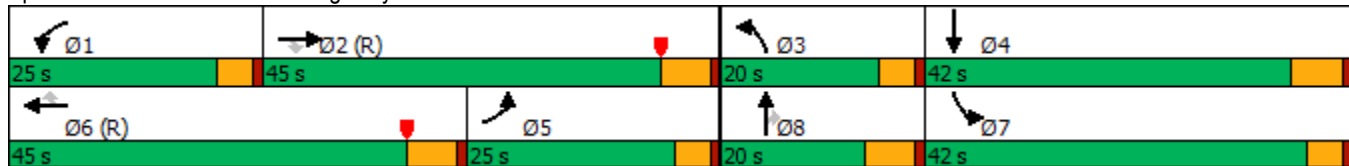


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	34.1%	34.1%	18.9%	34.1%	34.1%	15.2%	15.2%	15.2%	31.8%	31.8%	
Maximum Green (s)	20.5	39.0	39.0	20.5	39.0	39.0	15.5	14.0	14.0	37.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	52.2	52.2	9.8	41.0	41.0	9.1	13.3	11.3	40.7	44.9	
Actuated g/C Ratio	0.16	0.40	0.40	0.07	0.31	0.31	0.07	0.10	0.09	0.31	0.34	
v/c Ratio	0.31	0.72	0.31	0.40	0.63	0.04	0.35	0.46	0.06	0.37	1.13	
Control Delay	55.6	41.6	16.0	62.5	41.3	0.1	62.4	59.8	0.4	18.9	87.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.6	41.6	16.0	62.5	41.3	0.1	62.4	59.8	0.4	18.9	87.9	
LOS	E	D	B	E	D	A	E	E	A	B	F	
Approach Delay		39.8			42.3			57.0			81.4	
Approach LOS		D			D			E			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 121 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 57.7
 Intersection LOS: E
 Intersection Capacity Utilization 81.0%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	168	1455	224	101	1002	23	84	162	16	201	1937
v/c Ratio	0.31	0.72	0.31	0.40	0.63	0.04	0.35	0.46	0.06	0.37	1.13
Control Delay	55.6	41.6	16.0	62.5	41.3	0.1	62.4	59.8	0.4	18.9	87.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.6	41.6	16.0	62.5	41.3	0.1	62.4	59.8	0.4	18.9	87.9
Queue Length 50th (ft)	72	439	75	43	269	0	36	70	0	122	~716
Queue Length 95th (ft)	110	501	142	72	320	0	62	105	0	m122	m#656
Internal Link Dist (ft)		3006			553			318			2774
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	2012	716	546	1579	577	416	428	311	545	1708
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.72	0.31	0.18	0.63	0.04	0.20	0.38	0.05	0.37	1.13

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Volume (vph)	0	295	1525	12	602	0	0	0	0	4	2	220
Future Volume (vph)	0	295	1525	12	602	0	0	0	0	4	2	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.892	0.850									0.850
Fl _t Protected				0.950							0.968	
Satd. Flow (prot)	0	3024	1441	1770	3539	0	0	0	0	0	1803	1583
Fl _t Permitted				0.950							0.968	
Satd. Flow (perm)	0	3024	1441	1770	3539	0	0	0	0	0	1803	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		633			469			446			465	
Travel Time (s)		10.8			8.0			10.1			10.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	321	1658	13	654	0	0	0	0	4	2	239
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1150	829	13	654	0	0	0	0	0	6	239
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	79.6%
ICU Level of Service	D
Analysis Period (min)	15

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/23/2023

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	295	1525	12	602	0	0	0	0	4	2	220
Future Vol, veh/h	0	295	1525	12	602	0	0	0	0	4	2	220
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082378240	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	321	1658	13	654	0	0	0	0	4	2	239

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	321	0	0		841	1001	-
Stage 1	-	-	-	-	-	-		680	680	-
Stage 2	-	-	-	-	-	-		161	321	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	1236	-	0		304	241	0
Stage 1	0	-	-	-	-	0		465	449	0
Stage 2	0	-	-	-	-	0		851	650	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1236	-	-		301	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		301	0	-
Stage 1	-	-	-	-	-	-		465	0	-
Stage 2	-	-	-	-	-	-		842	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1236	-	301	-
HCM Lane V/C Ratio	-	-	0.011	-	0.022	-
HCM Control Delay (s)	-	-	7.9	-	17.2	0
HCM Lane LOS	-	-	A	-	C	A
HCM 95th %tile Q(veh)	-	-	0	-	0.1	-

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/23/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	558	0	0	59	0	15
Future Volume (vph)	558	0	0	59	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr _t						0.865
Fl _t Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Fl _t Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	469			639	290	
Travel Time (s)	8.0			10.9	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	607	0	0	64	0	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	607	0	0	64	0	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	79.6%
Analysis Period (min)	15
	ICU Level of Service D

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	558	0	0	59	0	15
Future Vol, veh/h	558	0	0	59	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	607	0	0	64	0	16

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	-	-	304
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.319
Pot Cap-1 Maneuver	-	0	0	693
Stage 1	-	0	0	-
Stage 2	-	0	0	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	693
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	693	-	-
HCM Lane V/C Ratio	0.024	-	-
HCM Control Delay (s)	10.3	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Lanes, Volumes, Timings

12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑↑		↘	↙	↘			
Traffic Volume (vph)	170	601	0	0	768	435	292	0	283	0	0	0
Future Volume (vph)	170	601	0	0	768	435	292	0	283	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.946				0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1770	3539	0	0	4811	0	1681	1681	1583	0	0	0
Flt Permitted	0.950						0.950	0.950				
Satd. Flow (perm)	1770	3539	0	0	4811	0	1681	1681	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					167				243			
Link Speed (mph)		40			40			30				30
Link Distance (ft)		722			1900			440				464
Travel Time (s)		12.3			32.4			10.0				10.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	653	0	0	835	473	317	0	308	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	185	653	0	0	1308	0	158	159	308	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023

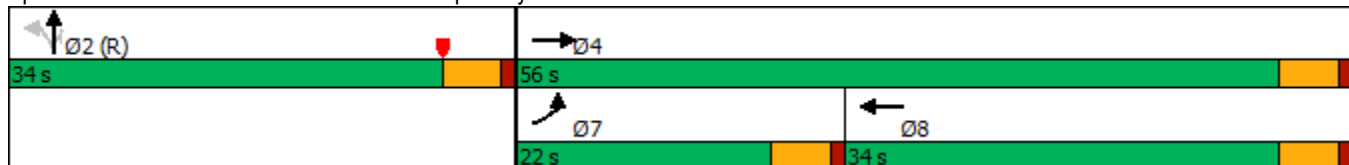


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			5.0		10.0	10.0	10.0			
Minimum Split (s)	15.0	23.0			23.0		33.0	33.0	33.0			
Total Split (s)	22.0	56.0			34.0		34.0	34.0	34.0			
Total Split (%)	24.4%	62.2%			37.8%		37.8%	37.8%	37.8%			
Maximum Green (s)	17.0	51.0			29.0		29.0	29.0	29.0			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.2	47.6			28.4		32.4	32.4	32.4			
Actuated g/C Ratio	0.16	0.53			0.32		0.36	0.36	0.36			
v/c Ratio	0.67	0.35			0.80		0.26	0.26	0.42			
Control Delay	47.3	12.4			28.7		23.3	23.3	7.9			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	47.3	12.4			28.7		23.3	23.3	7.9			
LOS	D	B			C		C	C	A			
Approach Delay		20.1			28.7			15.7				
Approach LOS		C			C			B				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 23.2
 Intersection LOS: C
 Intersection Capacity Utilization 54.8%
 ICU Level of Service A
 Analysis Period (min) 15

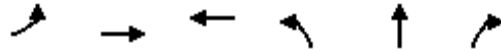
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023
































Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	185	653	1308	158	159	308
v/c Ratio	0.67	0.35	0.80	0.26	0.26	0.42
Control Delay	47.3	12.4	28.7	23.3	23.3	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	12.4	28.7	23.3	23.3	7.9
Queue Length 50th (ft)	100	96	206	70	70	26
Queue Length 95th (ft)	164	130	272	123	124	92
Internal Link Dist (ft)		642	1820		360	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	334	2005	1689	605	605	725
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.33	0.77	0.26	0.26	0.42

Intersection Summary

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			  			 			 	
Traffic Volume (vph)	139	561	84	242	777	116	145	222	202	123	405	261
Future Volume (vph)	139	561	84	242	777	116	145	222	202	123	405	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.981				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4989	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4989	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112		23				220			132
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1900			5304			887				1679
Travel Time (s)		32.4			90.4			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	151	610	91	263	845	126	158	241	220	134	440	284
Shared Lane Traffic (%)												
Lane Group Flow (vph)	151	610	91	263	971	0	158	241	220	134	440	284
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/23/2023

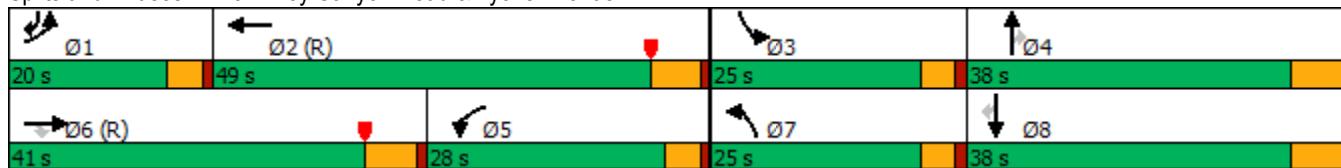


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	41.0	41.0	28.0	49.0		25.0	38.0	38.0	25.0	38.0	20.0
Total Split (%)	15.2%	31.1%	31.1%	21.2%	37.1%		18.9%	28.8%	28.8%	18.9%	28.8%	15.2%
Maximum Green (s)	15.5	35.0	35.0	23.5	43.0		20.5	32.0	32.0	20.5	32.0	15.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	12.0	50.2	50.2	24.0	62.2		17.6	25.7	25.7	16.1	24.3	40.3
Actuated g/C Ratio	0.09	0.38	0.38	0.18	0.47		0.13	0.19	0.19	0.12	0.18	0.31
v/c Ratio	0.52	0.49	0.14	0.88	0.41		0.72	0.37	0.47	0.67	0.70	0.49
Control Delay	63.2	34.2	3.8	68.5	12.7		72.9	47.3	8.9	70.9	56.5	21.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	34.2	3.8	68.5	12.7		72.9	47.3	8.9	70.9	56.5	21.4
LOS	E	C	A	E	B		E	D	A	E	E	C
Approach Delay		36.1			24.6			40.2			47.1	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 35.5 Intersection LOS: D
 Intersection Capacity Utilization 61.5% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	151	610	91	263	971	158	241	220	134	440	284
v/c Ratio	0.52	0.49	0.14	0.88	0.41	0.72	0.37	0.47	0.67	0.70	0.49
Control Delay	63.2	34.2	3.8	68.5	12.7	72.9	47.3	8.9	70.9	56.5	21.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	34.2	3.8	68.5	12.7	72.9	47.3	8.9	70.9	56.5	21.4
Queue Length 50th (ft)	64	209	0	218	221	131	94	0	111	187	104
Queue Length 95th (ft)	98	294	27	#381	237	204	132	66	175	235	173
Internal Link Dist (ft)		1820			5224		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	388	1255	631	300	2361	262	850	544	262	881	618
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.49	0.14	0.88	0.41	0.60	0.28	0.40	0.51	0.50	0.46


































Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 	 	 	 	 	 	 	 	 		
Traffic Volume (vph)	163	673	58	78	915	389	116	117	92	467	102	225
Future Volume (vph)	163	673	58	78	915	389	116	117	92	467	102	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			271			112			245
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5304			2371			465				790
Travel Time (s)		103.3			46.2			9.1				12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	732	63	85	995	423	126	127	100	508	111	245
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	732	63	85	995	423	126	127	100	508	111	245
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023

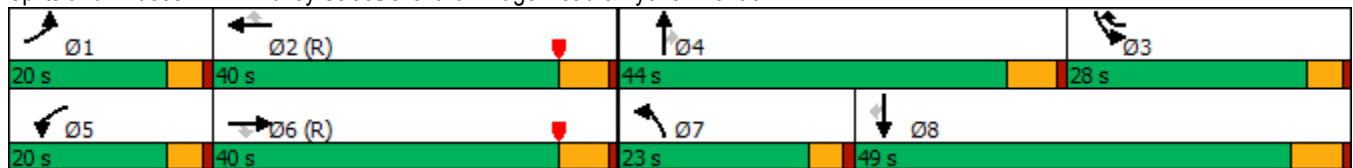


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	13.1	64.1	64.1	12.6	63.6	90.6	15.3	12.3	12.3	27.0	24.0	24.0
Actuated g/C Ratio	0.10	0.49	0.49	0.10	0.48	0.69	0.12	0.09	0.09	0.20	0.18	0.18
v/c Ratio	0.56	0.46	0.08	0.54	0.53	0.33	0.66	0.40	0.44	0.72	0.34	0.51
Control Delay	62.3	40.9	7.5	69.6	31.3	4.3	72.1	59.7	13.5	54.9	49.2	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.3	40.9	7.5	69.6	31.3	4.3	72.1	59.7	13.5	54.9	49.2	9.2
LOS	E	D	A	E	C	A	E	E	B	D	D	A
Approach Delay		42.6			25.9			51.0			41.2	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 36.3
 Intersection LOS: D
 Intersection Capacity Utilization 59.9%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	177	732	63	85	995	423	126	127	100	508	111	245
v/c Ratio	0.56	0.46	0.08	0.54	0.53	0.33	0.66	0.40	0.44	0.72	0.34	0.51
Control Delay	62.3	40.9	7.5	69.6	31.3	4.3	72.1	59.7	13.5	54.9	49.2	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.3	40.9	7.5	69.6	31.3	4.3	72.1	59.7	13.5	54.9	49.2	9.2
Queue Length 50th (ft)	81	277	6	67	422	55	104	54	0	211	84	0
Queue Length 95th (ft)	121	392	32	m97	524	166	169	86	44	256	136	70
Internal Link Dist (ft)		5224			2291			385			710	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	391	1604	820	203	1876	1288	237	1036	493	720	613	683
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.46	0.08	0.42	0.53	0.33	0.53	0.12	0.20	0.71	0.18	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	368	418	47	568	27	395	114	36	39	155	171
Future Volume (vph)	122	368	418	47	568	27	395	114	36	39	155	171
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1607	3539	1468	1631	3539	1356	3127	1863	1471	1671	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			428			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2371			962			528				401
Travel Time (s)		46.2			18.7			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	133	400	454	51	617	29	429	124	39	42	168	186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	400	454	51	617	29	429	124	39	42	168	186
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/23/2023

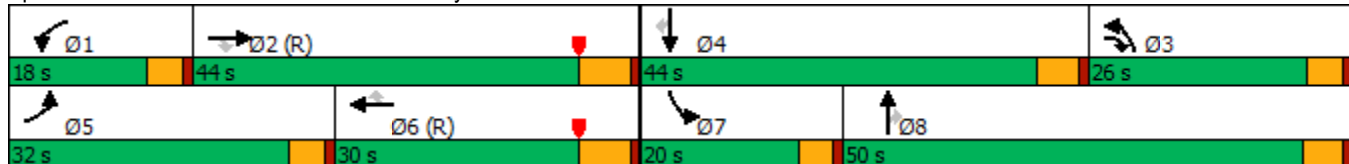


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	32.0	44.0	26.0	18.0	30.0	30.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	24.2%	33.3%	19.7%	13.6%	22.7%	22.7%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	27.5	38.0	21.5	13.5	24.0	24.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		32.0	32.0		32.0	32.0
Pedestrian Calls (#/hr)		27			27	27		43	43		43	43
Act Effct Green (s)	16.4	52.7	73.6	9.9	44.1	44.1	21.0	48.3	48.3	9.2	34.5	34.5
Actuated g/C Ratio	0.12	0.40	0.56	0.08	0.33	0.33	0.16	0.37	0.37	0.07	0.26	0.26
v/c Ratio	0.65	0.28	0.45	0.41	0.52	0.05	0.81	0.18	0.06	0.36	0.36	0.40
Control Delay	58.2	31.6	8.4	78.1	39.2	0.6	66.6	28.2	0.2	66.0	40.2	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	31.6	8.4	78.1	39.2	0.6	66.6	28.2	0.2	66.0	40.2	12.8
LOS	E	C	A	E	D	A	E	C	A	E	D	B
Approach Delay		24.5			40.5			54.2			30.1	
Approach LOS		C			D			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 49 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 36.1
 Intersection LOS: D
 Intersection Capacity Utilization 83.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	133	400	454	51	617	29	429	124	39	42	168	186
v/c Ratio	0.65	0.28	0.45	0.41	0.52	0.05	0.81	0.18	0.06	0.36	0.36	0.40
Control Delay	58.2	31.6	8.4	78.1	39.2	0.6	66.6	28.2	0.2	66.0	40.2	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	31.6	8.4	78.1	39.2	0.6	66.6	28.2	0.2	66.0	40.2	12.8
Queue Length 50th (ft)	89	174	108	0	204	0	183	68	0	35	111	28
Queue Length 95th (ft)	m138	187	130	82	360	2	243	118	0	73	174	92
Internal Link Dist (ft)		2291			882			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	350	1411	1025	175	1183	566	553	716	649	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.28	0.44	0.29	0.52	0.05	0.78	0.17	0.06	0.20	0.31	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Placerita Canyon Road/Arch Street & 12th Street

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	5	5	5	20	5	56	10	148	46	61	87	5
Future Volume (vph)	5	5	5	20	5	56	10	148	46	61	87	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.955			0.906			0.970			0.996	
Flt Protected		0.984			0.988			0.998			0.981	
Satd. Flow (prot)	0	1750	0	0	1667	0	0	1803	0	0	1820	0
Flt Permitted		0.984			0.988			0.998			0.981	
Satd. Flow (perm)	0	1750	0	0	1667	0	0	1803	0	0	1820	0
Link Speed (mph)		25			25			35			25	
Link Distance (ft)		391			842			1231			505	
Travel Time (s)		10.7			23.0			24.0			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	5	22	5	61	11	161	50	66	95	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	0	88	0	0	222	0	0	166	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	35.2%
ICU Level of Service	A
Analysis Period (min)	15

HCM 6th TWSC
 17: Placerita Canyon Road/Arch Street & 12th Street

01/23/2023

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	5	20	5	56	10	148	46	61	87	5
Future Vol, veh/h	5	5	5	20	5	56	10	148	46	61	87	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	22	5	61	11	161	50	66	95	5

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	471	463	98	443	440	186	100	0	0	211	0	0
Stage 1	230	230	-	208	208	-	-	-	-	-	-	-
Stage 2	241	233	-	235	232	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	503	496	958	525	511	856	1493	-	-	1360	-	-
Stage 1	773	714	-	794	730	-	-	-	-	-	-	-
Stage 2	762	712	-	768	713	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	443	467	958	494	481	856	1493	-	-	1360	-	-
Mov Cap-2 Maneuver	443	467	-	494	481	-	-	-	-	-	-	-
Stage 1	767	678	-	788	724	-	-	-	-	-	-	-
Stage 2	697	706	-	719	677	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.7		9.9		0.4		3.1	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1493	-	-	551	805	1360	-	-
HCM Lane V/C Ratio	0.007	-	-	0.03	0.082	0.049	-	-
HCM Control Delay (s)	7.4	0	-	11.7	9.9	7.8	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.2	-	-

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	11	16	319	7	3	10	8	220	7	13	1
Future Volume (vph)	3	11	16	319	7	3	10	8	220	7	13	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.912			0.959			0.875			0.994	
Flt Protected	0.950			0.950				0.998			0.983	
Satd. Flow (prot)	1770	1699	0	1770	1786	0	0	1627	0	0	1820	0
Flt Permitted	0.950			0.950				0.998			0.983	
Satd. Flow (perm)	1770	1699	0	1770	1786	0	0	1627	0	0	1820	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		671			3882			2703			372	
Travel Time (s)		15.3			88.2			61.4			8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	12	17	347	8	3	11	9	239	8	14	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	29	0	347	11	0	0	259	0	0	23	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	45.9%
ICU Level of Service	A
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	9.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	3	11	16	319	7	3	10	8	220	7	13	1
Future Vol, veh/h	3	11	16	319	7	3	10	8	220	7	13	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	12	17	347	8	3	11	9	239	8	14	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	11	0	0	29	0	0	738	732	21	855	739	10
Stage 1	-	-	-	-	-	-	27	27	-	704	704	-
Stage 2	-	-	-	-	-	-	711	705	-	151	35	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1608	-	-	1584	-	-	334	348	1056	278	345	1071
Stage 1	-	-	-	-	-	-	990	873	-	428	440	-
Stage 2	-	-	-	-	-	-	424	439	-	851	866	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1608	-	-	1584	-	-	266	271	1056	174	269	1071
Mov Cap-2 Maneuver	-	-	-	-	-	-	266	271	-	174	269	-
Stage 1	-	-	-	-	-	-	988	871	-	427	344	-
Stage 2	-	-	-	-	-	-	317	343	-	651	864	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			7.7			10.9			22		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	864	1608	-	-	1584	-	-	235
HCM Lane V/C Ratio	0.299	0.002	-	-	0.219	-	-	0.097
HCM Control Delay (s)	10.9	7.2	-	-	7.9	-	-	22
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.3	0	-	-	0.8	-	-	0.3

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	186	126	60	208	1897	166
Future Volume (vph)	186	126	60	208	1897	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.979	0.850				0.850
Flt Protected	0.959		0.950			
Satd. Flow (prot)	3393	1441	1770	3539	3539	1583
Flt Permitted	0.959		0.950			
Satd. Flow (perm)	3393	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	13	105				69
Link Speed (mph)	30			50	50	
Link Distance (ft)	3882			2854	2872	
Travel Time (s)	88.2			38.9	39.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	202	137	65	226	2062	180
Shared Lane Traffic (%)		23%				
Lane Group Flow (vph)	234	105	65	226	2062	180
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	21.0	21.0	30.0	30.0
Total Split (s)	35.0	35.0	21.0	97.0	76.0	76.0
Total Split (%)	26.5%	26.5%	15.9%	73.5%	57.6%	57.6%
Maximum Green (s)	30.0	30.0	16.0	92.0	71.0	71.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	14.0	14.0	32.0	108.0	71.0	71.0
Actuated g/C Ratio	0.11	0.11	0.24	0.82	0.54	0.54
v/c Ratio	0.63	0.43	0.15	0.08	1.08	0.20
Control Delay	60.9	15.0	47.9	0.2	71.5	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	15.0	47.9	0.2	71.5	10.0
LOS	E	B	D	A	E	A
Approach Delay	46.7			10.8	66.5	
Approach LOS	D			B	E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 58.6
 Intersection LOS: E
 Intersection Capacity Utilization 69.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/23/2023



























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	234	105	65	226	2062	180
v/c Ratio	0.63	0.43	0.15	0.08	1.08	0.20
Control Delay	60.9	15.0	47.9	0.2	71.5	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	15.0	47.9	0.2	71.5	10.0
Queue Length 50th (ft)	94	0	30	1	~1044	25
Queue Length 95th (ft)	135	59	57	1	#1164	m83
Internal Link Dist (ft)	3802			2774	2792	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	781	408	429	2896	1903	883
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.26	0.15	0.08	1.08	0.20

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	10	21	129	5	278	5	315	88	139	1890	10
Future Volume (vph)	15	10	21	129	5	278	5	315	88	139	1890	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.754			0.750			0.950			0.950		
Satd. Flow (perm)	1405	3539	1583	1397	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			302			99			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		715			720			2872			794	
Travel Time (s)		10.8			10.9			39.2			10.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	11	23	140	5	302	5	342	96	151	2054	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	11	23	140	5	302	5	342	96	151	2054	11
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8			6			2

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

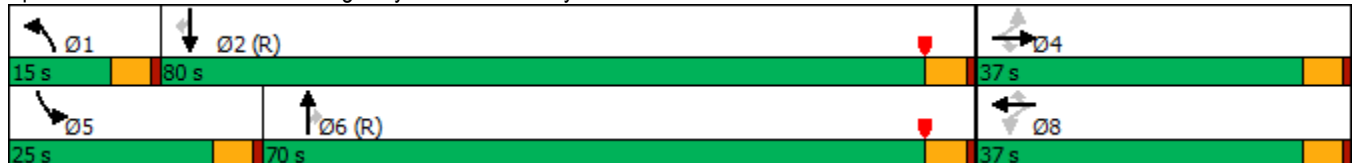
01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.0	21.0	21.0	37.0	37.0	37.0	15.0	21.0	21.0	15.0	39.0	39.0
Total Split (s)	37.0	37.0	37.0	37.0	37.0	37.0	15.0	70.0	70.0	25.0	80.0	80.0
Total Split (%)	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%	11.4%	53.0%	53.0%	18.9%	60.6%	60.6%
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0	32.0	10.0	65.0	65.0	20.0	75.0	75.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	18.7	18.7	18.7	18.7	18.7	18.7	10.0	81.8	81.8	16.5	100.3	100.3
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.14	0.14	0.08	0.62	0.62	0.12	0.76	0.76
v/c Ratio	0.08	0.02	0.07	0.71	0.01	0.63	0.04	0.16	0.09	0.69	0.76	0.01
Control Delay	46.7	45.0	0.5	72.4	44.4	11.1	90.6	4.6	3.2	70.5	13.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	45.0	0.5	72.4	44.4	11.1	90.6	4.6	3.2	70.5	13.9	0.0
LOS	D	D	A	E	D	B	F	A	A	E	B	A
Approach Delay		25.1			30.7			5.3			17.7	
Approach LOS		C			C			A			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 17.9 Intersection LOS: B
 Intersection Capacity Utilization 86.9% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	16	11	23	140	5	302	5	342	96	151	2054	11
v/c Ratio	0.08	0.02	0.07	0.71	0.01	0.63	0.04	0.16	0.09	0.69	0.76	0.01
Control Delay	46.7	45.0	0.5	72.4	44.4	11.1	90.6	4.6	3.2	70.5	13.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	45.0	0.5	72.4	44.4	11.1	90.6	4.6	3.2	70.5	13.9	0.0
Queue Length 50th (ft)	12	4	0	116	2	0	4	10	0	126	403	0
Queue Length 95th (ft)	32	12	0	178	7	80	m17	103	47	191	#1050	0
Internal Link Dist (ft)		635			640			2792			714	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	340	857	458	338	857	612	134	2194	1018	274	2689	1216
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.01	0.05	0.41	0.01	0.49	0.04	0.16	0.09	0.55	0.76	0.01

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/23/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗		↖	↕↖
Traffic Volume (vph)	0	26	412	134	494	2024
Future Volume (vph)	0	26	412	134	494	2024
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.865	0.963			
Flt Protected					0.950	
Satd. Flow (prot)	0	1611	3408	0	1770	3539
Flt Permitted					0.950	
Satd. Flow (perm)	0	1611	3408	0	1770	3539
Link Speed (mph)	30		50			50
Link Distance (ft)	717		794			675
Travel Time (s)	16.3		10.8			9.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	28	448	146	537	2200
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	28	594	0	537	2200
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	59.3%
	ICU Level of Service B
Analysis Period (min)	15

HCM 6th TWSC
 22: Sierra Highway & SR-14 Southbound Ramps

01/23/2023

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕		↖	↕
Traffic Vol, veh/h	0	26	412	134	494	2024
Future Vol, veh/h	0	26	412	134	494	2024
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	160	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	28	448	146	537	2200

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	297	0	0	594
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22
Pot Cap-1 Maneuver	0	699	-	-	978
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	699	-	-	978
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

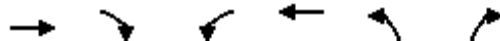
Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	2.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	699	978
HCM Lane V/C Ratio	-	-	0.04	0.549
HCM Control Delay (s)	-	-	10.4	13.1
HCM Lane LOS	-	-	B	B
HCM 95th %tile Q(veh)	-	-	0.1	3.4

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/23/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	26	0	0	278	185	57
Future Volume (vph)	26	0	0	278	185	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	720			392	651	
Travel Time (s)	10.9			5.9	14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	0	0	302	201	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	0	0	302	201	62
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	24.6%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	4.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	26	0	0	278	185	57
Future Vol, veh/h	26	0	0	278	185	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	0	0	302	201	62
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	-	-	-	179	14
Stage 1	-	-	-	-	28	-
Stage 2	-	-	-	-	151	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	0	-	793	1062
Stage 1	-	0	0	-	991	-
Stage 2	-	0	0	-	861	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	793	1062
Mov Cap-2 Maneuver	-	-	-	-	793	-
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	861	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0	10.5			
HCM LOS						B
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT		
Capacity (veh/h)	793	1062	-	-		
HCM Lane V/C Ratio	0.254	0.058	-	-		
HCM Control Delay (s)	11.1	8.6	-	-		
HCM Lane LOS	B	A	-	-		
HCM 95th %tile Q(veh)	1	0.2	-	-		

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	743	1593	379	372	958	310	532	1689	371	372	1102	219
Future Volume (vph)	743	1593	379	372	958	310	532	1689	371	372	1102	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	300		230
Storage Lanes	3		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62			295			303			99
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			1975			1020	
Travel Time (s)		13.2			11.3			29.9			15.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	808	1732	412	404	1041	337	578	1836	403	404	1198	238
Shared Lane Traffic (%)												
Lane Group Flow (vph)	808	1732	412	404	1041	337	578	1836	403	404	1198	238
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	25.0	39.0	26.0	22.0	36.0	36.0	26.0	45.0	45.0	26.0	45.0	25.0

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023

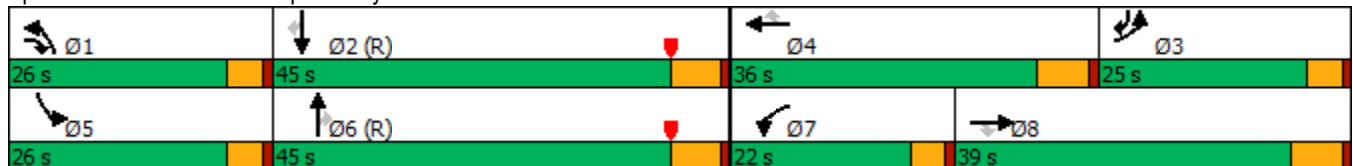


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	29.5%	19.7%	16.7%	27.3%	27.3%	19.7%	34.1%	34.1%	19.7%	34.1%	18.9%
Maximum Green (s)	20.5	33.0	21.5	17.5	30.0	30.0	21.5	39.0	39.0	21.5	39.0	20.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	22.8	35.6	61.6	17.4	30.2	30.2	22.0	44.1	44.1	18.9	41.0	63.8
Actuated g/C Ratio	0.17	0.27	0.47	0.13	0.23	0.23	0.17	0.33	0.33	0.14	0.31	0.48
v/c Ratio	0.94	1.00	0.53	0.89	0.71	0.57	1.01	0.86	0.55	0.82	0.60	0.29
Control Delay	72.8	70.2	24.1	78.9	49.7	11.5	89.4	34.8	12.0	69.1	40.1	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.8	70.2	24.1	78.9	49.7	11.5	89.4	34.8	12.0	69.1	40.1	7.1
LOS	E	E	C	E	D	B	F	C	B	E	D	A
Approach Delay		64.5			49.1			42.7			42.2	
Approach LOS		E			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 55 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 50.7
 Intersection LOS: D
 Intersection Capacity Utilization 82.1%
 ICU Level of Service E
 Analysis Period (min) 15

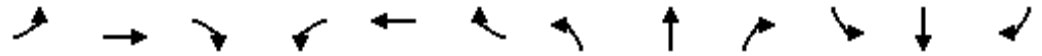
Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	808	1732	412	404	1041	337	578	1836	403	404	1198	238
v/c Ratio	0.94	1.00	0.53	0.89	0.71	0.57	1.01	0.86	0.55	0.82	0.60	0.29
Control Delay	72.8	70.2	24.1	78.9	49.7	11.5	89.4	34.8	12.0	69.1	40.1	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.8	70.2	24.1	78.9	49.7	11.5	89.4	34.8	12.0	69.1	40.1	7.1
Queue Length 50th (ft)	~251	~456	210	177	236	28	~275	424	96	174	252	36
Queue Length 95th (ft)	#346	#533	311	#261	276	120	m#337	491	m109	227	292	65
Internal Link Dist (ft)		790			665			1895			940	
Turn Bay Length (ft)	270		265	280		340	300			300		230
Base Capacity (vph)	861	1728	771	468	1553	607	572	2140	730	572	1990	816
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	1.00	0.53	0.86	0.67	0.56	1.01	0.86	0.55	0.71	0.60	0.29

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔↔	↕↕↕	↔↔
Traffic Volume (vph)	1160	1361	27	409	798	302	26	1203	518	363	982	641
Future Volume (vph)	1160	1361	27	409	798	302	26	1203	518	363	982	641
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Fr _t		0.997				0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5070	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5070	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				124			112			524
Link Speed (mph)		45			45			45				45
Link Distance (ft)		2140			2337			3555				1975
Travel Time (s)		32.4			35.4			53.9				29.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1261	1479	29	445	867	328	28	1308	563	395	1067	697
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1261	1508	0	445	867	328	28	1308	563	395	1067	697
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			48				48
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	40.0	48.0		22.0	30.0	20.0	18.0	42.0	22.0	20.0	44.0	40.0
Total Split (%)	30.3%	36.4%		16.7%	22.7%	15.2%	13.6%	31.8%	16.7%	15.2%	33.3%	30.3%
Maximum Green (s)	35.5	42.0		17.5	24.0	15.5	13.5	36.0	17.5	15.5	38.0	35.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023

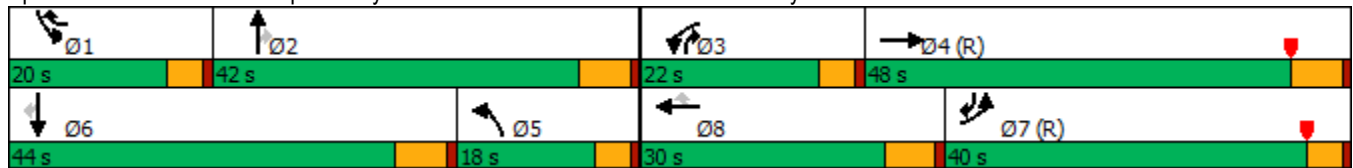


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	None	None	None	Max	None	None	None	C-Max
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	36.1	44.9		17.1	25.9	41.9	11.9	38.0	59.1	16.0	46.3	86.4
Actuated g/C Ratio	0.27	0.34		0.13	0.20	0.32	0.09	0.29	0.45	0.12	0.35	0.65
v/c Ratio	0.93	0.87		0.69	0.87	0.56	0.18	0.89	0.73	0.95	0.60	0.35
Control Delay	58.9	47.8		60.7	61.7	15.2	51.2	49.4	34.8	77.5	39.2	3.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	47.8		60.7	61.7	15.2	51.2	49.4	34.8	77.5	39.2	3.7
LOS	E	D		E	E	B	D	D	C	E	D	A
Approach Delay		52.9			52.1			45.1			34.8	
Approach LOS		D			D			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 92 (70%), Referenced to phase 4:EBT and 7:EBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 46.4 Intersection LOS: D
 Intersection Capacity Utilization 84.4% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1261	1508	445	867	328	28	1308	563	395	1067	697
v/c Ratio	0.93	0.87	0.69	0.87	0.56	0.18	0.89	0.73	0.95	0.60	0.35
Control Delay	58.9	47.8	60.7	61.7	15.2	51.2	49.4	34.8	77.5	39.2	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	47.8	60.7	61.7	15.2	51.2	49.4	34.8	77.5	39.2	3.7
Queue Length 50th (ft)	374	447	129	265	65	24	423	395	184	320	115
Queue Length 95th (ft)	#459	513	168	#322	113	m34	483	531	m#274	375	m114
Internal Link Dist (ft)		2060		2257			3475			1895	
Turn Bay Length (ft)											
Base Capacity (vph)	1362	1724	680	1001	587	199	1463	780	416	1818	2004
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.87	0.65	0.87	0.56	0.14	0.89	0.72	0.95	0.59	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	292	591	418	1559	1274	232
Future Volume (vph)	292	591	418	1559	1274	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		40				252
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4671	3555	
Travel Time (s)	44.4			63.7	53.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	317	642	454	1695	1385	252
Shared Lane Traffic (%)						
Lane Group Flow (vph)	317	642	454	1695	1385	252
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023

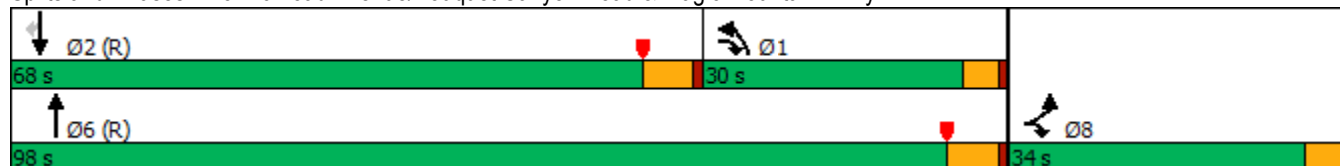


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effct Green (s)	34.8	63.2	24.4	89.2	60.8	60.8
Actuated g/C Ratio	0.26	0.48	0.18	0.68	0.46	0.46
v/c Ratio	0.68	0.47	0.71	0.71	0.85	0.29
Control Delay	53.8	23.6	54.4	10.6	33.7	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	23.6	54.4	10.6	33.7	4.8
LOS	D	C	D	B	C	A
Approach Delay	33.6			19.9	29.2	
Approach LOS	C			B	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 25.9
 Intersection LOS: C
 Intersection Capacity Utilization 73.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	317	642	454	1695	1385	252
v/c Ratio	0.68	0.47	0.71	0.71	0.85	0.29
Control Delay	53.8	23.6	54.4	10.6	33.7	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	23.6	54.4	10.6	33.7	4.8
Queue Length 50th (ft)	258	198	202	512	663	29
Queue Length 95th (ft)	#395	263	264	132	736	m57
Internal Link Dist (ft)	2848			4591	3475	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	466	1346	683	2520	1715	897
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.48	0.66	0.67	0.81	0.28

Intersection Summary

















95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/23/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	43	449	1375	67	378	1233
Future Volume (vph)	43	449	1375	67	378	1233
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.874	0.850		0.850		
Flt Protected	0.992				0.950	
Satd. Flow (prot)	3133	1441	3539	1583	3433	3539
Flt Permitted	0.992				0.950	
Satd. Flow (perm)	3133	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	244	244		45		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4671
Travel Time (s)	10.9		27.3			63.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	488	1495	73	411	1340
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	291	244	1495	73	411	1340
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/23/2023

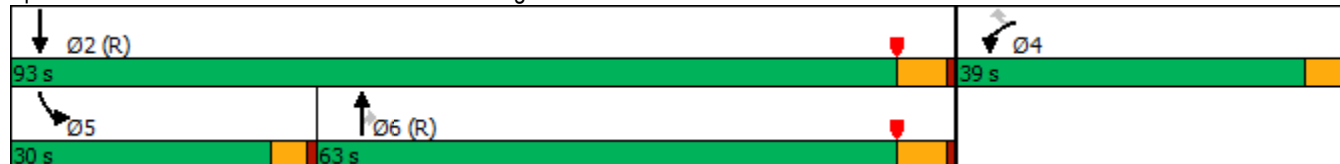


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	10.3	10.3	88.2	88.2	21.5	113.7
Actuated g/C Ratio	0.08	0.08	0.67	0.67	0.16	0.86
v/c Ratio	0.62	0.72	0.63	0.07	0.74	0.44
Control Delay	17.3	19.4	5.9	0.3	69.5	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	19.4	5.9	0.3	69.5	1.0
LOS	B	B	A	A	E	A
Approach Delay	18.3		5.7			17.1
Approach LOS	B		A			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 37 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 12.6
 Intersection Capacity Utilization 64.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/23/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	291	244	1495	73	411	1340
v/c Ratio	0.62	0.72	0.63	0.07	0.74	0.44
Control Delay	17.3	19.4	5.9	0.3	69.5	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	19.4	5.9	0.3	69.5	1.0
Queue Length 50th (ft)	20	0	63	0	188	26
Queue Length 95th (ft)	60	87	785	m0	m200	50
Internal Link Dist (ft)	558		1922			4591
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1010	561	2365	1072	679	3048
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.43	0.63	0.07	0.61	0.44

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕	↗	↗	↕	↕
Traffic Volume (vph)	1	0	0	156	0	163	2	1239	188	183	1219	5
Future Volume (vph)	1	0	0	156	0	163	2	1239	188	183	1219	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		570	140		0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt					0.931				0.850		0.999	
Flt Protected		0.950			0.976		0.950			0.950		
Satd. Flow (prot)	0	1770	0	0	1693	0	1770	3539	1583	1770	3536	0
Flt Permitted		0.950			0.976		0.950			0.950		
Satd. Flow (perm)	0	1770	0	0	1693	0	1770	3539	1583	1770	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					149				204			
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		337			628			1217			3340	
Travel Time (s)		9.2			17.1			18.4			50.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	0	0	170	0	177	2	1347	204	199	1325	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	347	0	2	1347	204	199	1330	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA		Split	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	8	8		7	7		1	6	7	5	2	
Permitted Phases									6			

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/23/2023

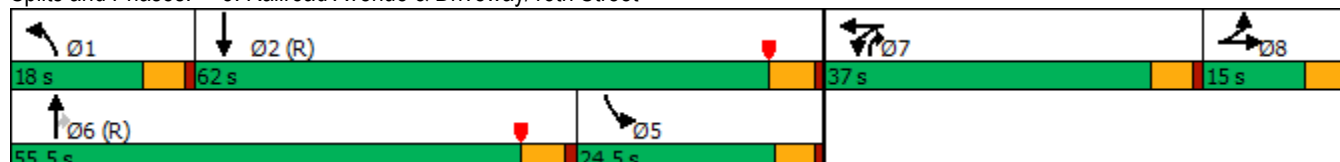


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8		7	7		1	6	7	5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)	15.0	15.0		33.0	33.0		14.0	23.5	33.0	14.0	23.5	
Total Split (s)	15.0	15.0		37.0	37.0		18.0	55.5	37.0	24.5	62.0	
Total Split (%)	11.4%	11.4%		28.0%	28.0%		13.6%	42.0%	28.0%	18.6%	47.0%	
Maximum Green (s)	10.0	10.0		32.0	32.0		13.0	50.0	32.0	19.5	56.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.5	5.0	5.0	5.5	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	None	None	C-Max	
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)				21.0	21.0			11.0	21.0		11.0	
Pedestrian Calls (#/hr)				0	0			0	0		0	
Act Effct Green (s)		10.0			22.7		9.0	71.3	98.5	19.5	93.0	
Actuated g/C Ratio		0.08			0.17		0.07	0.54	0.75	0.15	0.70	
v/c Ratio		0.01			0.84		0.02	0.70	0.17	0.76	0.53	
Control Delay		57.0			46.8		61.0	27.7	1.7	62.3	11.6	
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		57.0			46.8		61.0	27.7	1.7	62.3	11.6	
LOS		E			D		E	C	A	E	B	
Approach Delay		57.0			46.8			24.3			18.2	
Approach LOS		E			D			C			B	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	60 (45%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	23.9
Intersection LOS:	C
Intersection Capacity Utilization:	73.9%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Queues

5: Railroad Avenue & Driveway/13th Street

01/23/2023



Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1	347	2	1347	204	199	1330
v/c Ratio	0.01	0.84	0.02	0.70	0.17	0.76	0.53
Control Delay	57.0	46.8	61.0	27.7	1.7	62.3	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	46.8	61.0	27.7	1.7	62.3	11.6
Queue Length 50th (ft)	1	170	2	377	29	151	187
Queue Length 95th (ft)	7	266	m4	#767	m8	#277	500
Internal Link Dist (ft)	257	548		1137			3260
Turn Bay Length (ft)			100		570	140	
Base Capacity (vph)	134	523	174	1911	1230	261	2490
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.66	0.01	0.70	0.17	0.76	0.53

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	494	131	232	941	1060	335			
Future Volume (vph)	494	131	232	941	1060	335			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		142				364			
Link Speed (mph)	35			35	45				
Link Distance (ft)	1347			1246	1217				
Travel Time (s)	26.2			24.3	18.4				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	537	142	252	1023	1152	364			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	537	142	252	1023	1152	364			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	34			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	42.0	30.0	30.0	30.0	30.0

Lanes, Volumes, Timings
 6: Railroad Avenue & Lyons Avenue

01/23/2023

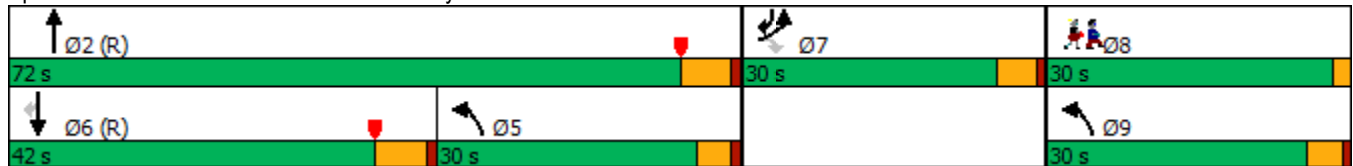


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	31.8%	22.7%	23%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	36.0	25.0	25.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effect Green (s)	28.7	28.7	20.9	82.3	66.4	95.1			
Actuated g/C Ratio	0.22	0.22	0.16	0.62	0.50	0.72			
v/c Ratio	0.72	0.31	0.46	0.46	0.65	0.29			
Control Delay	71.8	31.6	26.1	23.3	21.6	1.6			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	71.8	31.6	26.1	23.3	21.6	1.6			
LOS	E	C	C	C	C	A			
Approach Delay	63.4			23.8	16.8				
Approach LOS	E			C	B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 28.5
 Intersection LOS: C
 Intersection Capacity Utilization 60.0%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/23/2023

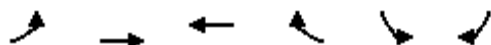


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	537	142	252	1023	1152	364
v/c Ratio	0.72	0.31	0.46	0.46	0.65	0.29
Control Delay	71.8	31.6	26.1	23.3	21.6	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.8	31.6	26.1	23.3	21.6	1.6
Queue Length 50th (ft)	208	75	63	288	332	0
Queue Length 95th (ft)	221	99	80	325	605	97
Internal Link Dist (ft)	1267			1166	1137	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	768	464	1352	2206	1780	1250
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.31	0.19	0.46	0.65	0.29

Intersection Summary

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/23/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	749	514	1081	1058	0	
Future Volume (vph)	0	749	514	1081	1058	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.98			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1175			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1913		1540		
Travel Time (s)		6.2	32.6		30.0		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	814	559	1175	1150	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	814	559	1175	1150	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		82.0	38.0	50.0	50.0	44.0	
Total Split (%)		62.1%	28.8%	37.9%	37.9%	33%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/23/2023

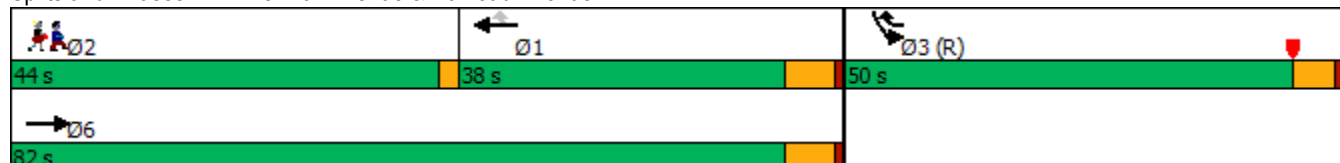


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		76.0	32.0	44.0	44.0		42.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		78.0	78.0	124.0	46.0		
Actuated g/C Ratio		0.59	0.59	0.94	0.35		
v/c Ratio		0.39	0.51	0.44	0.96		
Control Delay		15.0	4.9	1.7	34.7		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		15.0	4.9	1.7	34.7		
LOS		B	A	A	C		
Approach Delay		15.0	2.8		34.7		
Approach LOS		B	A		C		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	32 (24%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	140
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.96
Intersection Signal Delay:	15.4
Intersection LOS:	B
Intersection Capacity Utilization:	63.9%
ICU Level of Service:	B
Analysis Period (min):	15

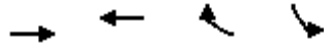
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/23/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	814	559	1175	1150
v/c Ratio	0.39	0.51	0.44	0.96
Control Delay	15.0	4.9	1.7	34.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.0	4.9	1.7	34.7
Queue Length 50th (ft)	185	131	0	502
Queue Length 95th (ft)	228	54	1	#617
Internal Link Dist (ft)	282	1833		1460
Turn Bay Length (ft)				
Base Capacity (vph)	2091	1100	2647	1196
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.39	0.51	0.44	0.96

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/23/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↗	↑↑↑	↑↑↑		↘	↗
Traffic Volume (vph)	285	1704	1349	88	60	166
Future Volume (vph)	285	1704	1349	88	60	166
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	3			2	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.991			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5040	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5040	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			10			180
Link Speed (mph)		40	40		30	
Link Distance (ft)		1403	3070		2619	
Travel Time (s)		23.9	52.3		59.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	310	1852	1466	96	65	180
Shared Lane Traffic (%)						
Lane Group Flow (vph)	310	1852	1562	0	65	180
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	35.0	98.0	63.0		34.0	34.0

Lanes, Volumes, Timings
 8: Newhall Avenue & Valle Del Oro

01/23/2023

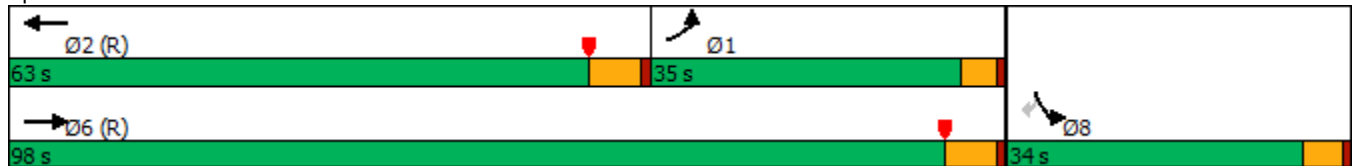


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	26.5%	74.2%	47.7%		25.8%	25.8%
Maximum Green (s)	30.5	92.0	57.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	31.0	112.8	77.8		11.2	11.2
Actuated g/C Ratio	0.23	0.85	0.59		0.08	0.08
v/c Ratio	0.75	0.43	0.53		0.43	0.60
Control Delay	47.6	3.1	6.2		66.5	23.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	47.6	3.1	6.2		66.5	23.1
LOS	D	A	A		E	C
Approach Delay	9.5		6.2		34.6	
Approach LOS	A		A		C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 53 (40%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 9.8
 Intersection Capacity Utilization 57.1%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

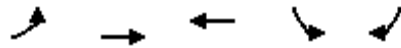
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/23/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	310	1852	1562	65	180
v/c Ratio	0.75	0.43	0.53	0.43	0.60
Control Delay	47.6	3.1	6.2	66.5	23.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.6	3.1	6.2	66.5	23.1
Queue Length 50th (ft)	219	141	116	53	0
Queue Length 95th (ft)	m275	m167	168	108	99
Internal Link Dist (ft)		1323	2990	2539	
Turn Bay Length (ft)	150				
Base Capacity (vph)	415	4344	2973	402	498
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.43	0.53	0.16	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
9: Sierra Highway & Newhall Avenue

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	366	1488	57	52	1282	505	227	917	62	46	113	252
Future Volume (vph)	366	1488	57	52	1282	505	227	917	62	46	113	252
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		300
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.896	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4556	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4556	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			277			149		274	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3070			687			398			2905	
Travel Time (s)		52.3			11.7			9.0			66.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	398	1617	62	57	1393	549	247	997	67	50	123	274
Shared Lane Traffic (%)												
Lane Group Flow (vph)	398	1617	62	57	1393	549	247	997	67	50	397	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	50.0	50.0	20.0	45.0	45.0	20.0	42.0	42.0	20.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/23/2023

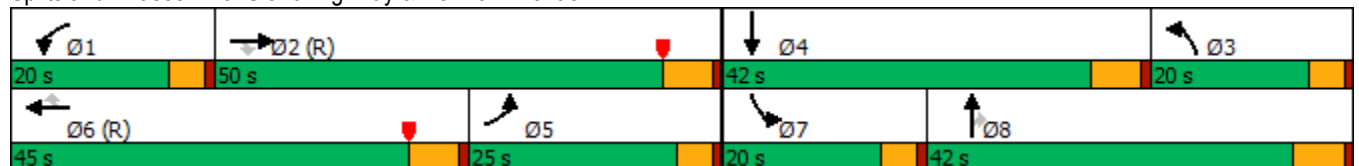


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	37.9%	37.9%	15.2%	34.1%	34.1%	15.2%	31.8%	31.8%	15.2%	31.8%	
Maximum Green (s)	20.5	44.0	44.0	15.5	39.0	39.0	15.5	36.0	36.0	15.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	59.3	59.3	8.1	44.3	44.3	39.4	43.1	41.1	9.6	11.3	
Actuated g/C Ratio	0.16	0.45	0.45	0.06	0.34	0.34	0.30	0.33	0.31	0.07	0.09	
v/c Ratio	0.73	0.71	0.08	0.27	0.82	0.77	0.24	0.86	0.11	0.39	0.62	
Control Delay	62.4	34.4	1.1	61.9	45.7	27.9	35.4	50.7	0.4	58.5	24.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	62.4	34.4	1.1	61.9	45.7	27.9	35.4	50.7	0.4	58.5	24.3	
LOS	E	C	A	E	D	C	D	D	A	E	C	
Approach Delay		38.8			41.2			45.2			28.1	
Approach LOS		D			D			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 40.3
 Intersection LOS: D
 Intersection Capacity Utilization 77.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/23/2023





















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	398	1617	62	57	1393	549	247	997	67	50	397
v/c Ratio	0.73	0.71	0.08	0.27	0.82	0.77	0.24	0.86	0.11	0.39	0.62
Control Delay	62.4	34.4	1.1	61.9	45.7	27.9	35.4	50.7	0.4	58.5	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.4	34.4	1.1	61.9	45.7	27.9	35.4	50.7	0.4	58.5	24.3
Queue Length 50th (ft)	177	494	1	24	415	228	79	414	0	42	55
Queue Length 95th (ft)	240	579	8	47	479	390	119	#553	0	71	54
Internal Link Dist (ft)	2990				607		318		2825		
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	2283	792	416	1708	715	1024	1155	595	214	1506
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.71	0.08	0.14	0.82	0.77	0.24	0.86	0.11	0.23	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	520	809	29	1599	0	0	0	0	5	0	297
Future Volume (vph)	0	520	809	29	1599	0	0	0	0	5	0	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.936	0.850									0.850
Fl _t Protected				0.950							0.950	
Satd. Flow (prot)	0	3173	1441	1770	3539	0	0	0	0	0	1770	1583
Fl _t Permitted				0.950							0.950	
Satd. Flow (perm)	0	3173	1441	1770	3539	0	0	0	0	0	1770	1583
Link Speed (mph)		40			40				30			30
Link Distance (ft)		687			492				504			602
Travel Time (s)		11.7			8.4				11.5			13.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	565	879	32	1738	0	0	0	0	5	0	323
Shared Lane Traffic (%)			48%									
Lane Group Flow (vph)	0	987	457	32	1738	0	0	0	0	0	5	323
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24				0			0
Link Offset(ft)		0			0				0			0
Crosswalk Width(ft)		16			16				16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free				Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	75.3%						ICU Level of Service D					
Analysis Period (min)	15											

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/23/2023

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	520	809	29	1599	0	0	0	0	5	0	297
Future Vol, veh/h	0	520	809	29	1599	0	0	0	0	5	0	297
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082488832	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	565	879	32	1738	0	0	0	0	5	0	323

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	565	0	0		2085	2367	-
Stage 1	-	-	-	-	-	-		1802	1802	-
Stage 2	-	-	-	-	-	-		283	565	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	1003	-	0		46	35	0
Stage 1	0	-	-	-	-	0		117	130	0
Stage 2	0	-	-	-	-	0		740	506	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1003	-	-		45	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		45	0	-
Stage 1	-	-	-	-	-	-		117	0	-
Stage 2	-	-	-	-	-	-		716	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	95.7
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1003	-	45	-
HCM Lane V/C Ratio	-	-	0.031	-	0.121	-
HCM Control Delay (s)	-	-	8.7	-	95.7	0
HCM Lane LOS	-	-	A	-	F	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.4	-

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/23/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	1040	0	0	111	0	644
Future Volume (vph)	1040	0	0	111	0	644
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr _t						0.865
Fl _t Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Fl _t Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	492			551	676	
Travel Time (s)	8.4			9.4	15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1130	0	0	121	0	700
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1130	0	0	121	0	700
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	75.3% ICU Level of Service D
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	91.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	1040	0	0	111	0	644
Future Vol, veh/h	1040	0	0	111	0	644
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1130	0	0	121	0	700

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	255.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	469	-	-
HCM Lane V/C Ratio	1.493	-	-
HCM Control Delay (s)	255.5	-	-
HCM Lane LOS	F	-	-
HCM 95th %tile Q(veh)	36.1	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	169	956	0	0	840	360	543	0	599	0	0	0	
Future Volume (vph)	169	956	0	0	840	360	543	0	599	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	275		0	0		0	190		0	0		0	
Storage Lanes	1		0	0		0	1		1	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00	
Frt					0.955				0.850				
Flt Protected	0.950						0.950	0.950					
Satd. Flow (prot)	1770	3539	0	0	4856	0	1681	1681	1583	0	0	0	
Flt Permitted	0.950						0.950	0.950					
Satd. Flow (perm)	1770	3539	0	0	4856	0	1681	1681	1583	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					116				73				
Link Speed (mph)		40			40			30				30	
Link Distance (ft)		1093			1835			601				382	
Travel Time (s)		18.6			31.3			13.7				8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	184	1039	0	0	913	391	590	0	651	0	0	0	
Shared Lane Traffic (%)							50%						
Lane Group Flow (vph)	184	1039	0	0	1304	0	295	295	651	0	0	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right	
Median Width(ft)		20			20			12				12	
Link Offset(ft)		0			0			0				0	
Crosswalk Width(ft)		16			16			16				16	
Two way Left Turn Lane													
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Number of Detectors	1	2			2		1	2	1				
Detector Template	Left	Thru			Thru		Left	Thru	Right				
Leading Detector (ft)	20	100			100		20	100	20				
Trailing Detector (ft)	0	0			0		0	0	0				
Detector 1 Position(ft)	0	0			0		0	0	0				
Detector 1 Size(ft)	20	6			6		20	6	20				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex				
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0				
Detector 2 Position(ft)		94			94			94					
Detector 2 Size(ft)		6			6			6					
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex					
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0					
Turn Type	Prot	NA			NA		Perm	NA	Perm				
Protected Phases	7	4			8			2					
Permitted Phases							2		2				

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023

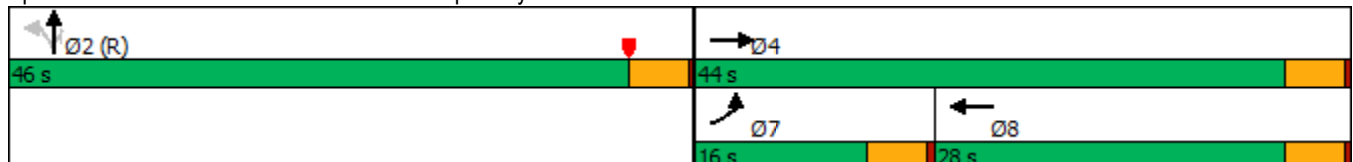


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			10.0		10.0	10.0	10.0			
Minimum Split (s)	14.5	22.5			22.5		32.5	32.5	32.5			
Total Split (s)	16.0	44.0			28.0		46.0	46.0	46.0			
Total Split (%)	17.8%	48.9%			31.1%		51.1%	51.1%	51.1%			
Maximum Green (s)	11.5	39.5			23.5		41.5	41.5	41.5			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	0.5	0.5			0.5		0.5	0.5	0.5			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	4.5			4.5		4.5	4.5	4.5			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	11.3	39.5			23.7		41.5	41.5	41.5			
Actuated g/C Ratio	0.13	0.44			0.26		0.46	0.46	0.46			
v/c Ratio	0.83	0.67			0.95		0.38	0.38	0.85			
Control Delay	69.2	22.7			46.4		17.7	17.7	31.4			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	69.2	22.7			46.4		17.7	17.7	31.4			
LOS	E	C			D		B	B	C			
Approach Delay		29.7			46.4			24.9				
Approach LOS		C			D			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 33.9
 Intersection LOS: C
 Intersection Capacity Utilization 71.0%
 ICU Level of Service C
 Analysis Period (min) 15

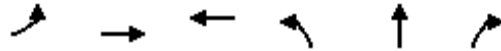
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	184	1039	1304	295	295	651
v/c Ratio	0.83	0.67	0.95	0.38	0.38	0.85
Control Delay	69.2	22.7	46.4	17.7	17.7	31.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2	22.7	46.4	17.7	17.7	31.4
Queue Length 50th (ft)	103	238	247	111	111	284
Queue Length 95th (ft)	#215	309	#347	177	177	#502
Internal Link Dist (ft)		1013	1755		521	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	226	1553	1366	775	775	769
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.67	0.95	0.38	0.38	0.85

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	407	924	130	181	734	86	122	448	239	177	390	271
Future Volume (vph)	407	924	130	181	734	86	122	448	239	177	390	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.984				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	5004	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	5004	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115		16				260			149
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1835			5346			887				1679
Travel Time (s)		31.3			91.1			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	442	1004	141	197	798	93	133	487	260	192	424	295
Shared Lane Traffic (%)												
Lane Group Flow (vph)	442	1004	141	197	891	0	133	487	260	192	424	295
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/23/2023

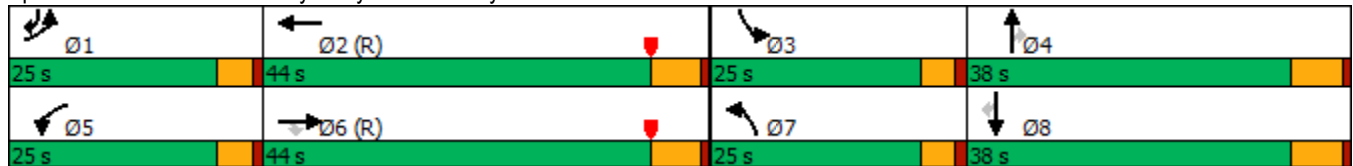


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	25.0	44.0	44.0	25.0	44.0		25.0	38.0	38.0	25.0	38.0	25.0
Total Split (%)	18.9%	33.3%	33.3%	18.9%	33.3%		18.9%	28.8%	28.8%	18.9%	28.8%	18.9%
Maximum Green (s)	20.5	38.0	38.0	20.5	38.0		20.5	32.0	32.0	20.5	32.0	20.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	22.6	49.1	49.1	20.3	46.8		16.1	27.5	27.5	19.1	30.5	57.1
Actuated g/C Ratio	0.17	0.37	0.37	0.15	0.35		0.12	0.21	0.21	0.14	0.23	0.43
v/c Ratio	0.81	0.82	0.23	0.78	0.50		0.66	0.71	0.51	0.80	0.54	0.38
Control Delay	64.7	45.5	9.9	82.9	23.3		70.6	54.1	8.3	78.8	46.9	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.7	45.5	9.9	82.9	23.3		70.6	54.1	8.3	78.8	46.9	12.9
LOS	E	D	A	F	C		E	D	A	E	D	B
Approach Delay		47.7			34.1			43.1			42.6	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 42.4
 Intersection LOS: D
 Intersection Capacity Utilization 71.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	442	1004	141	197	891	133	487	260	192	424	295
v/c Ratio	0.81	0.82	0.23	0.78	0.50	0.66	0.71	0.51	0.80	0.54	0.38
Control Delay	64.7	45.5	9.9	82.9	23.3	70.6	54.1	8.3	78.8	46.9	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.7	45.5	9.9	82.9	23.3	70.6	54.1	8.3	78.8	46.9	12.9
Queue Length 50th (ft)	184	424	15	118	275	110	205	0	158	166	73
Queue Length 95th (ft)	#279	#606	67	#263	219	174	251	69	#264	216	147
Internal Link Dist (ft)		1755			5266		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	557	1228	622	274	1784	262	850	573	262	881	773
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.82	0.23	0.72	0.50	0.51	0.57	0.45	0.73	0.48	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	286	975	117	98	905	319	104	163	75	380	161	214
Future Volume (vph)	286	975	117	98	905	319	104	163	75	380	161	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			225			112			233
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5346			2329			465				345
Travel Time (s)		104.1			45.4			9.1				5.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	311	1060	127	107	984	347	113	177	82	413	175	233
Shared Lane Traffic (%)												
Lane Group Flow (vph)	311	1060	127	107	984	347	113	177	82	413	175	233
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023

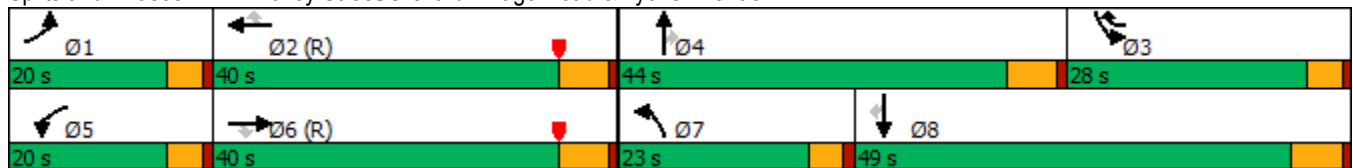


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	18.8	65.0	65.0	14.3	60.5	83.0	14.5	14.2	14.2	22.5	22.2	22.2
Actuated g/C Ratio	0.14	0.49	0.49	0.11	0.46	0.63	0.11	0.11	0.11	0.17	0.17	0.17
v/c Ratio	0.68	0.65	0.15	0.60	0.55	0.29	0.62	0.48	0.33	0.71	0.58	0.52
Control Delay	41.5	41.3	12.7	60.6	39.8	8.4	70.5	59.5	7.4	58.1	58.2	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	41.3	12.7	60.6	39.8	8.4	70.5	59.5	7.4	58.1	58.2	9.8
LOS	D	D	B	E	D	A	E	E	A	E	E	A
Approach Delay		38.9			33.8			51.4			44.4	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 2 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 39.3
 Intersection LOS: D
 Intersection Capacity Utilization 61.9%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	311	1060	127	107	984	347	113	177	82	413	175	233
v/c Ratio	0.68	0.65	0.15	0.60	0.55	0.29	0.62	0.48	0.33	0.71	0.58	0.52
Control Delay	41.5	41.3	12.7	60.6	39.8	8.4	70.5	59.5	7.4	58.1	58.2	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	41.3	12.7	60.6	39.8	8.4	70.5	59.5	7.4	58.1	58.2	9.8
Queue Length 50th (ft)	123	487	39	74	442	97	94	76	0	174	140	0
Queue Length 95th (ft)	m169	575	m69	m109	526	m158	154	112	25	219	210	71
Internal Link Dist (ft)		5266			2249			385			265	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	464	1626	829	210	1784	1208	237	1036	493	652	613	675
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.65	0.15	0.51	0.55	0.29	0.48	0.17	0.17	0.63	0.29	0.35

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 15: Newhall Avenue & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	609	656	44	565	23	414	101	45	19	109	107
Future Volume (vph)	104	609	656	44	565	23	414	101	45	19	109	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1607	3539	1468	1638	3539	1356	3114	1863	1471	1670	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			498			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2329			1347			528				401
Travel Time (s)		45.4			26.2			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	662	713	48	614	25	450	110	49	21	118	116
Shared Lane Traffic (%)												
Lane Group Flow (vph)	113	662	713	48	614	25	450	110	49	21	118	116
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/23/2023

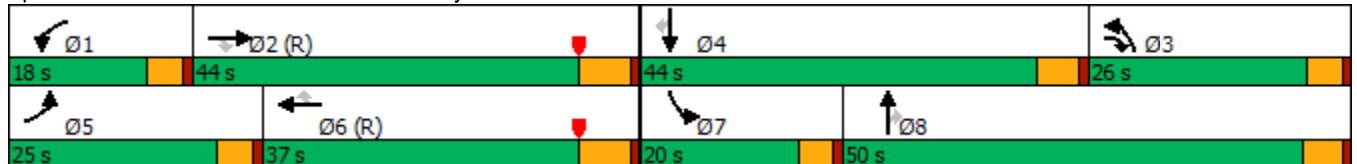


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	25.0	44.0	26.0	18.0	37.0	37.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	18.9%	33.3%	19.7%	13.6%	28.0%	28.0%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	20.5	38.0	21.5	13.5	31.0	31.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		32.0	32.0		32.0	32.0
Pedestrian Calls (#/hr)		27			27	27		43	43		43	43
Act Effct Green (s)	14.8	52.9	74.4	9.7	45.8	45.8	21.5	51.8	51.8	7.7	33.9	33.9
Actuated g/C Ratio	0.11	0.40	0.56	0.07	0.35	0.35	0.16	0.39	0.39	0.06	0.26	0.26
v/c Ratio	0.61	0.47	0.68	0.40	0.50	0.04	0.83	0.15	0.07	0.21	0.26	0.25
Control Delay	71.2	24.1	12.6	66.8	40.4	0.3	67.8	25.7	0.2	63.5	38.0	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.2	24.1	12.6	66.8	40.4	0.3	67.8	25.7	0.2	63.5	38.0	4.4
LOS	E	C	B	E	D	A	E	C	A	E	D	A
Approach Delay		22.2			40.8			54.8			24.8	
Approach LOS		C			D			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 47 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 33.1
 Intersection LOS: C
 Intersection Capacity Utilization 81.1%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	113	662	713	48	614	25	450	110	49	21	118	116
v/c Ratio	0.61	0.47	0.68	0.40	0.50	0.04	0.83	0.15	0.07	0.21	0.26	0.25
Control Delay	71.2	24.1	12.6	66.8	40.4	0.3	67.8	25.7	0.2	63.5	38.0	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.2	24.1	12.6	66.8	40.4	0.3	67.8	25.7	0.2	63.5	38.0	4.4
Queue Length 50th (ft)	80	285	357	41	234	0	193	58	0	18	75	0
Queue Length 95th (ft)	m133	231	510	86	354	1	#268	102	0	45	127	30
Internal Link Dist (ft)		2249			1267			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	262	1418	1058	175	1228	581	553	768	686	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.47	0.67	0.27	0.50	0.04	0.81	0.14	0.07	0.10	0.22	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Placerita Canyon Road/Arch Street & 12th Street

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	10	5	5	5	5	122	5	122	5	128	122	5
Future Volume (vph)	10	5	5	5	5	122	5	122	5	128	122	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.968			0.874			0.995			0.998	
Flt Protected		0.974			0.998			0.998			0.976	
Satd. Flow (prot)	0	1756	0	0	1625	0	0	1850	0	0	1814	0
Flt Permitted		0.974			0.998			0.998			0.976	
Satd. Flow (perm)	0	1756	0	0	1625	0	0	1850	0	0	1814	0
Link Speed (mph)		25			25			35			25	
Link Distance (ft)		391			842			1231			423	
Travel Time (s)		10.7			23.0			24.0			11.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	5	5	5	5	133	5	133	5	139	133	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	143	0	0	143	0	0	277	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	38.9%
ICU Level of Service	A
Analysis Period (min)	15

HCM 6th TWSC
 17: Placerita Canyon Road/Arch Street & 12th Street

01/23/2023

Intersection												
Int Delay, s/veh	4.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	5	5	5	5	122	5	122	5	128	122	5
Future Vol, veh/h	10	5	5	5	5	122	5	122	5	128	122	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	5	5	5	5	133	5	133	5	139	133	5




















Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	629	562	136	565	562	136	138	0	0	138	0	0
Stage 1	414	414	-	146	146	-	-	-	-	-	-	-
Stage 2	215	148	-	419	416	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	395	436	913	436	436	913	1446	-	-	1446	-	-
Stage 1	616	593	-	857	776	-	-	-	-	-	-	-
Stage 2	787	775	-	612	592	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	307	389	913	394	389	913	1446	-	-	1446	-	-
Mov Cap-2 Maneuver	307	389	-	394	389	-	-	-	-	-	-	-
Stage 1	614	531	-	854	773	-	-	-	-	-	-	-
Stage 2	665	772	-	540	530	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.7	9.9	0.3	3.9
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1446	-	-	393	867	1446	-	-
HCM Lane V/C Ratio	0.004	-	-	0.055	0.159	0.096	-	-
HCM Control Delay (s)	7.5	0	-	14.7	9.9	7.8	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.6	0.3	-	-

Lanes, Volumes, Timings
19: Valle Del Oro & Dockweiler Drive

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	8	11	216	9	3	11	8	184	0	6	1
Future Volume (vph)	2	8	11	216	9	3	11	8	184	0	6	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.914			0.965			0.878			0.983	
Flt Protected	0.950			0.950				0.997				
Satd. Flow (prot)	1770	1703	0	1770	1798	0	0	1631	0	0	1831	0
Flt Permitted	0.950			0.950				0.997				
Satd. Flow (perm)	1770	1703	0	1770	1798	0	0	1631	0	0	1831	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		298			3919			2619			300	
Travel Time (s)		6.8			89.1			59.5			6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	9	12	235	10	3	12	9	200	0	7	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	21	0	235	13	0	0	221	0	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	44.4%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	8.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	2	8	11	216	9	3	11	8	184	0	6	1
Future Vol, veh/h	2	8	11	216	9	3	11	8	184	0	6	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	9	12	235	10	3	12	9	200	0	7	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	13	0	0	21	0	0	505	502	15	606	507	12
Stage 1	-	-	-	-	-	-	19	19	-	482	482	-
Stage 2	-	-	-	-	-	-	486	483	-	124	25	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1606	-	-	1595	-	-	478	471	1065	409	468	1069
Stage 1	-	-	-	-	-	-	1000	880	-	565	553	-
Stage 2	-	-	-	-	-	-	563	553	-	880	874	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1606	-	-	1595	-	-	418	401	1065	290	399	1069
Mov Cap-2 Maneuver	-	-	-	-	-	-	418	401	-	290	399	-
Stage 1	-	-	-	-	-	-	999	879	-	564	472	-
Stage 2	-	-	-	-	-	-	473	472	-	707	873	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			7.2			10.1			13.4		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	927	1606	-	-	1595	-	-	438
HCM Lane V/C Ratio	0.238	0.001	-	-	0.147	-	-	0.017
HCM Control Delay (s)	10.1	7.2	-	-	7.6	-	-	13.4
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.9	0	-	-	0.5	-	-	0.1

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	118	46	65	1259	494	183
Future Volume (vph)	118	46	65	1259	494	183
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.994	0.850				0.850
Flt Protected	0.954		0.950			
Satd. Flow (prot)	3427	1441	1770	3539	3539	1583
Flt Permitted	0.954		0.950			
Satd. Flow (perm)	3427	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	3	45				199
Link Speed (mph)	30			50	50	
Link Distance (ft)	3919			2905	621	
Travel Time (s)	89.1			39.6	8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	128	50	71	1368	537	199
Shared Lane Traffic (%)		10%				
Lane Group Flow (vph)	133	45	71	1368	537	199
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	15.0	21.0	30.0	30.0
Total Split (s)	36.0	36.0	22.0	96.0	74.0	74.0
Total Split (%)	27.3%	27.3%	16.7%	72.7%	56.1%	56.1%
Maximum Green (s)	31.0	31.0	17.0	91.0	69.0	69.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	11.1	11.1	11.5	110.9	97.4	97.4
Actuated g/C Ratio	0.08	0.08	0.09	0.84	0.74	0.74
v/c Ratio	0.46	0.28	0.46	0.46	0.21	0.16
Control Delay	61.4	19.7	61.6	1.6	5.9	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	19.7	61.6	1.6	5.9	1.0
LOS	E	B	E	A	A	A
Approach Delay	50.9			4.6	4.6	
Approach LOS	D			A	A	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.46
 Intersection Signal Delay: 8.1
 Intersection Capacity Utilization 51.5%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	133	45	71	1368	537	199
v/c Ratio	0.46	0.28	0.46	0.46	0.21	0.16
Control Delay	61.4	19.7	61.6	1.6	5.9	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	19.7	61.6	1.6	5.9	1.0
Queue Length 50th (ft)	55	0	61	64	64	0
Queue Length 95th (ft)	88	42	m75	83	102	19
Internal Link Dist (ft)	3839			2825	541	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	807	372	227	2974	2611	1220
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.12	0.31	0.46	0.21	0.16

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
21: Sierra Highway & Placerita Canyon Road

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	26	5	41	21	175	10	1262	149	41	381	15
Future Volume (vph)	10	26	5	41	21	175	10	1262	149	41	381	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		0	375		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850				0.850			0.850		0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.742			0.738			0.950			0.950		
Satd. Flow (perm)	1382	3539	1583	1375	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			58			165			153			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		816			677			2247			787	
Travel Time (s)		12.4			10.3			30.6			10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	28	5	45	23	190	11	1372	162	45	414	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	28	5	45	23	190	11	1372	162	45	414	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8		6		6		2

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	20.0	20.0	20.0	37.0	37.0	37.0	15.0	20.0	20.0	15.0	39.0	39.0
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	15.0	79.0	79.0	15.0	79.0	79.0
Total Split (%)	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	11.4%	59.8%	59.8%	11.4%	59.8%	59.8%
Maximum Green (s)	33.0	33.0	33.0	33.0	33.0	33.0	10.0	74.0	74.0	10.0	74.0	74.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	11.5	11.5	11.5	11.5	11.5	11.5	10.0	98.1	98.1	10.4	107.5	107.5
Actuated g/C Ratio	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.74	0.74	0.08	0.81	0.81
v/c Ratio	0.09	0.09	0.03	0.38	0.07	0.66	0.08	0.52	0.13	0.32	0.14	0.01
Control Delay	55.6	54.8	0.2	65.2	54.6	23.4	56.5	15.1	4.4	63.8	3.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.6	54.8	0.2	65.2	54.6	23.4	56.5	15.1	4.4	63.8	3.4	0.0
LOS	E	D	A	E	D	C	E	B	A	E	A	A
Approach Delay		48.8			33.5			14.2			9.0	
Approach LOS		D			C			B			A	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 16.0
 Intersection LOS: B
 Intersection Capacity Utilization 66.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	28	5	45	23	190	11	1372	162	45	414	16
v/c Ratio	0.09	0.09	0.03	0.38	0.07	0.66	0.08	0.52	0.13	0.32	0.14	0.01
Control Delay	55.6	54.8	0.2	65.2	54.6	23.4	56.5	15.1	4.4	63.8	3.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.6	54.8	0.2	65.2	54.6	23.4	56.5	15.1	4.4	63.8	3.4	0.0
Queue Length 50th (ft)	9	12	0	38	10	20	8	388	28	37	24	0
Queue Length 95th (ft)	27	26	0	76	23	95	m19	524	62	78	80	0
Internal Link Dist (ft)		736			597			2167			707	
Turn Bay Length (ft)							150			375		
Base Capacity (vph)	345	884	439	343	884	519	134	2629	1215	139	2881	1299
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.03	0.01	0.13	0.03	0.37	0.08	0.52	0.13	0.32	0.14	0.01

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/23/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗		↖	↕↖
Traffic Volume (vph)	0	10	1071	108	391	427
Future Volume (vph)	0	10	1071	108	391	427
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.865	0.986			
Flt Protected					0.950	
Satd. Flow (prot)	0	1611	3490	0	1770	3539
Flt Permitted					0.950	
Satd. Flow (perm)	0	1611	3490	0	1770	3539
Link Speed (mph)	30		50			50
Link Distance (ft)	615		787			1009
Travel Time (s)	14.0		10.7			13.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	11	1164	117	425	464
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	11	1281	0	425	464
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	61.4%
ICU Level of Service	B
Analysis Period (min)	15

HCM 6th TWSC
 22: Sierra Highway & SR 14 Southbound Ramps

01/23/2023

Intersection						
Int Delay, s/veh	6.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕		↖	↕
Traffic Vol, veh/h	0	10	1071	108	391	427
Future Vol, veh/h	0	10	1071	108	391	427
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	160	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	1164	117	425	464

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	641	0	0	1281
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22
Pot Cap-1 Maneuver	0	417	-	-	538
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	417	-	-	538
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

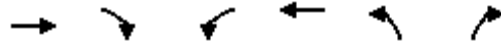
Approach	WB	NB	SB
HCM Control Delay, s	13.9	0	15.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	417	538
HCM Lane V/C Ratio	-	-	0.026	0.79
HCM Control Delay (s)	-	-	13.9	32.3
HCM Lane LOS	-	-	B	D
HCM 95th %tile Q(veh)	-	-	0.1	7.4

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/23/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	82	0	0	160	129	88
Future Volume (vph)	82	0	0	160	129	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	677			645	774	
Travel Time (s)	10.3			9.8	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	0	0	174	140	96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	0	0	174	140	96
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	18.2%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
 23: SR 14 Northbound Ramps & Placerita Canyon Road

01/23/2023

Intersection						
Int Delay, s/veh	4.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	82	0	0	160	129	88
Future Vol, veh/h	82	0	0	160	129	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	0	0	174	140	96

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	176 45
Stage 1	-	-	-	-	89 -
Stage 2	-	-	-	-	87 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	797 1015
Stage 1	-	0	0	-	924 -
Stage 2	-	0	0	-	926 -
Platoon blocked, %	-			-	
Mov Cap-1 Maneuver	-	-	-	-	797 1015
Mov Cap-2 Maneuver	-	-	-	-	797 -
Stage 1	-	-	-	-	924 -
Stage 2	-	-	-	-	926 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	797	1015	-	-
HCM Lane V/C Ratio	0.176	0.094	-	-
HCM Control Delay (s)	10.5	8.9	-	-
HCM Lane LOS	B	A	-	-
HCM 95th %tile Q(veh)	0.6	0.3	-	-

***Existing with Project
with Railroad Crossing Upgrade Conditions***

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	728	379	467	1560	348	369	687	129	505	2086	513
Future Volume (vph)	234	728	379	467	1560	348	369	687	129	505	2086	513
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	0		230
Storage Lanes	3		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			338			186			112
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			2037			1105	
Travel Time (s)		13.2			11.3			30.9			16.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	254	791	412	508	1696	378	401	747	140	549	2267	558
Shared Lane Traffic (%)												
Lane Group Flow (vph)	254	791	412	508	1696	378	401	747	140	549	2267	558
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	21.0	36.0	22.0	21.0	36.0	36.0	22.0	45.0	45.0	30.0	53.0	21.0

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	15.9%	27.3%	16.7%	15.9%	27.3%	27.3%	16.7%	34.1%	34.1%	22.7%	40.2%	15.9%
Maximum Green (s)	16.5	30.0	17.5	16.5	30.0	30.0	17.5	39.0	39.0	25.5	47.0	16.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	10.6	26.6	43.9	22.4	38.4	38.4	17.4	43.1	43.1	23.9	49.6	64.3
Actuated g/C Ratio	0.08	0.20	0.33	0.17	0.29	0.29	0.13	0.33	0.33	0.18	0.38	0.49
v/c Ratio	0.63	0.61	0.69	0.87	0.91	0.54	0.89	0.36	0.22	0.89	0.94	0.67
Control Delay	65.9	49.9	21.0	70.0	53.6	9.2	65.8	50.8	16.7	69.5	48.9	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.9	21.0	70.0	53.6	9.2	65.8	50.8	16.7	69.5	48.9	24.8
LOS	E	D	C	E	D	A	E	D	B	E	D	C
Approach Delay		44.5			50.3			51.8			48.3	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 105 (80%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 48.8
 Intersection LOS: D
 Intersection Capacity Utilization 81.1%
 ICU Level of Service D
 Analysis Period (min) 15

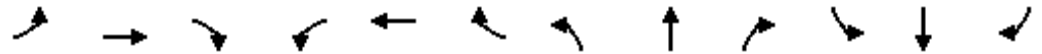
Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	254	791	412	508	1696	378	401	747	140	549	2267	558
v/c Ratio	0.63	0.61	0.69	0.87	0.91	0.54	0.89	0.36	0.22	0.89	0.94	0.67
Control Delay	65.9	49.9	21.0	70.0	53.6	9.2	65.8	50.8	16.7	69.5	48.9	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.9	21.0	70.0	53.6	9.2	65.8	50.8	16.7	69.5	48.9	24.8
Queue Length 50th (ft)	76	181	138	221	407	25	143	188	35	236	545	292
Queue Length 95th (ft)	104	206	214	#376	#507	119	#252	223	79	300	#611	410
Internal Link Dist (ft)		790			665			1957			1025	
Turn Bay Length (ft)	270		265	280		340	300					230
Base Capacity (vph)	642	1553	608	583	1863	699	468	2094	642	676	2409	899
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.51	0.68	0.87	0.91	0.54	0.86	0.36	0.22	0.81	0.94	0.62














































Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	  	  		  	  	  	  	  	  	  	  	  
Traffic Volume (vph)	297	536	9	548	1122	279	33	638	364	307	1392	962
Future Volume (vph)	297	536	9	548	1122	279	33	638	364	307	1392	962
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		225	450		400
Storage Lanes	3		0	3		1	1		1	1		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Frt		0.997				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5070	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5070	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				99			112			405
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			888			2037	
Travel Time (s)		32.4			35.4			13.5			30.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	323	583	10	596	1220	303	36	693	396	334	1513	1046
Shared Lane Traffic (%)												
Lane Group Flow (vph)	323	593	0	596	1220	303	36	693	396	334	1513	1046
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	26.0	39.0		31.0	44.0	20.0	19.0	42.0	31.0	20.0	43.0	26.0

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023

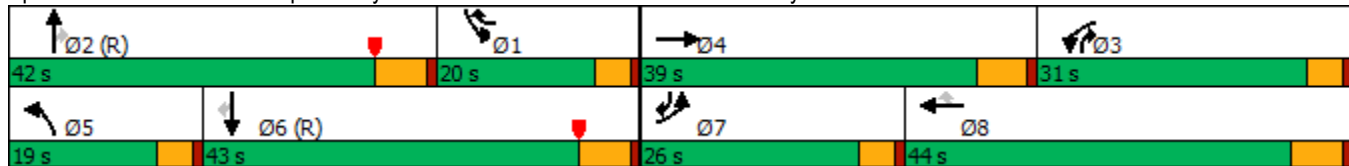


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	19.7%	29.5%		23.5%	33.3%	15.2%	14.4%	31.8%	23.5%	15.2%	32.6%	19.7%
Maximum Green (s)	21.5	33.0		26.5	38.0	15.5	14.5	36.0	26.5	15.5	37.0	21.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	17.9	23.0		33.9	39.1	55.1	8.6	43.1	81.0	16.0	52.4	74.3
Actuated g/C Ratio	0.14	0.17		0.26	0.30	0.42	0.07	0.33	0.61	0.12	0.40	0.56
v/c Ratio	0.48	0.67		0.47	0.81	0.42	0.31	0.42	0.39	0.80	0.75	0.60
Control Delay	54.7	54.4		42.5	47.9	11.4	43.9	33.7	4.3	43.3	18.5	6.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	54.4		42.5	47.9	11.4	43.9	33.7	4.3	43.3	18.5	6.9
LOS	D	D		D	D	B	D	C	A	D	B	A
Approach Delay		54.5			41.2			23.7			17.2	
Approach LOS		D			D			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 30.3
 Intersection LOS: C
 Intersection Capacity Utilization 70.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	323	593	596	1220	303	36	693	396	334	1513	1046
v/c Ratio	0.48	0.67	0.47	0.81	0.42	0.31	0.42	0.39	0.80	0.75	0.60
Control Delay	54.7	54.4	42.5	47.9	11.4	43.9	33.7	4.3	43.3	18.5	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	54.4	42.5	47.9	11.4	43.9	33.7	4.3	43.3	18.5	6.9
Queue Length 50th (ft)	91	175	150	348	71	31	212	2	140	266	53
Queue Length 95th (ft)	120	209	191	409	110	m64	260	92	m153	m434	m252
Internal Link Dist (ft)		2060		2257			808			1957	
Turn Bay Length (ft)						250		225	450		400
Base Capacity (vph)	831	1345	1280	1559	717	201	1659	1014	416	2020	1820
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.44	0.47	0.78	0.42	0.18	0.42	0.39	0.80	0.75	0.57

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	97	269	371	1103	1645	163
Future Volume (vph)	97	269	371	1103	1645	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		12				164
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4834	2595	
Travel Time (s)	44.4			65.9	39.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	292	403	1199	1788	177
Shared Lane Traffic (%)						
Lane Group Flow (vph)	105	292	403	1199	1788	177
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023

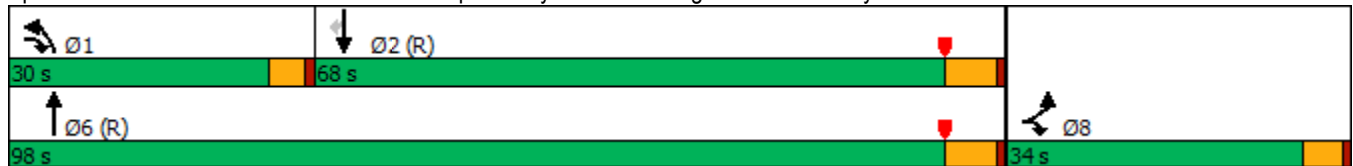


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	30.0	55.5	21.5	94.0	68.5	68.5
Actuated g/C Ratio	0.23	0.42	0.16	0.71	0.52	0.52
v/c Ratio	0.26	0.25	0.72	0.48	0.97	0.20
Control Delay	44.0	23.8	46.1	15.9	43.8	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.0	23.8	46.1	15.9	43.8	4.0
LOS	D	C	D	B	D	A
Approach Delay	29.1			23.5	40.2	
Approach LOS	C			C	D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 77 (58%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 32.3
 Intersection LOS: C
 Intersection Capacity Utilization 71.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	105	292	403	1199	1788	177
v/c Ratio	0.26	0.25	0.72	0.48	0.97	0.20
Control Delay	44.0	23.8	46.1	15.9	43.8	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.0	23.8	46.1	15.9	43.8	4.0
Queue Length 50th (ft)	74	85	171	469	862	15
Queue Length 95th (ft)	129	115	182	68	#1040	m28
Internal Link Dist (ft)	2848		4754		2515	
Turn Bay Length (ft)	290		290		386	
Base Capacity (vph)	402	1273	676	2520	1836	900
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.23	0.60	0.48	0.97	0.20

Intersection Summary

















95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/23/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	89	397	1118	59	300	1416
Future Volume (vph)	89	397	1118	59	300	1416
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.896	0.850		0.850		
Flt Protected	0.985				0.950	
Satd. Flow (prot)	3189	1441	3539	1583	3433	3539
Flt Permitted	0.985				0.950	
Satd. Flow (perm)	3189	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	216	216		49		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4834
Travel Time (s)	10.9		27.3			65.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	432	1215	64	326	1539
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	313	216	1215	64	326	1539
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/23/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	11.3	11.3	90.5	90.5	18.3	112.7
Actuated g/C Ratio	0.09	0.09	0.69	0.69	0.14	0.85
v/c Ratio	0.67	0.68	0.50	0.06	0.69	0.51
Control Delay	25.3	17.8	8.3	1.5	39.6	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	17.8	8.3	1.5	39.6	7.0
LOS	C	B	A	A	D	A
Approach Delay	22.2		8.0			12.7
Approach LOS	C		A			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 12.4
 Intersection LOS: B
 Intersection Capacity Utilization 56.2%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/23/2023























Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	313	216	1215	64	326	1539
v/c Ratio	0.67	0.68	0.50	0.06	0.69	0.51
Control Delay	25.3	17.8	8.3	1.5	39.6	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	17.8	8.3	1.5	39.6	7.0
Queue Length 50th (ft)	41	0	60	0	130	340
Queue Length 95th (ft)	85	84	639	m22	m159	m272
Internal Link Dist (ft)	558		1922			4754
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1004	540	2425	1100	676	3022
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.40	0.50	0.06	0.48	0.51

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	213	0	173	8	954	356	204	1432	0
Future Volume (vph)	0	0	0	213	0	173	8	954	356	204	1432	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	100		0
Storage Lanes	0		0	2		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor				0.99		0.95	0.99		0.96	0.99		
Fr _t						0.850			0.850			
Fl _t Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	0	0	3433	0	1583	1770	3539	1583	1770	3539	0
Fl _t Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	0	0	3393	0	1509	1759	3539	1527	1754	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						188			293			
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		183			612			1314			3196	
Travel Time (s)		5.0			11.9			19.9			48.4	
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	232	0	188	9	1037	387	222	1557	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	232	0	188	9	1037	387	222	1557	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)				50		50	50	50	50	50	50	
Trailing Detector (ft)				0		0	0	0	0	0	0	
Detector 1 Position(ft)				0		0	0	0	0	0	0	
Detector 1 Size(ft)				50		50	50	50	50	50	50	
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type				Prot		Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases				7			1	6	7	5	2	
Permitted Phases				7		7			6			
Detector Phase				7		7	1	6	7	5	2	
Switch Phase												
Minimum Initial (s)				4.0		4.0	4.0	4.0	4.0	4.0	4.0	

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

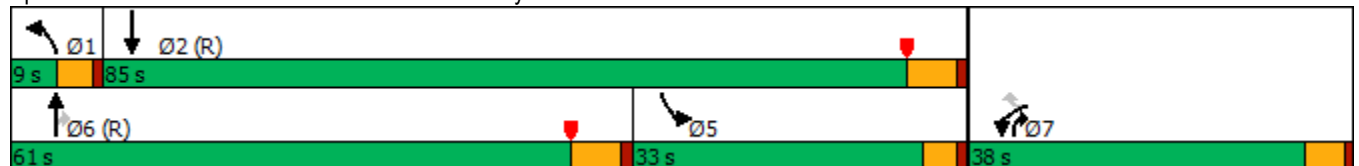
01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				36.0		36.0	8.5	25.0	36.0	8.5	25.0	
Total Split (s)				38.0		38.0	9.0	61.0	38.0	33.0	85.0	
Total Split (%)				28.8%		28.8%	6.8%	46.2%	28.8%	25.0%	64.4%	
Maximum Green (s)				33.0		33.0	4.5	55.0	33.0	28.5	79.0	
Yellow Time (s)				4.0		4.0	3.5	5.0	4.0	3.5	5.0	
All-Red Time (s)				1.0		1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				-1.0		-1.0	-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)				4.0		4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None		None	None	C-Max	None	None	C-Max	
Walk Time (s)				7.0		7.0		7.0	7.0		7.0	
Flash Dont Walk (s)				21.0		21.0		11.0	21.0		11.0	
Pedestrian Calls (#/hr)				30		30		17	30		14	
Act Effect Green (s)				22.6		22.6	6.8	68.4	91.0	29.0	99.0	
Actuated g/C Ratio				0.17		0.17	0.05	0.52	0.69	0.22	0.75	
v/c Ratio				0.40		0.45	0.10	0.57	0.34	0.57	0.59	
Control Delay				39.3		10.3	56.6	30.2	4.9	65.6	15.9	
Queue Delay				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay				39.3		10.3	56.6	30.2	4.9	65.6	15.9	
LOS				D		B	E	C	A	E	B	
Approach Delay					26.3			23.5			22.1	
Approach LOS					C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay: 23.2 Intersection LOS: C
 Intersection Capacity Utilization 59.0% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Queues

5: Railroad Avenue & Driveway/13th Street

01/23/2023



Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	232	188	9	1037	387	222	1557
v/c Ratio	0.40	0.45	0.10	0.57	0.34	0.57	0.59
Control Delay	39.3	10.3	56.6	30.2	4.9	65.6	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.3	10.3	56.6	30.2	4.9	65.6	15.9
Queue Length 50th (ft)	93	73	7	386	73	197	669
Queue Length 95th (ft)	136	116	m14	448	97	283	783
Internal Link Dist (ft)				1234			3116
Turn Bay Length (ft)	110		100		570	100	
Base Capacity (vph)	884	528	90	1834	1195	388	2653
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.36	0.10	0.57	0.32	0.57	0.59

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	354	88	302	988	1244	390			
Future Volume (vph)	354	88	302	988	1244	390			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		96				286			
Link Speed (mph)	35			35	45				
Link Distance (ft)	374			1566	1314				
Travel Time (s)	7.3			30.5	19.9				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	385	96	328	1074	1352	424			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	385	96	328	1074	1352	424			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	24			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	52.0	30.0	20.0	30.0	30.0

Lanes, Volumes, Timings

6: Railroad Avenue & Lyons Avenue

01/23/2023

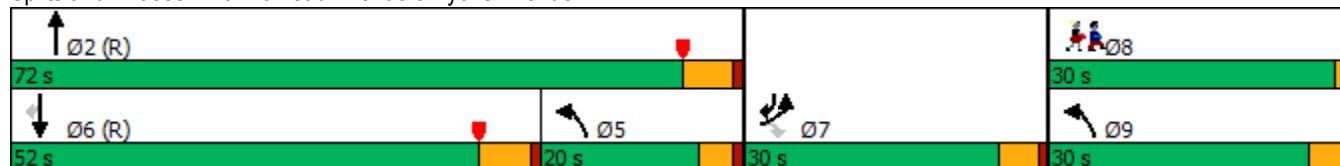


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	39.4%	22.7%	15%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	46.0	25.0	15.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effect Green (s)	21.9	21.9	23.5	88.9	70.6	92.5			
Actuated g/C Ratio	0.17	0.17	0.18	0.67	0.53	0.70			
v/c Ratio	0.68	0.28	0.54	0.45	0.71	0.36			
Control Delay	85.3	48.1	22.0	17.0	38.1	5.2			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	85.3	48.1	22.0	17.0	38.1	5.2			
LOS	F	D	C	B	D	A			
Approach Delay	77.9			18.1	30.2				
Approach LOS	E			B	C				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 103 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 31.9
 Intersection LOS: C
 Intersection Capacity Utilization 63.1%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/23/2023

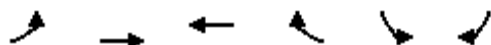


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	385	96	328	1074	1352	424
v/c Ratio	0.68	0.28	0.54	0.45	0.71	0.36
Control Delay	85.3	48.1	22.0	17.0	38.1	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.3	48.1	22.0	17.0	38.1	5.2
Queue Length 50th (ft)	180	56	64	236	516	110
Queue Length 95th (ft)	234	111	88	270	715	159
Internal Link Dist (ft)	294			1486	1234	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	676	388	1092	2382	1893	1235
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.25	0.30	0.45	0.71	0.34

Intersection Summary

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/23/2023

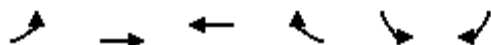


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	615	488	1240	1223	0	
Future Volume (vph)	0	615	488	1240	1223	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.97			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1348			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1645		1196		
Travel Time (s)		6.2	28.0		23.3		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	668	530	1348	1329	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	668	530	1348	1329	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		62.0	15.0	70.0	70.0	47.0	
Total Split (%)		47.0%	11.4%	53.0%	53.0%	36%	

Lanes, Volumes, Timings

7: Newhall Avenue & Railroad Avenue

01/23/2023

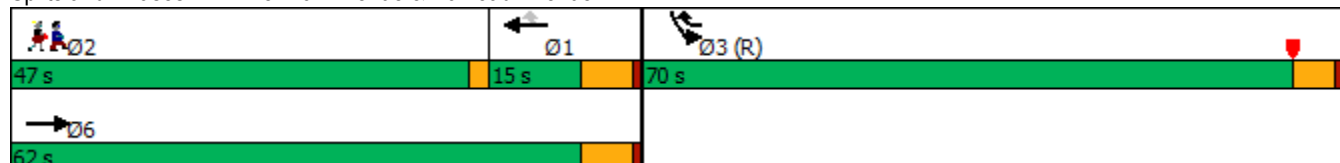


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		56.0	9.0	64.0	64.0		45.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		58.0	58.0	124.0	66.0		
Actuated g/C Ratio		0.44	0.44	0.94	0.50		
v/c Ratio		0.43	0.65	0.51	0.77		
Control Delay		26.7	15.7	3.9	9.4		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		26.7	15.7	3.9	9.4		
LOS		C	B	A	A		
Approach Delay		26.7	7.2		9.4		
Approach LOS		C	A		A		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	20 (15%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	11.3
Intersection LOS:	B
Intersection Capacity Utilization:	67.2%
ICU Level of Service:	C
Analysis Period (min):	15

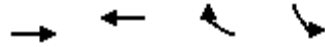
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/23/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	668	530	1348	1329
v/c Ratio	0.43	0.65	0.51	0.77
Control Delay	26.7	15.7	3.9	9.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.7	15.7	3.9	9.4
Queue Length 50th (ft)	204	162	104	62
Queue Length 95th (ft)	257	179	160	48
Internal Link Dist (ft)	282	1565		1116
Turn Bay Length (ft)				
Base Capacity (vph)	1555	818	2669	1716
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.43	0.65	0.51	0.77
Intersection Summary				

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/23/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑↔		↘	↙
Traffic Volume (vph)	167	1587	1390	95	157	337
Future Volume (vph)	167	1587	1390	95	157	337
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.990			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5034	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5034	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			12			258
Link Speed (mph)		40	40		30	
Link Distance (ft)		1545	3086		2703	
Travel Time (s)		26.3	52.6		61.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	182	1725	1511	103	171	366
Shared Lane Traffic (%)						
Lane Group Flow (vph)	182	1725	1614	0	171	366
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	25.0	98.0	73.0		34.0	34.0

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/23/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	18.9%	74.2%	55.3%		25.8%	25.8%
Maximum Green (s)	20.5	92.0	67.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	21.0	103.8	78.8		20.2	20.2
Actuated g/C Ratio	0.16	0.79	0.60		0.15	0.15
v/c Ratio	0.65	0.43	0.54		0.63	0.80
Control Delay	57.1	5.9	5.0		61.2	28.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	57.1	5.9	5.0		61.2	28.5
LOS	E	A	A		E	C
Approach Delay		10.8	5.0		38.9	
Approach LOS		B	A		D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 50 (38%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 12.2
 Intersection LOS: B
 Intersection Capacity Utilization 56.9%
 ICU Level of Service B
 Analysis Period (min) 15

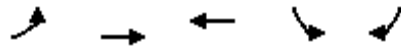
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/23/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	182	1725	1614	171	366
v/c Ratio	0.65	0.43	0.54	0.63	0.80
Control Delay	57.1	5.9	5.0	61.2	28.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	57.1	5.9	5.0	61.2	28.5
Queue Length 50th (ft)	153	152	85	139	90
Queue Length 95th (ft)	m202	186	m124	213	222
Internal Link Dist (ft)		1465	3006	2623	
Turn Bay Length (ft)	150				
Base Capacity (vph)	281	3998	3009	402	559
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.65	0.43	0.54	0.43	0.65

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	1394	206	93	1019	29	77	149	15	189	1530	252
Future Volume (vph)	155	1394	206	93	1019	29	77	149	15	189	1530	252
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		350
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4979	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4979	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			144			124			161		24	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3086			633			398			2854	
Travel Time (s)		52.6			10.8			9.0			64.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	1515	224	101	1108	32	84	162	16	205	1663	274
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	1515	224	101	1108	32	84	162	16	205	1937	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	45.0	45.0	25.0	45.0	45.0	20.0	20.0	20.0	42.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/23/2023

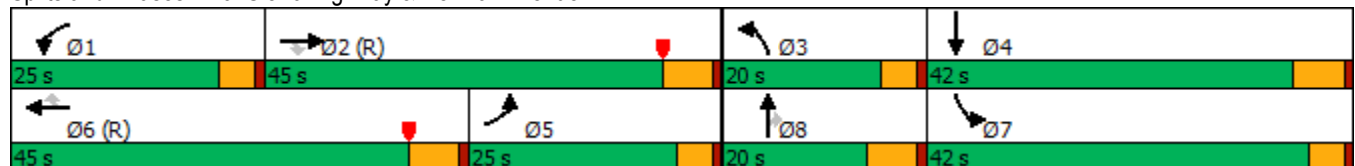


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	34.1%	34.1%	18.9%	34.1%	34.1%	15.2%	15.2%	15.2%	31.8%	31.8%	
Maximum Green (s)	20.5	39.0	39.0	20.5	39.0	39.0	15.5	14.0	14.0	37.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	52.2	52.2	9.8	41.0	41.0	9.1	13.3	11.3	40.7	44.9	
Actuated g/C Ratio	0.16	0.40	0.40	0.07	0.31	0.31	0.07	0.10	0.09	0.31	0.34	
v/c Ratio	0.31	0.75	0.31	0.40	0.70	0.06	0.35	0.46	0.06	0.38	1.13	
Control Delay	53.8	40.7	15.4	62.5	43.0	0.2	62.4	59.8	0.4	19.0	87.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.8	40.7	15.4	62.5	43.0	0.2	62.4	59.8	0.4	19.0	87.8	
LOS	D	D	B	E	D	A	E	E	A	B	F	
Approach Delay		38.9			43.5			57.0			81.2	
Approach LOS		D			D			E			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 121 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 57.1
 Intersection LOS: E
 Intersection Capacity Utilization 82.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	168	1515	224	101	1108	32	84	162	16	205	1937
v/c Ratio	0.31	0.75	0.31	0.40	0.70	0.06	0.35	0.46	0.06	0.38	1.13
Control Delay	53.8	40.7	15.4	62.5	43.0	0.2	62.4	59.8	0.4	19.0	87.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	40.7	15.4	62.5	43.0	0.2	62.4	59.8	0.4	19.0	87.8
Queue Length 50th (ft)	70	442	73	43	306	0	36	70	0	126	~716
Queue Length 95th (ft)	110	521	134	72	360	0	62	105	0	m124	m#653
Internal Link Dist (ft)		3006			553			318			2774
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	2012	713	546	1579	577	416	428	311	545	1708
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.75	0.31	0.18	0.70	0.06	0.20	0.38	0.05	0.38	1.13

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Volume (vph)	0	306	1573	12	687	0	0	0	0	4	2	239
Future Volume (vph)	0	306	1573	12	687	0	0	0	0	4	2	239
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.892	0.850									0.850
Fl _t Protected				0.950							0.968	
Satd. Flow (prot)	0	3024	1441	1770	3539	0	0	0	0	0	1803	1583
Fl _t Permitted				0.950							0.968	
Satd. Flow (perm)	0	3024	1441	1770	3539	0	0	0	0	0	1803	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		633			469			446			465	
Travel Time (s)		10.8			8.0			10.1			10.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	333	1710	13	747	0	0	0	0	4	2	260
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1188	855	13	747	0	0	0	0	0	6	260
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	81.6%
ICU Level of Service	D
Analysis Period (min)	15

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/23/2023

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	306	1573	12	687	0	0	0	0	4	2	239
Future Vol, veh/h	0	306	1573	12	687	0	0	0	0	4	2	239
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082378240	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	333	1710	13	747	0	0	0	0	4	2	260

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	333	0	0		940	1106	-
Stage 1	-	-	-	-	-	-		773	773	-
Stage 2	-	-	-	-	-	-		167	333	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	1223	-	0		262	209	0
Stage 1	0	-	-	-	-	0		416	407	0
Stage 2	0	-	-	-	-	0		845	642	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1223	-	-		259	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		259	0	-
Stage 1	-	-	-	-	-	-		416	0	-
Stage 2	-	-	-	-	-	-		836	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	19.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1223	-	259	-
HCM Lane V/C Ratio	-	-	0.011	-	0.025	-
HCM Control Delay (s)	-	-	8	-	19.3	0
HCM Lane LOS	-	-	A	-	C	A
HCM 95th %tile Q(veh)	-	-	0	-	0.1	-

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/23/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	558	0	0	59	0	15
Future Volume (vph)	558	0	0	59	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr _t						0.865
Fl _t Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Fl _t Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	469			639	290	
Travel Time (s)	8.0			10.9	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	607	0	0	64	0	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	607	0	0	64	0	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	81.6%
Analysis Period (min)	15
	ICU Level of Service D

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	558	0	0	59	0	15
Future Vol, veh/h	558	0	0	59	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	607	0	0	64	0	16

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	-	-	-	304
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	0	0	-	693
Stage 1	-	0	0	-	0
Stage 2	-	0	0	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	693
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	693	-	-
HCM Lane V/C Ratio	0.024	-	-
HCM Control Delay (s)	10.3	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	640	0	0	779	457	292	0	302	0	0	0
Future Volume (vph)	170	640	0	0	779	457	292	0	302	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.945				0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1770	3539	0	0	4806	0	1681	1681	1583	0	0	0
Flt Permitted	0.950						0.950	0.950				
Satd. Flow (perm)	1770	3539	0	0	4806	0	1681	1681	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					174				219			
Link Speed (mph)		40			40			30				30
Link Distance (ft)		722			1900			440				464
Travel Time (s)		12.3			32.4			10.0				10.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	696	0	0	847	497	317	0	328	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	185	696	0	0	1344	0	158	159	328	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023

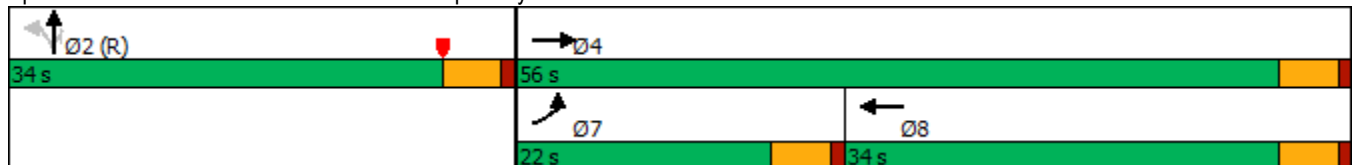


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			5.0		10.0	10.0	10.0			
Minimum Split (s)	15.0	23.0			23.0		33.0	33.0	33.0			
Total Split (s)	22.0	56.0			34.0		34.0	34.0	34.0			
Total Split (%)	24.4%	62.2%			37.8%		37.8%	37.8%	37.8%			
Maximum Green (s)	17.0	51.0			29.0		29.0	29.0	29.0			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.2	47.9			28.8		32.1	32.1	32.1			
Actuated g/C Ratio	0.16	0.53			0.32		0.36	0.36	0.36			
v/c Ratio	0.67	0.37			0.81		0.26	0.27	0.47			
Control Delay	47.3	12.5			28.9		23.4	23.4	10.6			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	47.3	12.5			28.9		23.4	23.4	10.6			
LOS	D	B			C		C	C	B			
Approach Delay		19.8			28.9			16.9				
Approach LOS		B			C			B				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 23.4
 Intersection LOS: C
 Intersection Capacity Utilization 55.5%
 ICU Level of Service B
 Analysis Period (min) 15

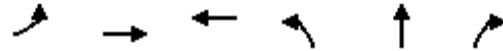
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023



























Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	185	696	1344	158	159	328
v/c Ratio	0.67	0.37	0.81	0.26	0.27	0.47
Control Delay	47.3	12.5	28.9	23.4	23.4	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	12.5	28.9	23.4	23.4	10.6
Queue Length 50th (ft)	100	104	213	70	70	45
Queue Length 95th (ft)	164	140	281	123	124	119
Internal Link Dist (ft)		642	1820		360	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	334	2005	1693	598	598	704
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.35	0.79	0.26	0.27	0.47

Intersection Summary

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	619	84	242	810	123	145	222	202	135	405	261
Future Volume (vph)	139	619	84	242	810	123	145	222	202	135	405	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.980				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112		23				220			128
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1900			5304			887				1679
Travel Time (s)		32.4			90.4			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	151	673	91	263	880	134	158	241	220	147	440	284
Shared Lane Traffic (%)												
Lane Group Flow (vph)	151	673	91	263	1014	0	158	241	220	147	440	284
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/23/2023

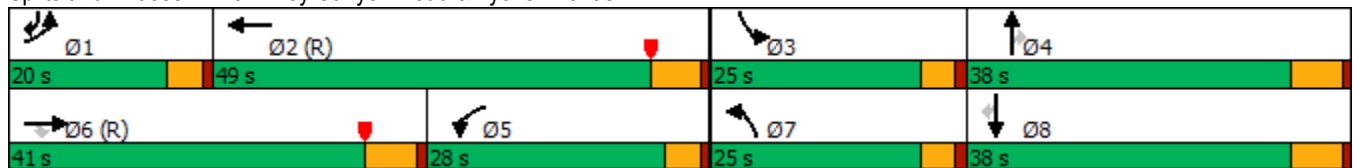


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	41.0	41.0	28.0	49.0		25.0	38.0	38.0	25.0	38.0	20.0
Total Split (%)	15.2%	31.1%	31.1%	21.2%	37.1%		18.9%	28.8%	28.8%	18.9%	28.8%	15.2%
Maximum Green (s)	15.5	35.0	35.0	23.5	43.0		20.5	32.0	32.0	20.5	32.0	15.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	12.0	50.2	50.2	24.0	62.2		17.6	24.9	24.9	16.9	24.3	40.3
Actuated g/C Ratio	0.09	0.38	0.38	0.18	0.47		0.13	0.19	0.19	0.13	0.18	0.31
v/c Ratio	0.52	0.54	0.14	0.88	0.43		0.72	0.39	0.48	0.70	0.70	0.50
Control Delay	63.2	35.2	3.8	67.4	12.2		72.9	48.1	9.1	71.9	56.5	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	35.2	3.8	67.4	12.2		72.9	48.1	9.1	71.9	56.5	22.0
LOS	E	D	A	E	B		E	D	A	E	E	C
Approach Delay		36.7			23.6			40.6			47.8	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 35.4
 Intersection LOS: D
 Intersection Capacity Utilization 63.1%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/23/2023

































Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	151	673	91	263	1014	158	241	220	147	440	284
v/c Ratio	0.52	0.54	0.14	0.88	0.43	0.72	0.39	0.48	0.70	0.70	0.50
Control Delay	63.2	35.2	3.8	67.4	12.2	72.9	48.1	9.1	71.9	56.5	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	35.2	3.8	67.4	12.2	72.9	48.1	9.1	71.9	56.5	22.0
Queue Length 50th (ft)	64	236	0	219	217	131	95	0	122	187	107
Queue Length 95th (ft)	98	329	27	#380	236	204	132	66	191	235	176
Internal Link Dist (ft)		1820			5224		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	388	1255	631	300	2358	262	850	544	262	881	615
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.54	0.14	0.88	0.43	0.60	0.28	0.40	0.56	0.50	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 		 	 	
Traffic Volume (vph)	163	743	58	85	954	396	116	117	104	479	102	225
Future Volume (vph)	163	743	58	85	954	396	116	117	104	479	102	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			265			113			245
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5304			2371			465				790
Travel Time (s)		103.3			46.2			9.1				12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	808	63	92	1037	430	126	127	113	521	111	245
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	808	63	92	1037	430	126	127	113	521	111	245
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023

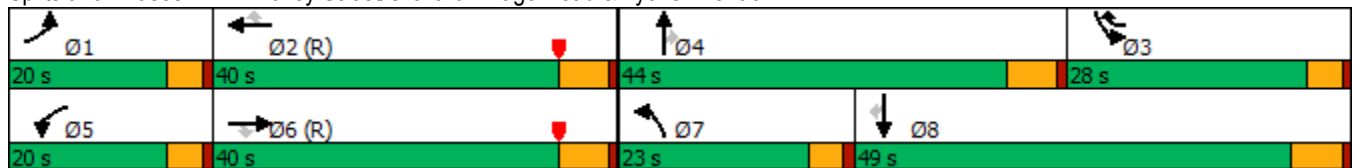


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	13.1	63.0	63.0	13.1	63.1	90.6	15.3	12.3	12.3	27.6	24.6	24.6
Actuated g/C Ratio	0.10	0.48	0.48	0.10	0.48	0.69	0.12	0.09	0.09	0.21	0.19	0.19
v/c Ratio	0.56	0.51	0.08	0.56	0.56	0.34	0.66	0.40	0.49	0.73	0.33	0.51
Control Delay	61.8	43.4	7.4	70.1	31.8	4.4	72.1	59.7	17.0	54.6	48.6	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.8	43.4	7.4	70.1	31.8	4.4	72.1	59.7	17.0	54.6	48.6	9.0
LOS	E	D	A	E	C	A	E	E	B	D	D	A
Approach Delay		44.3			26.5			50.8			41.1	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 37.0
 Intersection LOS: D
 Intersection Capacity Utilization 61.4%
 ICU Level of Service B
 Analysis Period (min) 15

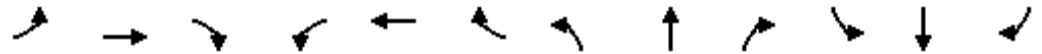
Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	177	808	63	92	1037	430	126	127	113	521	111	245
v/c Ratio	0.56	0.51	0.08	0.56	0.56	0.34	0.66	0.40	0.49	0.73	0.33	0.51
Control Delay	61.8	43.4	7.4	70.1	31.8	4.4	72.1	59.7	17.0	54.6	48.6	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.8	43.4	7.4	70.1	31.8	4.4	72.1	59.7	17.0	54.6	48.6	9.0
Queue Length 50th (ft)	81	332	5	71	437	59	104	54	0	216	84	0
Queue Length 95th (ft)	122	443	m32	m103	548	171	169	86	58	261	135	69
Internal Link Dist (ft)		5224			2291			385			710	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	391	1577	808	205	1859	1285	237	1036	494	731	613	683
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.51	0.08	0.45	0.56	0.33	0.53	0.12	0.23	0.71	0.18	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	461	418	47	620	27	395	114	36	39	155	171
Future Volume (vph)	122	461	418	47	620	27	395	114	36	39	155	171
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1610	3539	1468	1634	3539	1356	3127	1863	1471	1671	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			428			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2371			962			528				401
Travel Time (s)		46.2			18.7			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	133	501	454	51	674	29	429	124	39	42	168	186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	501	454	51	674	29	429	124	39	42	168	186
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/23/2023

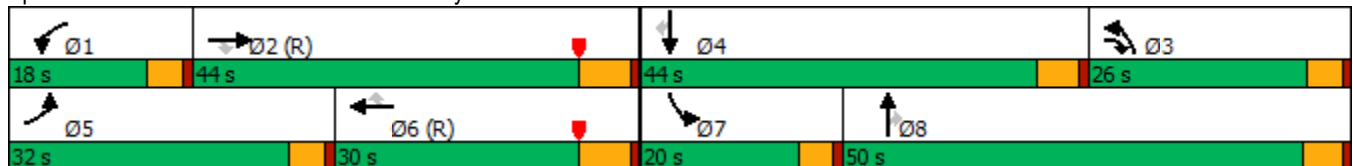


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	32.0	44.0	26.0	18.0	30.0	30.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	24.2%	33.3%	19.7%	13.6%	22.7%	22.7%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	27.5	38.0	21.5	13.5	24.0	24.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	24.0		24.0		24.0		32.0		32.0		32.0	
Pedestrian Calls (#/hr)	27		27		27		43		43		43	
Act Effct Green (s)	16.4	52.7	73.6	9.9	44.1	44.1	21.0	48.3	48.3	9.2	34.5	34.5
Actuated g/C Ratio	0.12	0.40	0.56	0.08	0.33	0.33	0.16	0.37	0.37	0.07	0.26	0.26
v/c Ratio	0.65	0.36	0.45	0.41	0.57	0.05	0.81	0.18	0.06	0.36	0.36	0.40
Control Delay	61.5	31.3	7.5	87.0	30.5	0.5	66.6	28.2	0.2	66.0	40.2	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	31.3	7.5	87.0	30.5	0.5	66.6	28.2	0.2	66.0	40.2	12.8
LOS	E	C	A	F	C	A	E	C	A	E	D	B
Approach Delay	25.1		33.2		54.2		30.1					
Approach LOS	C		C		D		C					

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 49 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 34.0
 Intersection LOS: C
 Intersection Capacity Utilization 83.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	133	501	454	51	674	29	429	124	39	42	168	186
v/c Ratio	0.65	0.36	0.45	0.41	0.57	0.05	0.81	0.18	0.06	0.36	0.36	0.40
Control Delay	61.5	31.3	7.5	87.0	30.5	0.5	66.6	28.2	0.2	66.0	40.2	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	31.3	7.5	87.0	30.5	0.5	66.6	28.2	0.2	66.0	40.2	12.8
Queue Length 50th (ft)	90	220	121	43	212	0	183	68	0	35	111	28
Queue Length 95th (ft)	m141	225	118	81	349	1	243	118	0	73	174	92
Internal Link Dist (ft)		2291			882			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	350	1411	1025	175	1183	566	553	716	649	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.36	0.44	0.29	0.57	0.05	0.78	0.17	0.06	0.20	0.31	0.36




























Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 		 		 	 			 	
Traffic Volume (vph)	163	135	254	4	76	0	218	39	12	0	22	92
Future Volume (vph)	163	135	254	4	76	0	218	39	12	0	22	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.965				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3415	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	3433	3415	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			276					13				132
Link Speed (mph)		45			30			45				30
Link Distance (ft)		612			484			505				482
Travel Time (s)		9.3			11.0			7.7				11.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	147	276	4	83	0	237	42	13	0	24	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	147	276	4	83	0	237	55	0	0	24	100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Over	Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	15.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	28.0	49.0	37.0	12.0	33.0		37.0	71.0			34.0	28.0
Total Split (%)	21.2%	37.1%	28.0%	9.1%	25.0%		28.0%	53.8%			25.8%	21.2%
Maximum Green (s)	24.0	44.0	32.0	8.0	28.0		32.0	66.0			29.0	24.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	12.1	25.9	32.0	5.9	11.9		32.0	93.9			56.9	12.1
Actuated g/C Ratio	0.09	0.20	0.24	0.04	0.09		0.24	0.71			0.43	0.09
v/c Ratio	0.56	0.40	0.31	0.05	0.49		0.28	0.02			0.02	0.38
Control Delay	57.3	42.4	2.3	61.5	66.9		41.8	5.3			23.6	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	57.3	42.4	2.3	61.5	66.9		41.8	5.3			23.6	7.8
LOS	E	D	A	E	E		D	A			C	A
Approach Delay		28.4			66.6			34.9			10.8	
Approach LOS		C			E			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 132

Actuated Cycle Length: 132

Offset: 15 (11%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 31.1

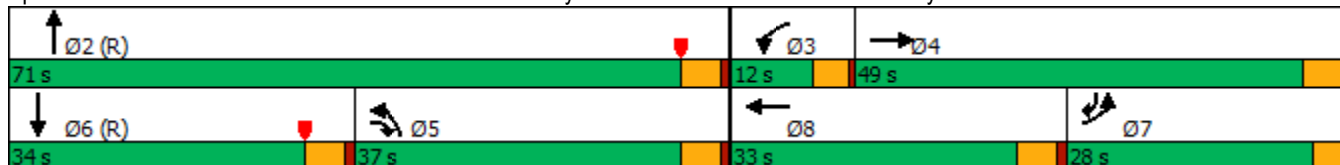
Intersection LOS: C

Intersection Capacity Utilization 33.2%

ICU Level of Service A

Analysis Period (min) 15

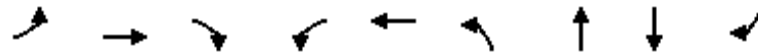
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/23/2023





















Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	177	147	276	4	83	237	55	24	100
v/c Ratio	0.56	0.40	0.31	0.05	0.49	0.28	0.02	0.02	0.38
Control Delay	57.3	42.4	2.3	61.5	66.9	41.8	5.3	23.6	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.3	42.4	2.3	61.5	66.9	41.8	5.3	23.6	7.8
Queue Length 50th (ft)	80	116	3	3	69	85	4	5	0
Queue Length 95th (ft)	106	173	15	16	121	123	13	16	27
Internal Link Dist (ft)		532			404		425	402	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	624	621	884	107	395	832	2434	1526	395
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.24	0.31	0.04	0.21	0.28	0.02	0.02	0.25

Intersection Summary

Lanes, Volumes, Timings
 17: Placerita Canyon Road/Arch Street & 12th Street

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	5	42	5	60	10	194	85	61	113	5
Future Volume (vph)	5	5	5	42	5	60	10	194	85	61	113	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	250		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.955			0.924			0.960			0.994	
Flt Protected		0.984			0.981			0.998		0.950		
Satd. Flow (prot)	0	1750	0	0	1688	0	0	1785	0	1770	3518	0
Flt Permitted		0.984			0.981			0.998		0.950		
Satd. Flow (perm)	0	1750	0	0	1688	0	0	1785	0	1770	3518	0
Link Speed (mph)		25			25			35			25	
Link Distance (ft)		391			842			1231			505	
Travel Time (s)		10.7			23.0			24.0			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	5	46	5	65	11	211	92	66	123	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	0	116	0	0	314	0	66	128	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	38.1%						ICU Level of Service A					
Analysis Period (min)	15											

HCM 6th TWSC
 17: Placerita Canyon Road/Arch Street & 12th Street

01/23/2023

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕	
Traffic Vol, veh/h	5	5	5	42	5	60	10	194	85	61	113	5
Future Vol, veh/h	5	5	5	42	5	60	10	194	85	61	113	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	46	5	65	11	211	92	66	123	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	572	583	64	475	539	257	128	0	0	303	0	0
Stage 1	258	258	-	279	279	-	-	-	-	-	-	-
Stage 2	314	325	-	196	260	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	417	423	988	486	448	781	1457	-	-	1256	-	-
Stage 1	725	694	-	727	679	-	-	-	-	-	-	-
Stage 2	696	648	-	788	692	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	361	397	988	456	420	781	1457	-	-	1256	-	-
Mov Cap-2 Maneuver	361	397	-	456	420	-	-	-	-	-	-	-
Stage 1	718	657	-	720	673	-	-	-	-	-	-	-
Stage 2	627	642	-	736	655	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	10.4	0.3	2.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1457	-	-	476	733	1256	-	-
HCM Lane V/C Ratio	0.007	-	-	0.034	0.096	0.053	-	-
HCM Control Delay (s)	7.5	0	-	12.8	10.4	8	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.2	-	-

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	11	16	319	7	3	10	8	220	7	13	1
Future Volume (vph)	3	11	16	319	7	3	10	8	220	7	13	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.912			0.959			0.875			0.994	
Flt Protected	0.950			0.950				0.998			0.983	
Satd. Flow (prot)	1770	1699	0	1770	1786	0	0	1627	0	0	1820	0
Flt Permitted	0.950			0.950				0.998			0.983	
Satd. Flow (perm)	1770	1699	0	1770	1786	0	0	1627	0	0	1820	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		671			3882			2703			372	
Travel Time (s)		15.3			88.2			61.4			8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	12	17	347	8	3	11	9	239	8	14	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	29	0	347	11	0	0	259	0	0	23	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	45.9%
ICU Level of Service	A
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	9.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Traffic Vol, veh/h	3	11	16	319	7	3	10	8	220	7	13	1
Future Vol, veh/h	3	11	16	319	7	3	10	8	220	7	13	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	12	17	347	8	3	11	9	239	8	14	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	11	0	0	29	0	0	738	732	21	855	739	10
Stage 1	-	-	-	-	-	-	27	27	-	704	704	-
Stage 2	-	-	-	-	-	-	711	705	-	151	35	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1608	-	-	1584	-	-	334	348	1056	278	345	1071
Stage 1	-	-	-	-	-	-	990	873	-	428	440	-
Stage 2	-	-	-	-	-	-	424	439	-	851	866	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1608	-	-	1584	-	-	266	271	1056	174	269	1071
Mov Cap-2 Maneuver	-	-	-	-	-	-	266	271	-	174	269	-
Stage 1	-	-	-	-	-	-	988	871	-	427	344	-
Stage 2	-	-	-	-	-	-	317	343	-	651	864	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			7.7			10.9			22		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	864	1608	-	-	1584	-	-	235
HCM Lane V/C Ratio	0.299	0.002	-	-	0.219	-	-	0.097
HCM Control Delay (s)	10.9	7.2	-	-	7.9	-	-	22
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.3	0	-	-	0.8	-	-	0.3

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	186	126	60	216	1901	166
Future Volume (vph)	186	126	60	216	1901	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.979	0.850				0.850
Flt Protected	0.959		0.950			
Satd. Flow (prot)	3393	1441	1770	3539	3539	1583
Flt Permitted	0.959		0.950			
Satd. Flow (perm)	3393	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	13	105				68
Link Speed (mph)	30			50	50	
Link Distance (ft)	3882			2854	2872	
Travel Time (s)	88.2			38.9	39.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	202	137	65	235	2066	180
Shared Lane Traffic (%)		23%				
Lane Group Flow (vph)	234	105	65	235	2066	180
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	21.0	21.0	30.0	30.0
Total Split (s)	35.0	35.0	21.0	97.0	76.0	76.0
Total Split (%)	26.5%	26.5%	15.9%	73.5%	57.6%	57.6%
Maximum Green (s)	30.0	30.0	16.0	92.0	71.0	71.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	14.0	14.0	32.0	108.0	71.0	71.0
Actuated g/C Ratio	0.11	0.11	0.24	0.82	0.54	0.54
v/c Ratio	0.63	0.43	0.15	0.08	1.09	0.20
Control Delay	60.9	15.0	47.8	0.3	73.1	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	15.0	47.8	0.3	73.1	11.7
LOS	E	B	D	A	E	B
Approach Delay	46.7			10.5	68.2	
Approach LOS	D			B	E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 59.7
 Intersection LOS: E
 Intersection Capacity Utilization 69.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	234	105	65	235	2066	180
v/c Ratio	0.63	0.43	0.15	0.08	1.09	0.20
Control Delay	60.9	15.0	47.8	0.3	73.1	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	15.0	47.8	0.3	73.1	11.7
Queue Length 50th (ft)	94	0	31	1	~1047	25
Queue Length 95th (ft)	135	59	58	2	#1167	m80
Internal Link Dist (ft)	3802			2774	2792	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	781	408	429	2896	1903	882
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.26	0.15	0.08	1.09	0.20

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	21	25	129	24	278	13	315	88	139	1890	60
Future Volume (vph)	43	21	25	129	24	278	13	315	88	139	1890	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.739			0.742			0.950			0.950		
Satd. Flow (perm)	1377	3539	1583	1382	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			302			99			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		715			720			2872			794	
Travel Time (s)		10.8			10.9			39.2			10.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	23	27	140	26	302	14	342	96	151	2054	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	23	27	140	26	302	14	342	96	151	2054	65
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8		6				2

Lanes, Volumes, Timings

21: Sierra Highway & Placerita Canyon Road

01/23/2023

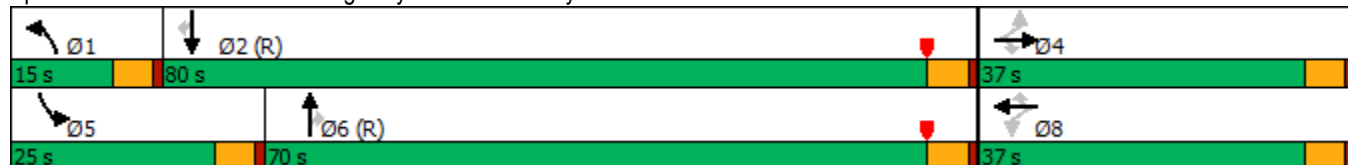


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.0	21.0	21.0	37.0	37.0	37.0	15.0	21.0	21.0	15.0	39.0	39.0
Total Split (s)	37.0	37.0	37.0	37.0	37.0	37.0	15.0	70.0	70.0	25.0	80.0	80.0
Total Split (%)	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%	11.4%	53.0%	53.0%	18.9%	60.6%	60.6%
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0	32.0	10.0	65.0	65.0	20.0	75.0	75.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag								Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?								Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	19.0	19.0	19.0	19.0	19.0	19.0	10.0	81.5	81.5	16.5	97.0	97.0
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.14	0.14	0.08	0.62	0.62	0.12	0.73	0.73
v/c Ratio	0.24	0.05	0.09	0.70	0.05	0.62	0.10	0.16	0.09	0.69	0.79	0.06
Control Delay	50.5	45.5	0.6	71.6	45.7	10.9	90.2	4.8	3.2	70.5	17.0	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	45.5	0.6	71.6	45.7	10.9	90.2	4.8	3.2	70.5	17.0	2.9
LOS	D	D	A	E	D	B	F	A	A	E	B	A
Approach Delay		35.4			31.0			7.1			20.2	
Approach LOS		D			C			A			C	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
Natural Cycle:	125
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.79
Intersection Signal Delay:	20.4
Intersection LOS:	C
Intersection Capacity Utilization:	86.9%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	47	23	27	140	26	302	14	342	96	151	2054	65
v/c Ratio	0.24	0.05	0.09	0.70	0.05	0.62	0.10	0.16	0.09	0.69	0.79	0.06
Control Delay	50.5	45.5	0.6	71.6	45.7	10.9	90.2	4.8	3.2	70.5	17.0	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	45.5	0.6	71.6	45.7	10.9	90.2	4.8	3.2	70.5	17.0	2.9
Queue Length 50th (ft)	36	8	0	116	10	0	0	16	0	126	406	1
Queue Length 95th (ft)	70	21	0	178	23	79	33	102	45	191	#1053	21
Internal Link Dist (ft)		635			640			2792			714	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	333	857	458	335	857	612	134	2185	1015	274	2599	1178
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.03	0.06	0.42	0.03	0.49	0.10	0.16	0.09	0.55	0.79	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/23/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↖	↕	↗	↘	↕
Traffic Volume (vph)	0	26	429	145	494	2074
Future Volume (vph)	0	26	429	145	494	2074
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.865	0.962			
Flt Protected					0.950	
Satd. Flow (prot)	0	1611	3405	0	1770	3539
Flt Permitted					0.950	
Satd. Flow (perm)	0	1611	3405	0	1770	3539
Link Speed (mph)	30		50			50
Link Distance (ft)	717		794			675
Travel Time (s)	16.3		10.8			9.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	28	466	158	537	2254
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	28	624	0	537	2254
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	60.7%
ICU Level of Service	B
Analysis Period (min)	15

HCM 6th TWSC
 22: Sierra Highway & SR-14 Southbound Ramps

01/23/2023

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕		↖	↕
Traffic Vol, veh/h	0	26	429	145	494	2074
Future Vol, veh/h	0	26	429	145	494	2074
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	160	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	28	466	158	537	2254

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	312	0	0	624
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22
Pot Cap-1 Maneuver	0	684	-	-	953
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	-	684	-	-	953
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

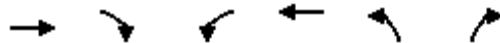
Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	2.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	684	953
HCM Lane V/C Ratio	-	-	0.041	0.563
HCM Control Delay (s)	-	-	10.5	13.5
HCM Lane LOS	-	-	B	B
HCM 95th %tile Q(veh)	-	-	0.1	3.6

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/23/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	26	0	0	278	204	57
Future Volume (vph)	26	0	0	278	204	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	720			392	651	
Travel Time (s)	10.9			5.9	14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	0	0	302	222	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	0	0	302	222	62
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	25.7%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
 23: SR 14 Northbound Ramps & Placerita Canyon Road

01/23/2023

Intersection						
Int Delay, s/veh	4.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	26	0	0	278	204	57
Future Vol, veh/h	26	0	0	278	204	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	0	0	302	222	62

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	179 14
Stage 1	-	-	-	-	28 -
Stage 2	-	-	-	-	151 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	793 1062
Stage 1	-	0	0	-	991 -
Stage 2	-	0	0	-	861 -
Platoon blocked, %	-			-	
Mov Cap-1 Maneuver	-	-	-	-	793 1062
Mov Cap-2 Maneuver	-	-	-	-	793 -
Stage 1	-	-	-	-	991 -
Stage 2	-	-	-	-	861 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	793	1062	-	-
HCM Lane V/C Ratio	0.28	0.058	-	-
HCM Control Delay (s)	11.3	8.6	-	-
HCM Lane LOS	B	A	-	-
HCM 95th %tile Q(veh)	1.1	0.2	-	-

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	743	1593	379	372	958	310	532	1728	371	372	1132	219
Future Volume (vph)	743	1593	379	372	958	310	532	1728	371	372	1132	219
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	300		230
Storage Lanes	3		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62			295			303			99
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			1975			1020	
Travel Time (s)		13.2			11.3			29.9			15.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	808	1732	412	404	1041	337	578	1878	403	404	1230	238
Shared Lane Traffic (%)												
Lane Group Flow (vph)	808	1732	412	404	1041	337	578	1878	403	404	1230	238
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	25.0	39.0	26.0	22.0	36.0	36.0	26.0	45.0	45.0	26.0	45.0	25.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023

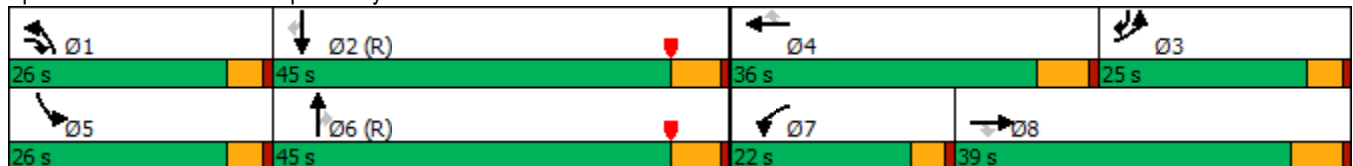


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	29.5%	19.7%	16.7%	27.3%	27.3%	19.7%	34.1%	34.1%	19.7%	34.1%	18.9%
Maximum Green (s)	20.5	33.0	21.5	17.5	30.0	30.0	21.5	39.0	39.0	21.5	39.0	20.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	22.8	35.6	61.6	17.4	30.2	30.2	22.0	44.1	44.1	18.9	41.0	63.8
Actuated g/C Ratio	0.17	0.27	0.47	0.13	0.23	0.23	0.17	0.33	0.33	0.14	0.31	0.48
v/c Ratio	0.94	1.00	0.53	0.89	0.71	0.57	1.01	0.88	0.55	0.82	0.62	0.29
Control Delay	72.8	70.2	24.1	78.9	49.7	11.5	89.1	34.8	11.6	69.1	40.4	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.8	70.2	24.1	78.9	49.7	11.5	89.1	34.8	11.6	69.1	40.4	7.1
LOS	E	E	C	E	D	B	F	C	B	E	D	A
Approach Delay		64.5			49.1			42.5			42.4	
Approach LOS		E			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 55 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 50.6
 Intersection LOS: D
 Intersection Capacity Utilization 82.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	808	1732	412	404	1041	337	578	1878	403	404	1230	238
v/c Ratio	0.94	1.00	0.53	0.89	0.71	0.57	1.01	0.88	0.55	0.82	0.62	0.29
Control Delay	72.8	70.2	24.1	78.9	49.7	11.5	89.1	34.8	11.6	69.1	40.4	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.8	70.2	24.1	78.9	49.7	11.5	89.1	34.8	11.6	69.1	40.4	7.1
Queue Length 50th (ft)	~251	~456	210	177	236	28	~275	431	93	174	261	36
Queue Length 95th (ft)	#346	#533	311	#261	276	120	m#329	#543	m104	227	301	65
Internal Link Dist (ft)		790			665			1895			940	
Turn Bay Length (ft)	270		265	280		340	300			300		230
Base Capacity (vph)	861	1728	771	468	1553	607	572	2140	730	572	1990	816
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	1.00	0.53	0.86	0.67	0.56	1.01	0.88	0.55	0.71	0.62	0.29

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1160	1361	27	424	798	302	26	1242	537	363	1012	641
Future Volume (vph)	1160	1361	27	424	798	302	26	1242	537	363	1012	641
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Fr _t		0.997				0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5070	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5070	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				124			112			524
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			3555			1975	
Travel Time (s)		32.4			35.4			53.9			29.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1261	1479	29	461	867	328	28	1350	584	395	1100	697
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1261	1508	0	461	867	328	28	1350	584	395	1100	697
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			48			48	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	40.0	48.0		22.0	30.0	20.0	18.0	42.0	22.0	20.0	44.0	40.0
Total Split (%)	30.3%	36.4%		16.7%	22.7%	15.2%	13.6%	31.8%	16.7%	15.2%	33.3%	30.3%
Maximum Green (s)	35.5	42.0		17.5	24.0	15.5	13.5	36.0	17.5	15.5	38.0	35.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023

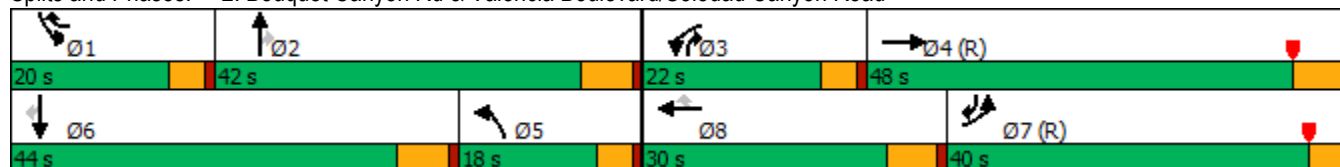


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	None	None	None	Max	None	None	None	C-Max
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effect Green (s)	36.1	44.6		17.4	25.9	41.9	11.5	38.0	59.4	16.0	46.6	86.7
Actuated g/C Ratio	0.27	0.34		0.13	0.20	0.32	0.09	0.29	0.45	0.12	0.35	0.66
v/c Ratio	0.93	0.88		0.70	0.87	0.56	0.18	0.92	0.75	0.95	0.61	0.35
Control Delay	58.9	48.4		61.0	61.7	15.2	50.2	48.1	32.0	77.2	39.6	3.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	48.4		61.0	61.7	15.2	50.2	48.1	32.0	77.2	39.6	3.7
LOS	E	D		E	E	B	D	D	C	E	D	A
Approach Delay		53.2			52.3			43.3			34.9	
Approach LOS		D			D			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 92 (70%), Referenced to phase 4:EBT and 7:EBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 46.1
 Intersection LOS: D
 Intersection Capacity Utilization 85.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1261	1508	461	867	328	28	1350	584	395	1100	697
v/c Ratio	0.93	0.88	0.70	0.87	0.56	0.18	0.92	0.75	0.95	0.61	0.35
Control Delay	58.9	48.4	61.0	61.7	15.2	50.2	48.1	32.0	77.2	39.6	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	48.4	61.0	61.7	15.2	50.2	48.1	32.0	77.2	39.6	3.7
Queue Length 50th (ft)	374	447	135	265	65	21	374	344	184	332	106
Queue Length 95th (ft)	#459	513	174	#322	113	m32	#495	554	m#274	388	m105
Internal Link Dist (ft)		2060		2257			3475			1895	
Turn Bay Length (ft)											
Base Capacity (vph)	1362	1713	680	1001	587	195	1463	780	416	1818	2010
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.88	0.68	0.87	0.56	0.14	0.92	0.75	0.95	0.61	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	292	612	445	1617	1319	232
Future Volume (vph)	292	612	445	1617	1319	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		34				252
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4671	3555	
Travel Time (s)	44.4			63.7	53.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	317	665	484	1758	1434	252
Shared Lane Traffic (%)						
Lane Group Flow (vph)	317	665	484	1758	1434	252
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023

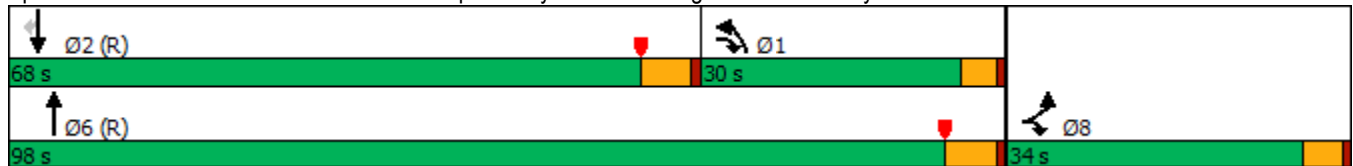


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effct Green (s)	33.6	62.2	24.6	90.4	61.8	61.8
Actuated g/C Ratio	0.25	0.47	0.19	0.68	0.47	0.47
v/c Ratio	0.70	0.50	0.76	0.73	0.87	0.29
Control Delay	55.6	24.8	50.4	8.8	34.6	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.6	24.8	50.4	8.8	34.6	4.7
LOS	E	C	D	A	C	A
Approach Delay	34.7			17.8	30.1	
Approach LOS	C			B	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 25.4
 Intersection LOS: C
 Intersection Capacity Utilization 75.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	317	665	484	1758	1434	252
v/c Ratio	0.70	0.50	0.76	0.73	0.87	0.29
Control Delay	55.6	24.8	50.4	8.8	34.6	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.6	24.8	50.4	8.8	34.6	4.7
Queue Length 50th (ft)	258	214	186	133	687	29
Queue Length 95th (ft)	#395	277	261	131	760	m58
Internal Link Dist (ft)	2848			4591	3475	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	450	1317	676	2520	1715	897
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.50	0.72	0.70	0.84	0.28

Intersection Summary

















95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/23/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	46	449	1460	71	378	1298
Future Volume (vph)	46	449	1460	71	378	1298
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.876	0.850		0.850		
Flt Protected	0.992				0.950	
Satd. Flow (prot)	3140	1441	3539	1583	3433	3539
Flt Permitted	0.992				0.950	
Satd. Flow (perm)	3140	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	244	244		45		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4671
Travel Time (s)	10.9		27.3			63.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	488	1587	77	411	1411
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	294	244	1587	77	411	1411
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/23/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	10.3	10.3	88.2	88.2	21.5	113.7
Actuated g/C Ratio	0.08	0.08	0.67	0.67	0.16	0.86
v/c Ratio	0.63	0.72	0.67	0.07	0.74	0.46
Control Delay	17.8	19.3	29.5	14.3	72.8	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	19.3	29.5	14.3	72.8	1.0
LOS	B	B	C	B	E	A
Approach Delay	18.5		28.8			17.2
Approach LOS	B		C			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 37 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 22.2
 Intersection LOS: C
 Intersection Capacity Utilization 67.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/23/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	294	244	1587	77	411	1411
v/c Ratio	0.63	0.72	0.67	0.07	0.74	0.46
Control Delay	17.8	19.3	29.5	14.3	72.8	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	19.3	29.5	14.3	72.8	1.0
Queue Length 50th (ft)	21	0	481	23	189	20
Queue Length 95th (ft)	61	87	701	m57	m196	60
Internal Link Dist (ft)	558		1922			4591
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1011	561	2364	1072	679	3047
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.43	0.67	0.07	0.61	0.46

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	365	0	252	2	1239	348	252	1219	0
Future Volume (vph)	0	0	0	365	0	252	2	1239	348	252	1219	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	140		0
Storage Lanes	0		0	2		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	0	0	3433	0	1583	1770	3539	1583	1770	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	0	0	3433	0	1583	1770	3539	1583	1770	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						274			201			
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		337			628			1217			3340	
Travel Time (s)		9.2			17.1			18.4			50.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	397	0	274	2	1347	378	274	1325	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	397	0	274	2	1347	378	274	1325	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	2	1	1	2	
Detector Template				Left		Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)				20		20	20	100	20	20	100	
Trailing Detector (ft)				0		0	0	0	0	0	0	
Detector 1 Position(ft)				0		0	0	0	0	0	0	
Detector 1 Size(ft)				20		20	20	6	20	20	6	
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type				Prot		Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases				7			1	6	7	5	2	
Permitted Phases						7			6			

Lanes, Volumes, Timings

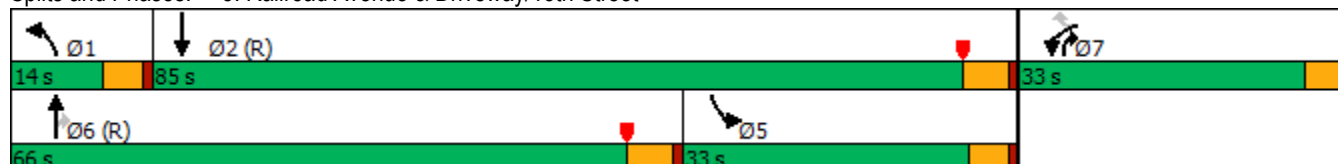
5: Railroad Avenue & Driveway/13th Street

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				7		7	1	6	7	5	2	
Switch Phase												
Minimum Initial (s)				10.0		10.0	9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				33.0		33.0	14.0	23.5	33.0	14.0	23.5	
Total Split (s)				33.0		33.0	14.0	66.0	33.0	33.0	85.0	
Total Split (%)				25.0%		25.0%	10.6%	50.0%	25.0%	25.0%	64.4%	
Maximum Green (s)				28.0		28.0	9.0	60.5	28.0	28.0	79.5	
Yellow Time (s)				4.0		4.0	4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0		1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0		5.0	5.0	5.5	5.0	5.0	5.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None		None	None	C-Max	None	None	C-Max	
Walk Time (s)				7.0		7.0		7.0	7.0		7.0	
Flash Dont Walk (s)				21.0		21.0		11.0	21.0		11.0	
Pedestrian Calls (#/hr)				0		0		0	0		0	
Act Effct Green (s)				21.9		21.9	9.0	66.6	94.0	28.0	96.8	
Actuated g/C Ratio				0.17		0.17	0.07	0.50	0.71	0.21	0.73	
v/c Ratio				0.70		0.56	0.02	0.75	0.32	0.73	0.51	
Control Delay				50.0		12.7	81.5	26.4	3.0	72.6	14.8	
Queue Delay				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay				50.0		12.7	81.5	26.4	3.0	72.6	14.8	
LOS				D		B	F	C	A	E	B	
Approach Delay						34.8		21.4			24.7	
Approach LOS						C		C			C	

Intersection Summary	
Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	25.0
Intersection LOS:	C
Intersection Capacity Utilization:	70.7%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Queues

5: Railroad Avenue & Driveway/13th Street

01/23/2023



Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	397	274	2	1347	378	274	1325
v/c Ratio	0.70	0.56	0.02	0.75	0.32	0.73	0.51
Control Delay	50.0	12.7	81.5	26.4	3.0	72.6	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	12.7	81.5	26.4	3.0	72.6	14.8
Queue Length 50th (ft)	174	97	2	534	53	232	413
Queue Length 95th (ft)	209	144	m3	490	53	319	596
Internal Link Dist (ft)				1137			3260
Turn Bay Length (ft)	110		100		570	140	
Base Capacity (vph)	728	551	120	1786	1182	375	2596
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.50	0.02	0.75	0.32	0.73	0.51

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	565	131	232	1030	1176	428			
Future Volume (vph)	565	131	232	1030	1176	428			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		142				465			
Link Speed (mph)	35			35	45				
Link Distance (ft)	1347			1246	1217				
Travel Time (s)	26.2			24.3	18.4				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	614	142	252	1120	1278	465			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	614	142	252	1120	1278	465			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	34			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	42.0	30.0	30.0	30.0	30.0

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/23/2023

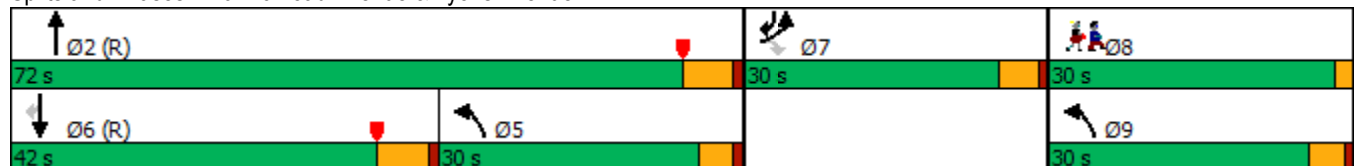


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	31.8%	22.7%	23%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	36.0	25.0	25.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effct Green (s)	33.1	33.1	20.8	77.6	62.2	95.2			
Actuated g/C Ratio	0.25	0.25	0.16	0.59	0.47	0.72			
v/c Ratio	0.71	0.28	0.47	0.54	0.77	0.37			
Control Delay	59.5	24.0	27.2	27.2	26.2	1.8			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	59.5	24.0	27.2	27.2	26.2	1.8			
LOS	E	C	C	C	C	A			
Approach Delay	52.8			27.2	19.7				
Approach LOS	D			C	B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 28.8
 Intersection LOS: C
 Intersection Capacity Utilization 65.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/23/2023



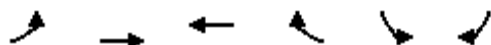
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	614	142	252	1120	1278	465
v/c Ratio	0.71	0.28	0.47	0.54	0.77	0.37
Control Delay	59.5	24.0	27.2	27.2	26.2	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	24.0	27.2	27.2	26.2	1.8
Queue Length 50th (ft)	196	57	67	341	295	0
Queue Length 95th (ft)	230	92	85	367	#561	106
Internal Link Dist (ft)	1267			1166	1137	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	862	503	1352	2080	1666	1272
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.28	0.19	0.54	0.77	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

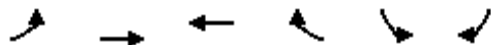
01/23/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	749	514	1170	1174	0	
Future Volume (vph)	0	749	514	1170	1174	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.98			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1272			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1913		1540		
Travel Time (s)		6.2	32.6		30.0		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	814	559	1272	1276	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	814	559	1272	1276	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		82.0	38.0	50.0	50.0	44.0	
Total Split (%)		62.1%	28.8%	37.9%	37.9%	33%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/23/2023

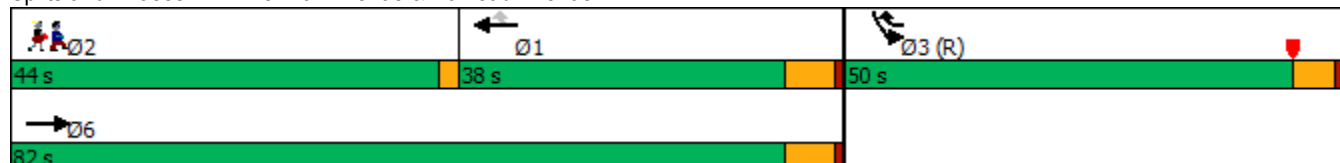


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		76.0	32.0	44.0	44.0		42.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effect Green (s)		78.0	78.0	124.0	46.0		
Actuated g/C Ratio		0.59	0.59	0.94	0.35		
v/c Ratio		0.39	0.51	0.48	1.07		
Control Delay		15.0	4.8	2.6	63.3		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		15.0	4.8	2.6	63.3		
LOS		B	A	A	E		
Approach Delay		15.0	3.3		63.3		
Approach LOS		B	A		E		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	32 (24%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.07
Intersection Signal Delay:	25.2
Intersection LOS:	C
Intersection Capacity Utilization:	67.2%
ICU Level of Service:	C
Analysis Period (min):	15

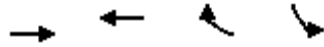
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/23/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	814	559	1272	1276
v/c Ratio	0.39	0.51	0.48	1.07
Control Delay	15.0	4.8	2.6	63.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.0	4.8	2.6	63.3
Queue Length 50th (ft)	185	109	0	~607
Queue Length 95th (ft)	228	53	7	#736
Internal Link Dist (ft)	282	1833		1460
Turn Bay Length (ft)				
Base Capacity (vph)	2091	1100	2653	1196
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.39	0.51	0.48	1.07

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/23/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗↗	↖↖↖		↘	↙
Traffic Volume (vph)	285	1801	1423	88	60	166
Future Volume (vph)	285	1801	1423	88	60	166
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	3			2	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.991			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5040	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5040	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			9			180
Link Speed (mph)		40	40		30	
Link Distance (ft)		1403	3070		2619	
Travel Time (s)		23.9	52.3		59.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	310	1958	1547	96	65	180
Shared Lane Traffic (%)						
Lane Group Flow (vph)	310	1958	1643	0	65	180
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	35.0	98.0	63.0		34.0	34.0

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/23/2023

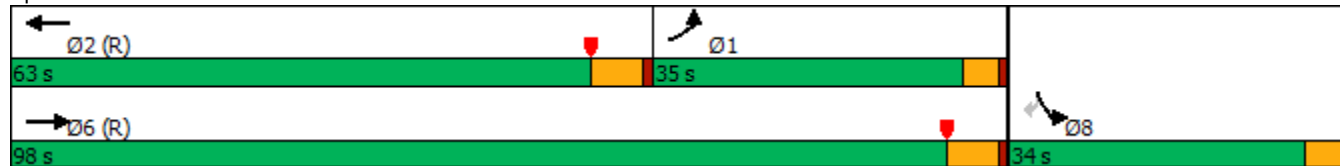


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	26.5%	74.2%	47.7%		25.8%	25.8%
Maximum Green (s)	30.5	92.0	57.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	31.0	112.8	77.8		11.2	11.2
Actuated g/C Ratio	0.23	0.85	0.59		0.08	0.08
v/c Ratio	0.75	0.45	0.55		0.43	0.60
Control Delay	44.6	3.0	6.7		69.0	24.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	44.6	3.0	6.7		69.0	24.9
LOS	D	A	A		E	C
Approach Delay	8.7		6.7		36.6	
Approach LOS	A		A		D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 53 (40%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 9.6
 Intersection Capacity Utilization 58.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

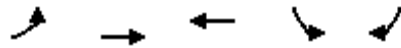
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/23/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	310	1958	1643	65	180
v/c Ratio	0.75	0.45	0.55	0.43	0.60
Control Delay	44.6	3.0	6.7	69.0	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	3.0	6.7	69.0	24.9
Queue Length 50th (ft)	212	145	121	53	0
Queue Length 95th (ft)	m248	m155	171	108	99
Internal Link Dist (ft)		1323	2990	2539	
Turn Bay Length (ft)	150				
Base Capacity (vph)	415	4344	2973	402	498
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.45	0.55	0.16	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	366	1585	57	52	1356	511	227	917	62	54	113	252
Future Volume (vph)	366	1585	57	52	1356	511	227	917	62	54	113	252
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		300
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.896	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4556	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4556	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			277			149		274	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3070			687			398			2905	
Travel Time (s)		52.3			11.7			9.0			66.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	398	1723	62	57	1474	555	247	997	67	59	123	274
Shared Lane Traffic (%)												
Lane Group Flow (vph)	398	1723	62	57	1474	555	247	997	67	59	397	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	50.0	50.0	20.0	45.0	45.0	20.0	42.0	42.0	20.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/23/2023

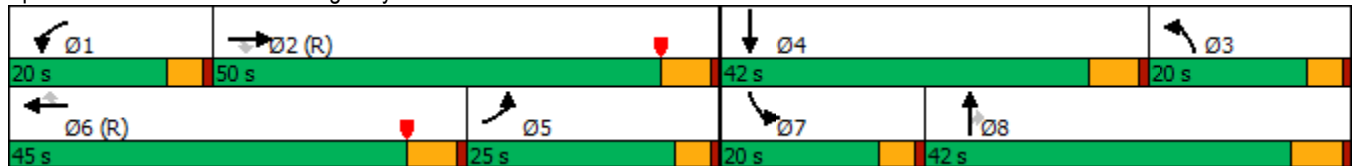


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	37.9%	37.9%	15.2%	34.1%	34.1%	15.2%	31.8%	31.8%	15.2%	31.8%	
Maximum Green (s)	20.5	44.0	44.0	15.5	39.0	39.0	15.5	36.0	36.0	15.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	59.3	59.3	8.1	44.3	44.3	39.4	42.5	40.5	10.3	11.3	
Actuated g/C Ratio	0.16	0.45	0.45	0.06	0.34	0.34	0.30	0.32	0.31	0.08	0.09	
v/c Ratio	0.73	0.75	0.08	0.27	0.86	0.78	0.24	0.88	0.11	0.43	0.62	
Control Delay	60.8	34.6	0.9	61.9	48.1	28.5	35.4	52.1	0.4	58.1	23.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.8	34.6	0.9	61.9	48.1	28.5	35.4	52.1	0.4	58.1	23.7	
LOS	E	C	A	E	D	C	D	D	A	E	C	
Approach Delay		38.4			43.3			46.3			28.1	
Approach LOS		D			D			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 41.0
 Intersection LOS: D
 Intersection Capacity Utilization 78.7%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/23/2023





















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	398	1723	62	57	1474	555	247	997	67	59	397
v/c Ratio	0.73	0.75	0.08	0.27	0.86	0.78	0.24	0.88	0.11	0.43	0.62
Control Delay	60.8	34.6	0.9	61.9	48.1	28.5	35.4	52.1	0.4	58.1	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.8	34.6	0.9	61.9	48.1	28.5	35.4	52.1	0.4	58.1	23.7
Queue Length 50th (ft)	178	529	0	24	449	235	79	417	0	49	55
Queue Length 95th (ft)	241	623	7	47	#543	399	119	#566	0	80	55
Internal Link Dist (ft)		2990			607			318			2825
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	2283	792	416	1708	715	1024	1139	588	214	1506
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.75	0.08	0.14	0.86	0.78	0.24	0.88	0.11	0.28	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	539	894	29	1664	0	0	0	0	5	0	312
Future Volume (vph)	0	539	894	29	1664	0	0	0	0	5	0	312
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.932	0.850									0.850
Fl _t Protected				0.950							0.950	
Satd. Flow (prot)	0	3160	1441	1770	3539	0	0	0	0	0	1770	1583
Fl _t Permitted				0.950							0.950	
Satd. Flow (perm)	0	3160	1441	1770	3539	0	0	0	0	0	1770	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		687			492			504			602	
Travel Time (s)		11.7			8.4			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	586	972	32	1809	0	0	0	0	5	0	339
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1072	486	32	1809	0	0	0	0	0	5	339
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	75.3%
ICU Level of Service	D
Analysis Period (min)	15

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/23/2023

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	539	894	29	1664	0	0	0	0	5	0	312
Future Vol, veh/h	0	539	894	29	1664	0	0	0	0	5	0	312
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082488832	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	586	972	32	1809	0	0	0	0	5	0	339

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	586	0	0	2166	2459	-
Stage 1	-	-	-	-	-	-	1873	1873	-
Stage 2	-	-	-	-	-	-	293	586	-
Critical Hdwy	-	-	-	4.14	-	-	6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-	3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	985	-	0	40	30	0
Stage 1	0	-	-	-	-	0	107	120	0
Stage 2	0	-	-	-	-	0	731	495	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	985	-	-	39	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	39	0	-
Stage 1	-	-	-	-	-	-	107	0	-
Stage 2	-	-	-	-	-	-	708	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	111.7
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	985	-	39	-
HCM Lane V/C Ratio	-	-	0.032	-	0.139	-
HCM Control Delay (s)	-	-	8.8	-	111.7	0
HCM Lane LOS	-	-	A	-	F	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.4	-

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/23/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	1040	0	0	111	0	644
Future Volume (vph)	1040	0	0	111	0	644
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr _t						0.865
Fl _t Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Fl _t Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	492			551	676	
Travel Time (s)	8.4			9.4	15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1130	0	0	121	0	700
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1130	0	0	121	0	700
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	75.3% ICU Level of Service D
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	91.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	1040	0	0	111	0	644
Future Vol, veh/h	1040	0	0	111	0	644
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1130	0	0	121	0	700

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	255.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	469	-	-
HCM Lane V/C Ratio	1.493	-	-
HCM Control Delay (s)	255.5	-	-
HCM Lane LOS	F	-	-
HCM 95th %tile Q(veh)	36.1	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	986	0	0	859	399	543	0	614	0	0	0
Future Volume (vph)	169	986	0	0	859	399	543	0	614	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.952				0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1770	3539	0	0	4841	0	1681	1681	1583	0	0	0
Flt Permitted	0.950						0.950	0.950				
Satd. Flow (perm)	1770	3539	0	0	4841	0	1681	1681	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					128				73			
Link Speed (mph)		40			40			30				30
Link Distance (ft)		1093			1835			601				382
Travel Time (s)		18.6			31.3			13.7				8.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	184	1072	0	0	934	434	590	0	667	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	184	1072	0	0	1368	0	295	295	667	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023

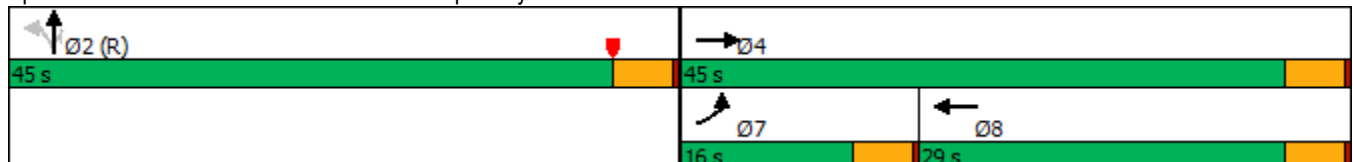


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			10.0		10.0	10.0	10.0			
Minimum Split (s)	14.5	22.5			22.5		32.5	32.5	32.5			
Total Split (s)	16.0	45.0			29.0		45.0	45.0	45.0			
Total Split (%)	17.8%	50.0%			32.2%		50.0%	50.0%	50.0%			
Maximum Green (s)	11.5	40.5			24.5		40.5	40.5	40.5			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	0.5	0.5			0.5		0.5	0.5	0.5			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	4.5			4.5		4.5	4.5	4.5			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	11.3	40.5			24.7		40.5	40.5	40.5			
Actuated g/C Ratio	0.13	0.45			0.27		0.45	0.45	0.45			
v/c Ratio	0.83	0.67			0.96		0.39	0.39	0.89			
Control Delay	69.2	22.2			46.4		18.5	18.5	36.1			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	69.2	22.2			46.4		18.5	18.5	36.1			
LOS	E	C			D		B	B	D			
Approach Delay		29.1			46.4			27.8				
Approach LOS		C			D			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 34.8
 Intersection LOS: C
 Intersection Capacity Utilization 72.8%
 ICU Level of Service C
 Analysis Period (min) 15

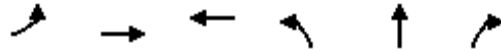
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023



























Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	184	1072	1368	295	295	667
v/c Ratio	0.83	0.67	0.96	0.39	0.39	0.89
Control Delay	69.2	22.2	46.4	18.5	18.5	36.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2	22.2	46.4	18.5	18.5	36.1
Queue Length 50th (ft)	103	244	258	113	113	305
Queue Length 95th (ft)	#215	315	#362	182	182	#534
Internal Link Dist (ft)		1013	1755		521	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	226	1592	1423	756	756	752
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.67	0.96	0.39	0.39	0.89

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	407	969	130	181	792	98	122	448	239	186	390	271
Future Volume (vph)	407	969	130	181	792	98	122	448	239	186	390	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.983				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4999	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4999	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			110		17				260			144
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1835			5346			887				1679
Travel Time (s)		31.3			91.1			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	442	1053	141	197	861	107	133	487	260	202	424	295
Shared Lane Traffic (%)												
Lane Group Flow (vph)	442	1053	141	197	968	0	133	487	260	202	424	295
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/23/2023

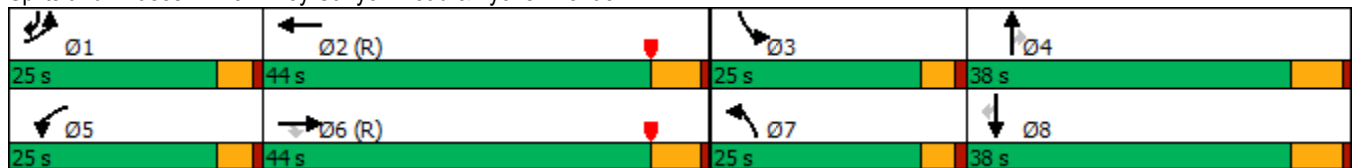


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	25.0	44.0	44.0	25.0	44.0		25.0	38.0	38.0	25.0	38.0	25.0
Total Split (%)	18.9%	33.3%	33.3%	18.9%	33.3%		18.9%	28.8%	28.8%	18.9%	28.8%	18.9%
Maximum Green (s)	20.5	38.0	38.0	20.5	38.0		20.5	32.0	32.0	20.5	32.0	20.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	22.6	48.8	48.8	20.3	46.5		16.1	27.5	27.5	19.5	30.9	57.4
Actuated g/C Ratio	0.17	0.37	0.37	0.15	0.35		0.12	0.21	0.21	0.15	0.23	0.43
v/c Ratio	0.81	0.86	0.23	0.78	0.55		0.66	0.71	0.51	0.83	0.53	0.38
Control Delay	64.7	48.4	10.6	84.6	22.8		70.6	54.1	8.3	81.5	46.5	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.7	48.4	10.6	84.6	22.8		70.6	54.1	8.3	81.5	46.5	13.3
LOS	E	D	B	F	C		E	D	A	F	D	B
Approach Delay		49.5			33.2			43.1			43.6	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 43.0
 Intersection LOS: D
 Intersection Capacity Utilization 72.8%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	442	1053	141	197	968	133	487	260	202	424	295
v/c Ratio	0.81	0.86	0.23	0.78	0.55	0.66	0.71	0.51	0.83	0.53	0.38
Control Delay	64.7	48.4	10.6	84.6	22.8	70.6	54.1	8.3	81.5	46.5	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.7	48.4	10.6	84.6	22.8	70.6	54.1	8.3	81.5	46.5	13.3
Queue Length 50th (ft)	184	454	18	122	302	110	205	0	168	166	76
Queue Length 95th (ft)	#279	#653	71	#264	212	174	251	69	#286	216	151
Internal Link Dist (ft)		1755			5266		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	557	1220	615	274	1770	262	850	573	262	881	774
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.86	0.23	0.72	0.55	0.51	0.57	0.45	0.77	0.48	0.38































Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 		 	 	
Traffic Volume (vph)	286	1028	117	110	975	331	104	163	84	389	161	214
Future Volume (vph)	286	1028	117	110	975	331	104	163	84	389	161	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			217			112			233
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5346			2329			465				345
Travel Time (s)		104.1			45.4			9.1				5.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	311	1117	127	120	1060	360	113	177	91	423	175	233
Shared Lane Traffic (%)												
Lane Group Flow (vph)	311	1117	127	120	1060	360	113	177	91	423	175	233
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023

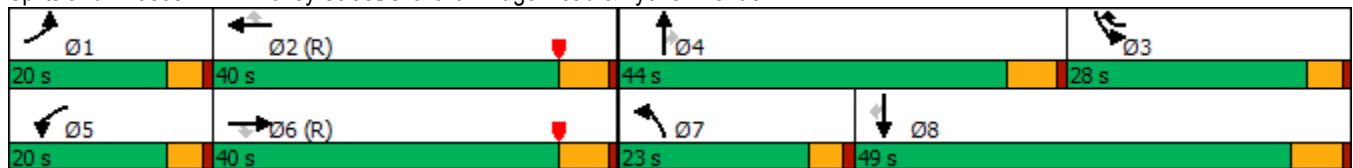


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	18.8	63.5	63.5	15.3	60.0	83.0	14.5	14.2	14.2	23.0	22.7	22.7
Actuated g/C Ratio	0.14	0.48	0.48	0.12	0.45	0.63	0.11	0.11	0.11	0.17	0.17	0.17
v/c Ratio	0.68	0.70	0.16	0.63	0.60	0.31	0.62	0.48	0.37	0.71	0.57	0.51
Control Delay	40.6	43.5	13.3	61.9	40.8	8.7	70.5	59.5	9.6	57.7	57.1	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	43.5	13.3	61.9	40.8	8.7	70.5	59.5	9.6	57.7	57.1	9.6
LOS	D	D	B	E	D	A	E	E	A	E	E	A
Approach Delay		40.5			34.9			50.8			44.1	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 2 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 40.1
 Intersection LOS: D
 Intersection Capacity Utilization 64.0%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	311	1117	127	120	1060	360	113	177	91	423	175	233
v/c Ratio	0.68	0.70	0.16	0.63	0.60	0.31	0.62	0.48	0.37	0.71	0.57	0.51
Control Delay	40.6	43.5	13.3	61.9	40.8	8.7	70.5	59.5	9.6	57.7	57.1	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	43.5	13.3	61.9	40.8	8.7	70.5	59.5	9.6	57.7	57.1	9.6
Queue Length 50th (ft)	120	518	38	82	481	130	94	76	0	178	140	0
Queue Length 95th (ft)	m163	#635	m64	m123	569	m181	154	112	34	221	207	70
Internal Link Dist (ft)		5266			2249			385			265	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	464	1588	813	216	1768	1202	237	1036	493	660	613	675
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.70	0.16	0.56	0.60	0.30	0.48	0.17	0.18	0.64	0.29	0.35

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	680	656	44	658	23	414	101	45	19	109	107
Future Volume (vph)	104	680	656	44	658	23	414	101	45	19	109	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1612	3539	1468	1639	3539	1356	3114	1863	1471	1670	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			498			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2329			1347			528				401
Travel Time (s)		45.4			26.2			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	739	713	48	715	25	450	110	49	21	118	116
Shared Lane Traffic (%)												
Lane Group Flow (vph)	113	739	713	48	715	25	450	110	49	21	118	116
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22			22	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/23/2023

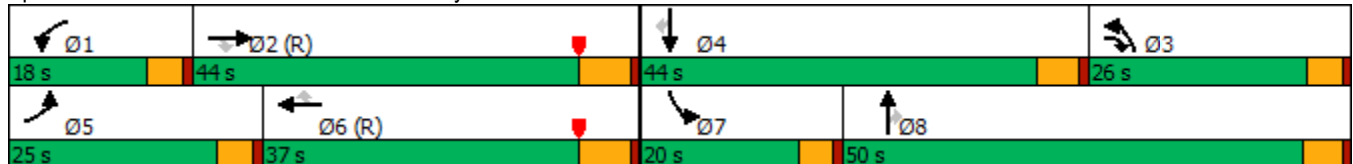


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	25.0	44.0	26.0	18.0	37.0	37.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	18.9%	33.3%	19.7%	13.6%	28.0%	28.0%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	20.5	38.0	21.5	13.5	31.0	31.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	24.0		24.0		24.0		32.0		32.0		32.0	
Pedestrian Calls (#/hr)	27		27		27		43		43		43	
Act Effct Green (s)	14.8	52.9	74.4	9.7	45.8	45.8	21.5	51.8	51.8	7.7	33.9	33.9
Actuated g/C Ratio	0.11	0.40	0.56	0.07	0.35	0.35	0.16	0.39	0.39	0.06	0.26	0.26
v/c Ratio	0.61	0.52	0.68	0.40	0.58	0.04	0.83	0.15	0.07	0.21	0.26	0.25
Control Delay	73.6	24.0	12.2	73.1	38.0	0.2	67.8	25.7	0.2	63.5	38.0	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.6	24.0	12.2	73.1	38.0	0.2	67.8	25.7	0.2	63.5	38.0	4.4
LOS	E	C	B	E	D	A	E	C	A	E	D	A
Approach Delay	22.2		38.9		54.8		24.8					
Approach LOS	C		D		D		C					

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 47 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 32.7
 Intersection LOS: C
 Intersection Capacity Utilization 81.1%
 ICU Level of Service D
 Analysis Period (min) 15

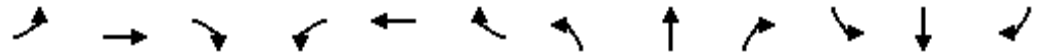
Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	113	739	713	48	715	25	450	110	49	21	118	116
v/c Ratio	0.61	0.52	0.68	0.40	0.58	0.04	0.83	0.15	0.07	0.21	0.26	0.25
Control Delay	73.6	24.0	12.2	73.1	38.0	0.2	67.8	25.7	0.2	63.5	38.0	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.6	24.0	12.2	73.1	38.0	0.2	67.8	25.7	0.2	63.5	38.0	4.4
Queue Length 50th (ft)	81	312	377	38	317	0	193	58	0	18	75	0
Queue Length 95th (ft)	m130	259	520	84	345	1	#268	102	0	45	127	30
Internal Link Dist (ft)		2249			1267			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	262	1418	1058	175	1228	581	553	768	686	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.52	0.67	0.27	0.58	0.04	0.81	0.14	0.07	0.10	0.22	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	104	370	8	135	0	319	30	9	0	39	163
Future Volume (vph)	125	104	370	8	135	0	319	30	9	0	39	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.965				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3415	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	3433	3415	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			402					10				177
Link Speed (mph)		45			30			45				30
Link Distance (ft)		628			467			423				391
Travel Time (s)		9.5			10.6			6.4				8.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	113	402	9	147	0	347	33	10	0	42	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	113	402	9	147	0	347	43	0	0	42	177
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Over	Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/23/2023

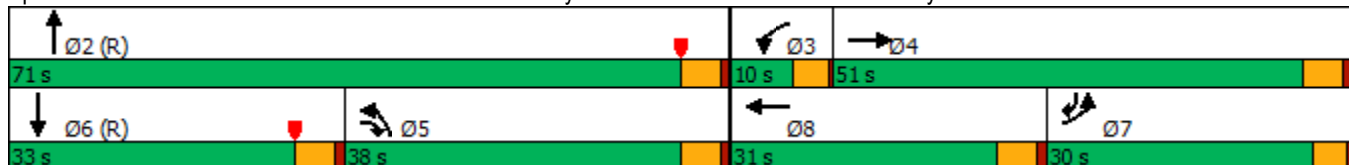


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	15.0	14.0	8.0	23.0		14.0	21.0			30.0	8.0
Total Split (s)	30.0	51.0	38.0	10.0	31.0		38.0	71.0			33.0	30.0
Total Split (%)	22.7%	38.6%	28.8%	7.6%	23.5%		28.8%	53.8%			25.0%	22.7%
Maximum Green (s)	26.0	46.0	33.0	6.0	26.0		33.0	66.0			28.0	26.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			5.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	10.6	28.3	33.0	5.8	15.7		33.0	91.7			53.7	10.6
Actuated g/C Ratio	0.08	0.21	0.25	0.04	0.12		0.25	0.69			0.41	0.08
v/c Ratio	0.49	0.28	0.40	0.12	0.67		0.40	0.02			0.03	0.61
Control Delay	52.7	32.3	3.9	63.9	69.6		43.0	6.4			26.3	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	52.7	32.3	3.9	63.9	69.6		43.0	6.4			26.3	17.3
LOS	D	C	A	E	E		D	A			C	B
Approach Delay		19.0			69.3			39.0			19.0	
Approach LOS		B			E			D			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 30.1
 Intersection LOS: C
 Intersection Capacity Utilization 39.3%
 ICU Level of Service A
 Analysis Period (min) 15

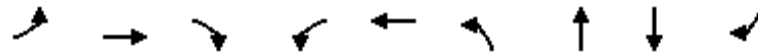
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	136	113	402	9	147	347	43	42	177
v/c Ratio	0.49	0.28	0.40	0.12	0.67	0.40	0.02	0.03	0.61
Control Delay	52.7	32.3	3.9	63.9	69.6	43.0	6.4	26.3	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	32.3	3.9	63.9	69.6	43.0	6.4	26.3	17.3
Queue Length 50th (ft)	61	79	7	8	122	128	4	11	0
Queue Length 95th (ft)	m92	m140	26	27	187	175	12	26	71
Internal Link Dist (ft)		548			387		343	311	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	676	649	998	80	366	858	2375	1439	453
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.17	0.40	0.11	0.40	0.40	0.02	0.03	0.39

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Placerita Canyon Road/Arch Street & 12th Street

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕↔	
Traffic Volume (vph)	10	5	5	44	5	125	5	158	35	128	168	5
Future Volume (vph)	10	5	5	44	5	125	5	158	35	128	168	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	250		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.968			0.903			0.976			0.996	
Flt Protected		0.974			0.987			0.999		0.950		
Satd. Flow (prot)	0	1756	0	0	1660	0	0	1816	0	1770	3525	0
Flt Permitted		0.974			0.987			0.999		0.950		
Satd. Flow (perm)	0	1756	0	0	1660	0	0	1816	0	1770	3525	0
Link Speed (mph)		25			25			35			25	
Link Distance (ft)		391			842			1231			423	
Travel Time (s)		10.7			23.0			24.0			11.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	5	5	48	5	136	5	172	38	139	183	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	189	0	0	215	0	139	188	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	38.9%
ICU Level of Service	A
Analysis Period (min)	15

HCM 6th TWSC
 17: Placerita Canyon Road/Arch Street & 12th Street

01/23/2023

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕	
Traffic Vol, veh/h	10	5	5	44	5	125	5	158	35	128	168	5
Future Vol, veh/h	10	5	5	44	5	125	5	158	35	128	168	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	5	5	48	5	136	5	172	38	139	183	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	736	684	94	573	667	191	188	0	0	210	0	0
Stage 1	464	464	-	201	201	-	-	-	-	-	-	-
Stage 2	272	220	-	372	466	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	321	370	945	416	379	850	1385	-	-	1359	-	-
Stage 1	548	563	-	800	734	-	-	-	-	-	-	-
Stage 2	733	721	-	621	562	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	245	331	945	375	339	850	1385	-	-	1359	-	-
Mov Cap-2 Maneuver	245	331	-	375	339	-	-	-	-	-	-	-
Stage 1	546	506	-	797	731	-	-	-	-	-	-	-
Stage 2	609	718	-	548	505	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.8	10.4	0.2	3.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1385	-	-	327	803	1359	-
HCM Lane V/C Ratio	0.004	-	-	0.066	0.176	0.102	-
HCM Control Delay (s)	7.6	0	-	16.8	10.4	8	-
HCM Lane LOS	A	A	-	C	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.6	0.3	-

Lanes, Volumes, Timings
19: Valle Del Oro & Dockweiler Drive

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	8	11	216	9	3	11	8	184	0	6	1
Future Volume (vph)	2	8	11	216	9	3	11	8	184	0	6	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.914			0.965			0.878			0.983	
Flt Protected	0.950			0.950				0.997				
Satd. Flow (prot)	1770	1703	0	1770	1798	0	0	1631	0	0	1831	0
Flt Permitted	0.950			0.950				0.997				
Satd. Flow (perm)	1770	1703	0	1770	1798	0	0	1631	0	0	1831	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		298			3919			2619			300	
Travel Time (s)		6.8			89.1			59.5			6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	9	12	235	10	3	12	9	200	0	7	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	21	0	235	13	0	0	221	0	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	44.4%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	8.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	2	8	11	216	9	3	11	8	184	0	6	1
Future Vol, veh/h	2	8	11	216	9	3	11	8	184	0	6	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	9	12	235	10	3	12	9	200	0	7	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	13	0	0	21	0	0	505	502	15	606	507	12
Stage 1	-	-	-	-	-	-	19	19	-	482	482	-
Stage 2	-	-	-	-	-	-	486	483	-	124	25	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1606	-	-	1595	-	-	478	471	1065	409	468	1069
Stage 1	-	-	-	-	-	-	1000	880	-	565	553	-
Stage 2	-	-	-	-	-	-	563	553	-	880	874	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1606	-	-	1595	-	-	418	401	1065	290	399	1069
Mov Cap-2 Maneuver	-	-	-	-	-	-	418	401	-	290	399	-
Stage 1	-	-	-	-	-	-	999	879	-	564	472	-
Stage 2	-	-	-	-	-	-	473	472	-	707	873	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			7.2			10.1			13.4		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	927	1606	-	-	1595	-	-	438
HCM Lane V/C Ratio	0.238	0.001	-	-	0.147	-	-	0.017
HCM Control Delay (s)	10.1	7.2	-	-	7.6	-	-	13.4
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.9	0	-	-	0.5	-	-	0.1

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	118	46	65	1265	502	183
Future Volume (vph)	118	46	65	1265	502	183
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			0
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.994	0.850				0.850
Flt Protected	0.954		0.950			
Satd. Flow (prot)	3427	1441	1770	3539	3539	1583
Flt Permitted	0.954		0.950			
Satd. Flow (perm)	3427	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	3	45				199
Link Speed (mph)	30			50	50	
Link Distance (ft)	3919			2905	621	
Travel Time (s)	89.1			39.6	8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	128	50	71	1375	546	199
Shared Lane Traffic (%)		10%				
Lane Group Flow (vph)	133	45	71	1375	546	199
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	15.0	21.0	30.0	30.0
Total Split (s)	36.0	36.0	22.0	96.0	74.0	74.0
Total Split (%)	27.3%	27.3%	16.7%	72.7%	56.1%	56.1%
Maximum Green (s)	31.0	31.0	17.0	91.0	69.0	69.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	11.1	11.1	11.5	110.9	97.4	97.4
Actuated g/C Ratio	0.08	0.08	0.09	0.84	0.74	0.74
v/c Ratio	0.46	0.28	0.46	0.46	0.21	0.16
Control Delay	61.4	19.7	61.0	1.6	5.9	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	19.7	61.0	1.6	5.9	1.0
LOS	E	B	E	A	A	A
Approach Delay	50.9			4.5	4.6	
Approach LOS	D			A	A	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.46
 Intersection Signal Delay: 8.0
 Intersection LOS: A
 Intersection Capacity Utilization 51.6%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	133	45	71	1375	546	199
v/c Ratio	0.46	0.28	0.46	0.46	0.21	0.16
Control Delay	61.4	19.7	61.0	1.6	5.9	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	19.7	61.0	1.6	5.9	1.0
Queue Length 50th (ft)	55	0	61	64	65	0
Queue Length 95th (ft)	88	42	m74	85	104	19
Internal Link Dist (ft)	3839			2825	541	
Turn Bay Length (ft)	200	200	350			
Base Capacity (vph)	807	372	227	2974	2611	1220
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.12	0.31	0.46	0.21	0.16

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

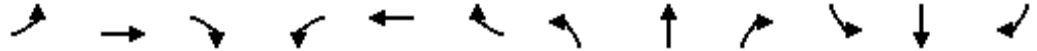
01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	45	13	41	36	175	16	1262	149	41	381	54
Future Volume (vph)	60	45	13	41	36	175	16	1262	149	41	381	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.730			0.723			0.950			0.950		
Satd. Flow (perm)	1360	3539	1583	1347	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			58			165			97			59
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		816			677			2247			787	
Travel Time (s)		12.4			10.3			30.6			10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	49	14	45	39	190	17	1372	162	45	414	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	49	14	45	39	190	17	1372	162	45	414	59
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8		6				2

Lanes, Volumes, Timings

21: Sierra Highway & Placerita Canyon Road

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	20.0	20.0	20.0	37.0	37.0	37.0	15.0	20.0	20.0	15.0	39.0	39.0
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	15.0	79.0	79.0	15.0	79.0	79.0
Total Split (%)	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	11.4%	59.8%	59.8%	11.4%	59.8%	59.8%
Maximum Green (s)	33.0	33.0	33.0	33.0	33.0	33.0	10.0	74.0	74.0	10.0	74.0	74.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	12.5	12.5	12.5	12.5	12.5	12.5	10.0	97.1	97.1	10.4	103.5	103.5
Actuated g/C Ratio	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.74	0.74	0.08	0.78	0.78
v/c Ratio	0.51	0.15	0.07	0.35	0.12	0.64	0.13	0.53	0.14	0.32	0.15	0.05
Control Delay	69.9	54.6	0.7	62.9	54.1	21.8	55.7	15.5	6.3	63.8	4.6	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.9	54.6	0.7	62.9	54.1	21.8	55.7	15.5	6.3	63.8	4.6	1.7
LOS	E	D	A	E	D	C	E	B	A	E	A	A
Approach Delay		56.5			33.1			15.0			9.4	
Approach LOS		E			C			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 132

Actuated Cycle Length: 132

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 18.0

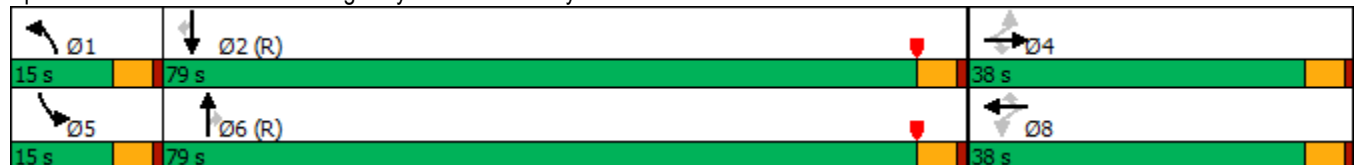
Intersection LOS: B

Intersection Capacity Utilization 66.6%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	65	49	14	45	39	190	17	1372	162	45	414	59
v/c Ratio	0.51	0.15	0.07	0.35	0.12	0.64	0.13	0.53	0.14	0.32	0.15	0.05
Control Delay	69.9	54.6	0.7	62.9	54.1	21.8	55.7	15.5	6.3	63.8	4.6	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.9	54.6	0.7	62.9	54.1	21.8	55.7	15.5	6.3	63.8	4.6	1.7
Queue Length 50th (ft)	54	20	0	37	16	20	13	388	42	37	26	0
Queue Length 95th (ft)	101	40	0	76	34	94	m29	527	81	78	82	14
Internal Link Dist (ft)		736			597			2167			707	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	340	884	439	336	884	519	134	2603	1190	139	2775	1254
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.06	0.03	0.13	0.04	0.37	0.13	0.53	0.14	0.32	0.15	0.05

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/23/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗		↖	↕↖
Traffic Volume (vph)	0	10	1102	127	391	466
Future Volume (vph)	0	10	1102	127	391	466
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.865	0.985			
Flt Protected					0.950	
Satd. Flow (prot)	0	1611	3486	0	1770	3539
Flt Permitted					0.950	
Satd. Flow (perm)	0	1611	3486	0	1770	3539
Link Speed (mph)	30		50			50
Link Distance (ft)	615		787			1009
Travel Time (s)	14.0		10.7			13.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	11	1198	138	425	507
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	11	1336	0	425	507
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	62.8%
	ICU Level of Service B
Analysis Period (min)	15

HCM 6th TWSC
 22: Sierra Highway & SR 14 Southbound Ramps

01/23/2023

Intersection						
Int Delay, s/veh	7.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕		↖	↕
Traffic Vol, veh/h	0	10	1102	127	391	466
Future Vol, veh/h	0	10	1102	127	391	466
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	160	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	1198	138	425	507

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	668	0	0	1336
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22
Pot Cap-1 Maneuver	0	401	-	-	512
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	401	-	-	512
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

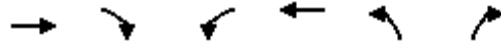
Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	17.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	401	512
HCM Lane V/C Ratio	-	-	0.027	0.83
HCM Control Delay (s)	-	-	14.2	37.7
HCM Lane LOS	-	-	B	E
HCM 95th %tile Q(veh)	-	-	0.1	8.3

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/23/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	82	0	0	160	144	88
Future Volume (vph)	82	0	0	160	144	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	677			645	774	
Travel Time (s)	10.3			9.8	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	0	0	174	157	96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	0	0	174	157	96
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	19.1% ICU Level of Service A
Analysis Period (min)	15

HCM 6th TWSC
 23: SR 14 Northbound Ramps & Placerita Canyon Road

01/23/2023

Intersection						
Int Delay, s/veh	4.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	82	0	0	160	144	88
Future Vol, veh/h	82	0	0	160	144	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	0	0	174	157	96

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	176 45
Stage 1	-	-	-	-	89 -
Stage 2	-	-	-	-	87 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	797 1015
Stage 1	-	0	0	-	924 -
Stage 2	-	0	0	-	926 -
Platoon blocked, %	-				-
Mov Cap-1 Maneuver	-	-	-	-	797 1015
Mov Cap-2 Maneuver	-	-	-	-	797 -
Stage 1	-	-	-	-	924 -
Stage 2	-	-	-	-	926 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	797	1015	-	-
HCM Lane V/C Ratio	0.196	0.094	-	-
HCM Control Delay (s)	10.6	8.9	-	-
HCM Lane LOS	B	A	-	-
HCM 95th %tile Q(veh)	0.7	0.3	-	-

***Existing with Project
without Railroad Crossing Upgrade Conditions***

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	728	379	467	1560	348	369	687	129	505	2086	513
Future Volume (vph)	234	728	379	467	1560	348	369	687	129	505	2086	513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	0		230
Storage Lanes	3		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			338			186			112
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			2037			1105	
Travel Time (s)		13.2			11.3			30.9			16.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	254	791	412	508	1696	378	401	747	140	549	2267	558
Shared Lane Traffic (%)												
Lane Group Flow (vph)	254	791	412	508	1696	378	401	747	140	549	2267	558
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	21.0	36.0	22.0	21.0	36.0	36.0	22.0	45.0	45.0	30.0	53.0	21.0

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	15.9%	27.3%	16.7%	15.9%	27.3%	27.3%	16.7%	34.1%	34.1%	22.7%	40.2%	15.9%
Maximum Green (s)	16.5	30.0	17.5	16.5	30.0	30.0	17.5	39.0	39.0	25.5	47.0	16.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	10.6	26.6	43.9	22.4	38.4	38.4	17.4	43.1	43.1	23.9	49.6	64.3
Actuated g/C Ratio	0.08	0.20	0.33	0.17	0.29	0.29	0.13	0.33	0.33	0.18	0.38	0.49
v/c Ratio	0.63	0.61	0.69	0.87	0.91	0.54	0.89	0.36	0.22	0.89	0.94	0.67
Control Delay	65.9	49.9	21.0	70.0	53.6	9.2	65.7	50.7	16.6	69.5	48.9	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.9	21.0	70.0	53.6	9.2	65.7	50.7	16.6	69.5	48.9	24.8
LOS	E	D	C	E	D	A	E	D	B	E	D	C
Approach Delay		44.5			50.3			51.7			48.3	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 105 (80%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 48.8 Intersection LOS: D
 Intersection Capacity Utilization 81.1% ICU Level of Service D
 Analysis Period (min) 15

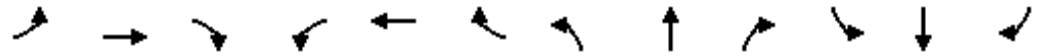
Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	254	791	412	508	1696	378	401	747	140	549	2267	558
v/c Ratio	0.63	0.61	0.69	0.87	0.91	0.54	0.89	0.36	0.22	0.89	0.94	0.67
Control Delay	65.9	49.9	21.0	70.0	53.6	9.2	65.7	50.7	16.6	69.5	48.9	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.9	21.0	70.0	53.6	9.2	65.7	50.7	16.6	69.5	48.9	24.8
Queue Length 50th (ft)	76	181	138	221	407	25	143	188	35	236	545	292
Queue Length 95th (ft)	104	206	214	#376	#507	119	#252	223	79	300	#611	410
Internal Link Dist (ft)		790			665			1957			1025	
Turn Bay Length (ft)	270		265	280		340	300					230
Base Capacity (vph)	642	1553	608	583	1863	699	468	2094	642	676	2409	899
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.51	0.68	0.87	0.91	0.54	0.86	0.36	0.22	0.81	0.94	0.62

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔	↕↕↕	↔↔
Traffic Volume (vph)	297	536	9	548	1122	279	33	638	364	307	1392	962
Future Volume (vph)	297	536	9	548	1122	279	33	638	364	307	1392	962
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		225	450		400
Storage Lanes	3		0	3		1	1		1	1		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Frt		0.997				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5070	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5070	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				99			112			405
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			888			2037	
Travel Time (s)		32.4			35.4			13.5			30.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	323	583	10	596	1220	303	36	693	396	334	1513	1046
Shared Lane Traffic (%)												
Lane Group Flow (vph)	323	593	0	596	1220	303	36	693	396	334	1513	1046
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	26.0	39.0		31.0	44.0	20.0	19.0	42.0	31.0	20.0	43.0	26.0

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023

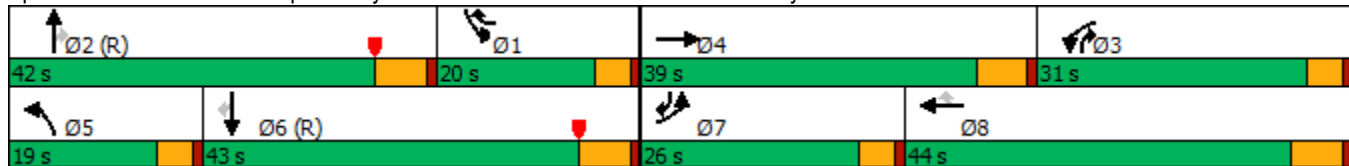


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	19.7%	29.5%		23.5%	33.3%	15.2%	14.4%	31.8%	23.5%	15.2%	32.6%	19.7%
Maximum Green (s)	21.5	33.0		26.5	38.0	15.5	14.5	36.0	26.5	15.5	37.0	21.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	17.9	23.0		33.9	39.1	55.1	8.6	43.1	81.0	16.0	52.4	74.3
Actuated g/C Ratio	0.14	0.17		0.26	0.30	0.42	0.07	0.33	0.61	0.12	0.40	0.56
v/c Ratio	0.48	0.67		0.47	0.81	0.42	0.31	0.42	0.39	0.80	0.75	0.60
Control Delay	54.7	54.4		42.5	47.9	11.4	55.8	28.7	4.6	43.3	18.5	6.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	54.4		42.5	47.9	11.4	55.8	28.7	4.6	43.3	18.5	6.9
LOS	D	D		D	D	B	E	C	A	D	B	A
Approach Delay		54.5			41.2			21.1			17.2	
Approach LOS		D			D			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 29.9 Intersection LOS: C
 Intersection Capacity Utilization 70.9% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	323	593	596	1220	303	36	693	396	334	1513	1046
v/c Ratio	0.48	0.67	0.47	0.81	0.42	0.31	0.42	0.39	0.80	0.75	0.60
Control Delay	54.7	54.4	42.5	47.9	11.4	55.8	28.7	4.6	43.3	18.5	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	54.4	42.5	47.9	11.4	55.8	28.7	4.6	43.3	18.5	6.9
Queue Length 50th (ft)	91	175	150	348	71	26	201	2	140	266	53
Queue Length 95th (ft)	120	209	191	409	110	m58	182	91	m153	m434	m252
Internal Link Dist (ft)		2060		2257			808			1957	
Turn Bay Length (ft)						250		225	450		400
Base Capacity (vph)	831	1345	1280	1559	717	201	1659	1014	416	2020	1820
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.44	0.47	0.78	0.42	0.18	0.42	0.39	0.80	0.75	0.57

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	97	269	371	1103	1645	163
Future Volume (vph)	97	269	371	1103	1645	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		12				164
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4834	2595	
Travel Time (s)	44.4			65.9	39.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	292	403	1199	1788	177
Shared Lane Traffic (%)						
Lane Group Flow (vph)	105	292	403	1199	1788	177
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023

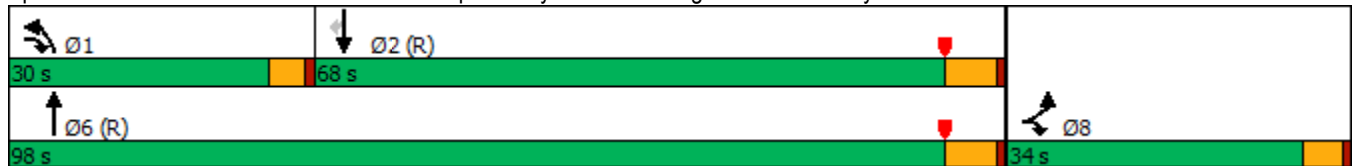


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	30.0	55.5	21.5	94.0	68.5	68.5
Actuated g/C Ratio	0.23	0.42	0.16	0.71	0.52	0.52
v/c Ratio	0.26	0.25	0.72	0.48	0.97	0.20
Control Delay	44.0	23.8	70.2	6.0	43.8	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.0	23.8	70.2	6.0	43.8	4.0
LOS	D	C	E	A	D	A
Approach Delay	29.1			22.1	40.2	
Approach LOS	C			C	D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 77 (58%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 31.8
 Intersection LOS: C
 Intersection Capacity Utilization 71.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	105	292	403	1199	1788	177
v/c Ratio	0.26	0.25	0.72	0.48	0.97	0.20
Control Delay	44.0	23.8	70.2	6.0	43.8	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.0	23.8	70.2	6.0	43.8	4.0
Queue Length 50th (ft)	74	85	180	165	862	15
Queue Length 95th (ft)	129	115	237	68	#1040	m28
Internal Link Dist (ft)	2848		4754		2515	
Turn Bay Length (ft)	290		290		386	
Base Capacity (vph)	402	1273	676	2520	1836	900
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.23	0.60	0.48	0.97	0.20

Intersection Summary

















95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/23/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	89	397	1118	59	300	1416
Future Volume (vph)	89	397	1118	59	300	1416
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.896	0.850		0.850		
Flt Protected	0.985				0.950	
Satd. Flow (prot)	3189	1441	3539	1583	3433	3539
Flt Permitted	0.985				0.950	
Satd. Flow (perm)	3189	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	216	216		49		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4834
Travel Time (s)	10.9		27.3			65.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	432	1215	64	326	1539
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	313	216	1215	64	326	1539
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/23/2023

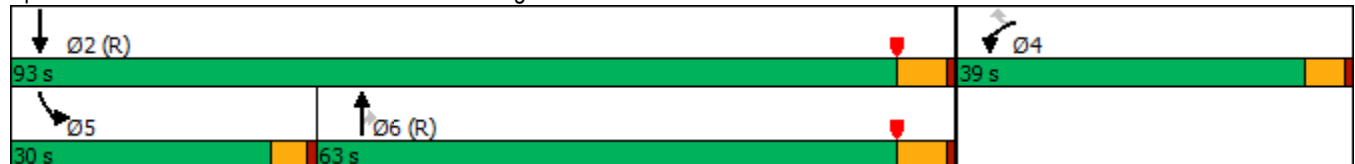


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	11.3	11.3	90.5	90.5	18.3	112.7
Actuated g/C Ratio	0.09	0.09	0.69	0.69	0.14	0.85
v/c Ratio	0.67	0.68	0.50	0.06	0.69	0.51
Control Delay	25.3	17.8	9.5	3.8	39.6	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	17.8	9.5	3.8	39.6	7.0
LOS	C	B	A	A	D	A
Approach Delay	22.2		9.2			12.7
Approach LOS	C		A			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 12.9
 Intersection LOS: B
 Intersection Capacity Utilization 56.2%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/23/2023























Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	313	216	1215	64	326	1539
v/c Ratio	0.67	0.68	0.50	0.06	0.69	0.51
Control Delay	25.3	17.8	9.5	3.8	39.6	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	17.8	9.5	3.8	39.6	7.0
Queue Length 50th (ft)	41	0	103	2	130	340
Queue Length 95th (ft)	85	84	158	m4	m159	m272
Internal Link Dist (ft)	558		1922			4754
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1004	540	2425	1100	676	3022
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.40	0.50	0.06	0.48	0.51

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	2	6	213	0	173	8	954	356	194	1426	12
Future Volume (vph)	8	2	6	213	0	173	8	954	356	194	1426	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	100		0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		0.98			0.98		0.99		0.94	0.99	1.00	
Frt		0.947			0.940				0.850		0.999	
Flt Protected		0.976			0.973		0.950			0.950		
Satd. Flow (prot)	0	1702	0	0	1668	0	1770	3539	1583	1770	3534	0
Flt Permitted		0.667			0.973		0.950			0.950		
Satd. Flow (perm)	0	1151	0	0	1662	0	1759	3539	1489	1743	3534	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			153				387			1
Link Speed (mph)		25			35			45				45
Link Distance (ft)		183			612			1314				3196
Travel Time (s)		5.0			11.9			19.9				48.4
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	2	7	232	0	188	9	1037	387	211	1550	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	18	0	0	420	0	9	1037	387	211	1563	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		custom	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases		8		7	7		1	6	7	5	2	
Permitted Phases	8			7					6			
Detector Phase	8	8		7	7		1	6	7	5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/23/2023

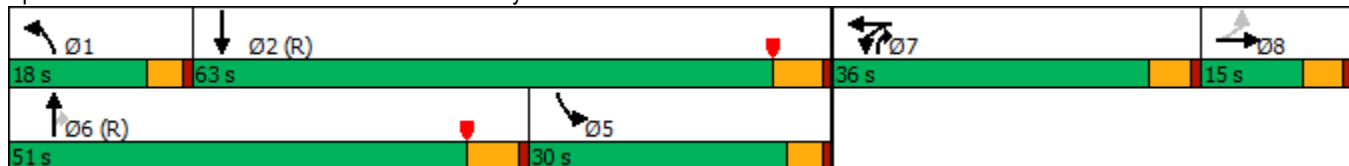


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	15.0	15.0		36.0	36.0		8.5	25.0	36.0	8.5	25.0	
Total Split (s)	15.0	15.0		36.0	36.0		18.0	51.0	36.0	30.0	63.0	
Total Split (%)	11.4%	11.4%		27.3%	27.3%		13.6%	38.6%	27.3%	22.7%	47.7%	
Maximum Green (s)	10.0	10.0		31.0	31.0		13.5	45.0	31.0	25.5	57.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.5	5.0	4.0	3.5	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0		-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	None	None	C-Max	
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)				21.0	21.0			11.0	21.0		11.0	
Pedestrian Calls (#/hr)				30	30			17	30		14	
Act Effct Green (s)		8.0			27.9		6.8	60.6	88.5	26.0	88.2	
Actuated g/C Ratio		0.06			0.21		0.05	0.46	0.67	0.20	0.67	
v/c Ratio		0.24			0.89		0.10	0.64	0.34	0.61	0.66	
Control Delay		49.8			52.5		67.2	33.8	4.2	55.4	19.3	
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		49.8			52.5		67.2	33.8	4.2	55.4	19.3	
LOS		D			D		E	C	A	E	B	
Approach Delay		49.8			52.5			26.0			23.6	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	45 (34%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
Natural Cycle:	105
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	28.0
Intersection LOS:	C
Intersection Capacity Utilization:	83.3%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Queues

5: Railroad Avenue & Driveway/13th Street

01/23/2023



Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	18	420	9	1037	387	211	1563
v/c Ratio	0.24	0.89	0.10	0.64	0.34	0.61	0.66
Control Delay	49.8	52.5	67.2	33.8	4.2	55.4	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	52.5	67.2	33.8	4.2	55.4	19.3
Queue Length 50th (ft)	9	296	8	320	72	163	416
Queue Length 95th (ft)	35	#417	m15	570	110	231	463
Internal Link Dist (ft)	103	532		1234			3116
Turn Bay Length (ft)			100		570	100	
Base Capacity (vph)	102	520	187	1624	1163	348	2360
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.81	0.05	0.64	0.33	0.61	0.66

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	354	88	302	988	1244	390			
Future Volume (vph)	354	88	302	988	1244	390			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		96				286			
Link Speed (mph)	35			35	45				
Link Distance (ft)	374			1566	1314				
Travel Time (s)	7.3			30.5	19.9				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	385	96	328	1074	1352	424			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	385	96	328	1074	1352	424			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	24			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	52.0	30.0	20.0	30.0	30.0

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/23/2023

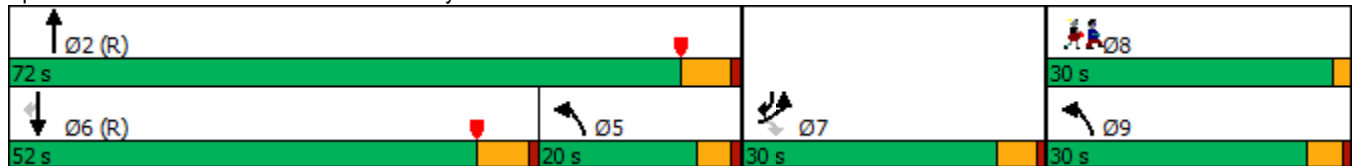


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	39.4%	22.7%	15%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	46.0	25.0	15.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effct Green (s)	21.9	21.9	23.5	88.9	70.6	92.5			
Actuated g/C Ratio	0.17	0.17	0.18	0.67	0.53	0.70			
v/c Ratio	0.68	0.28	0.54	0.45	0.71	0.36			
Control Delay	85.3	48.1	22.0	17.0	20.1	2.4			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	85.3	48.1	22.0	17.0	20.1	2.4			
LOS	F	D	C	B	C	A			
Approach Delay	77.9			18.1	15.9				
Approach LOS	E			B	B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 103 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 24.9
 Intersection LOS: C
 Intersection Capacity Utilization 63.1%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/23/2023



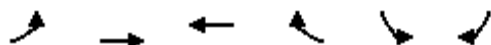
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	385	96	328	1074	1352	424
v/c Ratio	0.68	0.28	0.54	0.45	0.71	0.36
Control Delay	85.3	48.1	22.0	17.0	20.1	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.3	48.1	22.0	17.0	20.1	2.4
Queue Length 50th (ft)	180	56	64	236	449	69
Queue Length 95th (ft)	234	111	88	270	487	m39
Internal Link Dist (ft)	294			1486	1234	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	676	388	1092	2382	1893	1235
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.25	0.30	0.45	0.71	0.34

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

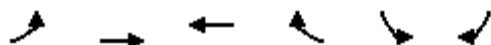
01/23/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	615	488	1240	1223	0	
Future Volume (vph)	0	615	488	1240	1223	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.97			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1348			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1645		1196		
Travel Time (s)		6.2	28.0		23.3		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	668	530	1348	1329	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	668	530	1348	1329	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		62.0	15.0	70.0	70.0	47.0	
Total Split (%)		47.0%	11.4%	53.0%	53.0%	36%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/23/2023

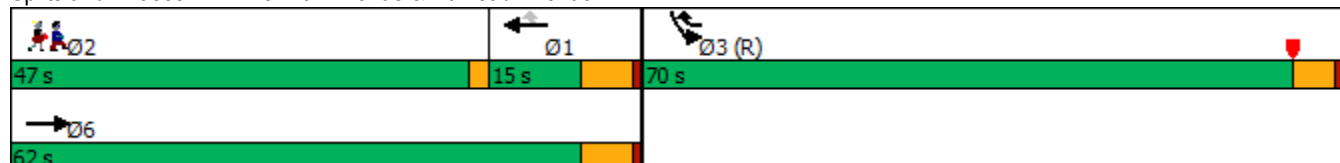


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		56.0	9.0	64.0	64.0		45.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effect Green (s)		58.0	58.0	124.0	66.0		
Actuated g/C Ratio		0.44	0.44	0.94	0.50		
v/c Ratio		0.43	0.65	0.51	0.77		
Control Delay		26.7	15.7	3.9	7.1		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		26.7	15.7	3.9	7.1		
LOS		C	B	A	A		
Approach Delay		26.7	7.2		7.1		
Approach LOS		C	A		A		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	20 (15%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	10.5
Intersection LOS:	B
Intersection Capacity Utilization:	67.2%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/23/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	668	530	1348	1329
v/c Ratio	0.43	0.65	0.51	0.77
Control Delay	26.7	15.7	3.9	7.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.7	15.7	3.9	7.1
Queue Length 50th (ft)	204	162	104	29
Queue Length 95th (ft)	257	179	160	49
Internal Link Dist (ft)	282	1565		1116
Turn Bay Length (ft)				
Base Capacity (vph)	1555	818	2669	1716
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.43	0.65	0.51	0.77
Intersection Summary				

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/23/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗↗	↖↖↖		↘	↙
Traffic Volume (vph)	167	1587	1390	95	157	337
Future Volume (vph)	167	1587	1390	95	157	337
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.990			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5034	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5034	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			12			258
Link Speed (mph)		40	40		30	
Link Distance (ft)		1545	3086		2703	
Travel Time (s)		26.3	52.6		61.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	182	1725	1511	103	171	366
Shared Lane Traffic (%)						
Lane Group Flow (vph)	182	1725	1614	0	171	366
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	25.0	98.0	73.0		34.0	34.0

Lanes, Volumes, Timings

8: Newhall Avenue & Valle Del Oro

01/23/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	18.9%	74.2%	55.3%		25.8%	25.8%
Maximum Green (s)	20.5	92.0	67.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	21.0	103.8	78.8		20.2	20.2
Actuated g/C Ratio	0.16	0.79	0.60		0.15	0.15
v/c Ratio	0.65	0.43	0.54		0.63	0.80
Control Delay	57.3	5.9	5.0		61.2	28.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	57.3	5.9	5.0		61.2	28.5
LOS	E	A	A		E	C
Approach Delay	10.8		5.0		38.9	
Approach LOS	B		A		D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 50 (38%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 12.2
 Intersection LOS: B
 Intersection Capacity Utilization 56.9%
 ICU Level of Service B
 Analysis Period (min) 15

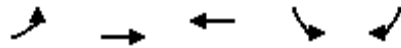
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/23/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	182	1725	1614	171	366
v/c Ratio	0.65	0.43	0.54	0.63	0.80
Control Delay	57.3	5.9	5.0	61.2	28.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	57.3	5.9	5.0	61.2	28.5
Queue Length 50th (ft)	162	152	85	139	90
Queue Length 95th (ft)	m202	186	m124	213	222
Internal Link Dist (ft)		1465	3006	2623	
Turn Bay Length (ft)	150				
Base Capacity (vph)	281	3998	3009	402	559
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.65	0.43	0.54	0.43	0.65

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
9: Sierra Highway & Newhall Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔	↔	↑↑↑	↔
Traffic Volume (vph)	155	1394	206	93	1019	29	77	149	15	189	1530	252
Future Volume (vph)	155	1394	206	93	1019	29	77	149	15	189	1530	252
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		350
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4979	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4979	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			144			124			161		24	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3086			633			398			2854	
Travel Time (s)		52.6			10.8			9.0			64.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	1515	224	101	1108	32	84	162	16	205	1663	274
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	1515	224	101	1108	32	84	162	16	205	1937	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	45.0	45.0	25.0	45.0	45.0	20.0	20.0	20.0	42.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/23/2023

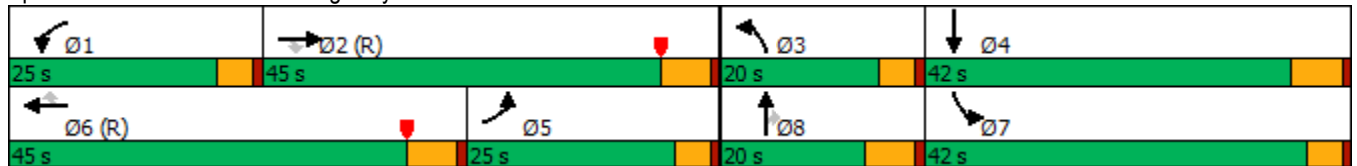


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	34.1%	34.1%	18.9%	34.1%	34.1%	15.2%	15.2%	15.2%	31.8%	31.8%	
Maximum Green (s)	20.5	39.0	39.0	20.5	39.0	39.0	15.5	14.0	14.0	37.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	52.2	52.2	9.8	41.0	41.0	9.1	13.3	11.3	40.7	44.9	
Actuated g/C Ratio	0.16	0.40	0.40	0.07	0.31	0.31	0.07	0.10	0.09	0.31	0.34	
v/c Ratio	0.31	0.75	0.31	0.40	0.70	0.06	0.35	0.46	0.06	0.38	1.13	
Control Delay	54.0	41.1	15.2	62.5	43.0	0.2	62.4	59.8	0.4	19.0	87.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.0	41.1	15.2	62.5	43.0	0.2	62.4	59.8	0.4	19.0	87.8	
LOS	D	D	B	E	D	A	E	E	A	B	F	
Approach Delay		39.2			43.5			57.0			81.2	
Approach LOS		D			D			E			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 121 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 57.2
 Intersection LOS: E
 Intersection Capacity Utilization 82.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	168	1515	224	101	1108	32	84	162	16	205	1937
v/c Ratio	0.31	0.75	0.31	0.40	0.70	0.06	0.35	0.46	0.06	0.38	1.13
Control Delay	54.0	41.1	15.2	62.5	43.0	0.2	62.4	59.8	0.4	19.0	87.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	41.1	15.2	62.5	43.0	0.2	62.4	59.8	0.4	19.0	87.8
Queue Length 50th (ft)	72	463	72	43	306	0	36	70	0	126	~716
Queue Length 95th (ft)	110	521	134	72	360	0	62	105	0	m124	m#653
Internal Link Dist (ft)		3006			553			318			2774
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	2012	713	546	1579	577	416	428	311	545	1708
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.75	0.31	0.18	0.70	0.06	0.20	0.38	0.05	0.38	1.13

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Volume (vph)	0	306	1573	12	687	0	0	0	0	4	2	239
Future Volume (vph)	0	306	1573	12	687	0	0	0	0	4	2	239
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.892	0.850									0.850
Fl _t Protected				0.950							0.968	
Satd. Flow (prot)	0	3024	1441	1770	3539	0	0	0	0	0	1803	1583
Fl _t Permitted				0.950							0.968	
Satd. Flow (perm)	0	3024	1441	1770	3539	0	0	0	0	0	1803	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		633			469			446			465	
Travel Time (s)		10.8			8.0			10.1			10.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	333	1710	13	747	0	0	0	0	4	2	260
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1188	855	13	747	0	0	0	0	0	6	260
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	81.6%
ICU Level of Service	D
Analysis Period (min)	15

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/23/2023

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	306	1573	12	687	0	0	0	0	4	2	239
Future Vol, veh/h	0	306	1573	12	687	0	0	0	0	4	2	239
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082378240	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	333	1710	13	747	0	0	0	0	4	2	260

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	333	0	0		940	1106	-
Stage 1	-	-	-	-	-	-		773	773	-
Stage 2	-	-	-	-	-	-		167	333	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	1223	-	0		262	209	0
Stage 1	0	-	-	-	-	0		416	407	0
Stage 2	0	-	-	-	-	0		845	642	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1223	-	-		259	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		259	0	-
Stage 1	-	-	-	-	-	-		416	0	-
Stage 2	-	-	-	-	-	-		836	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	19.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1223	-	259	-
HCM Lane V/C Ratio	-	-	0.011	-	0.025	-
HCM Control Delay (s)	-	-	8	-	19.3	0
HCM Lane LOS	-	-	A	-	C	A
HCM 95th %tile Q(veh)	-	-	0	-	0.1	-

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/23/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	558	0	0	59	0	15
Future Volume (vph)	558	0	0	59	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr _t						0.865
Fl _t Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Fl _t Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	469			639	290	
Travel Time (s)	8.0			10.9	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	607	0	0	64	0	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	607	0	0	64	0	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	81.6%
Analysis Period (min)	15
	ICU Level of Service D

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	558	0	0	59	0	15
Future Vol, veh/h	558	0	0	59	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	607	0	0	64	0	16

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	693	-	-
HCM Lane V/C Ratio	0.024	-	-
HCM Control Delay (s)	10.3	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	640	0	0	779	457	292	0	302	0	0	0
Future Volume (vph)	170	640	0	0	779	457	292	0	302	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.945				0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1770	3539	0	0	4806	0	1681	1681	1583	0	0	0
Flt Permitted	0.950						0.950	0.950				
Satd. Flow (perm)	1770	3539	0	0	4806	0	1681	1681	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					174				219			
Link Speed (mph)		40			40			30				30
Link Distance (ft)		722			1900			440				464
Travel Time (s)		12.3			32.4			10.0				10.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	696	0	0	847	497	317	0	328	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	185	696	0	0	1344	0	158	159	328	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023

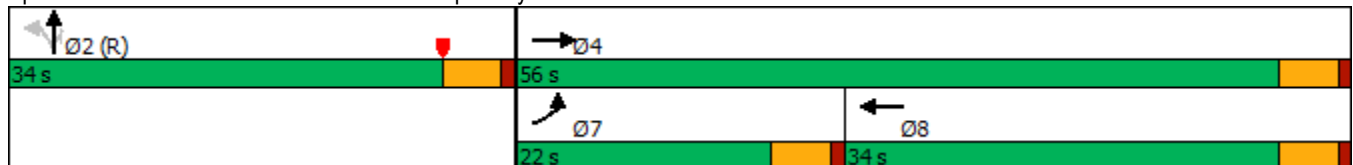


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			5.0		10.0	10.0	10.0			
Minimum Split (s)	15.0	23.0			23.0		33.0	33.0	33.0			
Total Split (s)	22.0	56.0			34.0		34.0	34.0	34.0			
Total Split (%)	24.4%	62.2%			37.8%		37.8%	37.8%	37.8%			
Maximum Green (s)	17.0	51.0			29.0		29.0	29.0	29.0			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.2	47.9			28.8		32.1	32.1	32.1			
Actuated g/C Ratio	0.16	0.53			0.32		0.36	0.36	0.36			
v/c Ratio	0.67	0.37			0.81		0.26	0.27	0.47			
Control Delay	47.3	12.5			28.9		23.4	23.4	10.6			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	47.3	12.5			28.9		23.4	23.4	10.6			
LOS	D	B			C		C	C	B			
Approach Delay		19.8			28.9			16.9				
Approach LOS		B			C			B				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 23.4
 Intersection LOS: C
 Intersection Capacity Utilization 55.5%
 ICU Level of Service B
 Analysis Period (min) 15

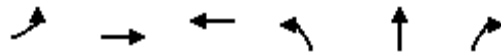
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023



























Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	185	696	1344	158	159	328
v/c Ratio	0.67	0.37	0.81	0.26	0.27	0.47
Control Delay	47.3	12.5	28.9	23.4	23.4	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	12.5	28.9	23.4	23.4	10.6
Queue Length 50th (ft)	100	104	213	70	70	45
Queue Length 95th (ft)	164	140	281	123	124	119
Internal Link Dist (ft)		642	1820		360	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	334	2005	1693	598	598	704
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.35	0.79	0.26	0.27	0.47

Intersection Summary

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	619	84	242	810	123	145	222	202	135	405	261
Future Volume (vph)	139	619	84	242	810	123	145	222	202	135	405	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.980				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112		23				220			128
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1900			5304			887				1679
Travel Time (s)		32.4			90.4			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	151	673	91	263	880	134	158	241	220	147	440	284
Shared Lane Traffic (%)												
Lane Group Flow (vph)	151	673	91	263	1014	0	158	241	220	147	440	284
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/23/2023

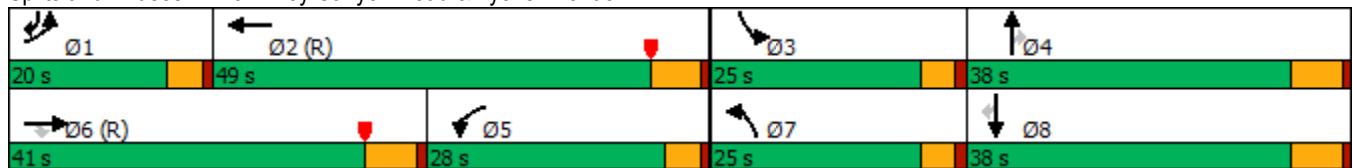


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	41.0	41.0	28.0	49.0		25.0	38.0	38.0	25.0	38.0	20.0
Total Split (%)	15.2%	31.1%	31.1%	21.2%	37.1%		18.9%	28.8%	28.8%	18.9%	28.8%	15.2%
Maximum Green (s)	15.5	35.0	35.0	23.5	43.0		20.5	32.0	32.0	20.5	32.0	15.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	12.0	50.2	50.2	24.0	62.2		17.6	24.9	24.9	16.9	24.3	40.3
Actuated g/C Ratio	0.09	0.38	0.38	0.18	0.47		0.13	0.19	0.19	0.13	0.18	0.31
v/c Ratio	0.52	0.54	0.14	0.88	0.43		0.72	0.39	0.48	0.70	0.70	0.50
Control Delay	63.2	35.2	3.8	67.4	12.2		72.9	48.1	9.1	71.9	56.5	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	35.2	3.8	67.4	12.2		72.9	48.1	9.1	71.9	56.5	22.0
LOS	E	D	A	E	B		E	D	A	E	E	C
Approach Delay		36.7			23.6			40.6			47.8	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 35.4
 Intersection LOS: D
 Intersection Capacity Utilization 63.1%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	151	673	91	263	1014	158	241	220	147	440	284
v/c Ratio	0.52	0.54	0.14	0.88	0.43	0.72	0.39	0.48	0.70	0.70	0.50
Control Delay	63.2	35.2	3.8	67.4	12.2	72.9	48.1	9.1	71.9	56.5	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	35.2	3.8	67.4	12.2	72.9	48.1	9.1	71.9	56.5	22.0
Queue Length 50th (ft)	64	236	0	219	217	131	95	0	122	187	107
Queue Length 95th (ft)	98	329	27	#380	236	204	132	66	191	235	176
Internal Link Dist (ft)		1820			5224		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	388	1255	631	300	2358	262	850	544	262	881	615
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.54	0.14	0.88	0.43	0.60	0.28	0.40	0.56	0.50	0.46






























Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 		 		
Traffic Volume (vph)	163	743	58	85	954	396	116	117	104	479	102	225
Future Volume (vph)	163	743	58	85	954	396	116	117	104	479	102	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			265			113			245
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5304			2371			465				790
Travel Time (s)		103.3			46.2			9.1				12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	808	63	92	1037	430	126	127	113	521	111	245
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	808	63	92	1037	430	126	127	113	521	111	245
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023

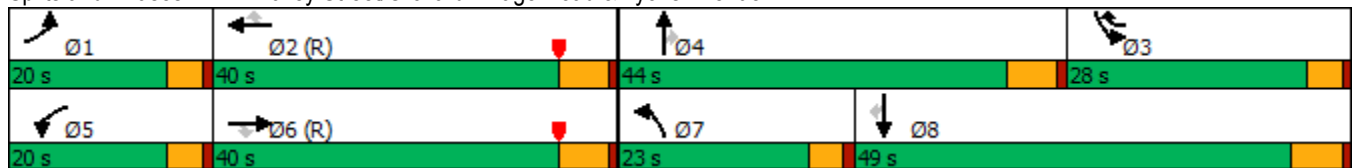


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	13.1	63.0	63.0	13.1	63.1	90.6	15.3	12.3	12.3	27.6	24.6	24.6
Actuated g/C Ratio	0.10	0.48	0.48	0.10	0.48	0.69	0.12	0.09	0.09	0.21	0.19	0.19
v/c Ratio	0.56	0.51	0.08	0.56	0.56	0.34	0.66	0.40	0.49	0.73	0.33	0.51
Control Delay	61.8	43.4	7.4	70.3	31.5	4.4	72.1	59.7	17.0	54.6	48.6	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.8	43.4	7.4	70.3	31.5	4.4	72.1	59.7	17.0	54.6	48.6	9.0
LOS	E	D	A	E	C	A	E	E	B	D	D	A
Approach Delay		44.3			26.3			50.8			41.1	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 36.9
 Intersection LOS: D
 Intersection Capacity Utilization 61.4%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	177	808	63	92	1037	430	126	127	113	521	111	245
v/c Ratio	0.56	0.51	0.08	0.56	0.56	0.34	0.66	0.40	0.49	0.73	0.33	0.51
Control Delay	61.8	43.4	7.4	70.3	31.5	4.4	72.1	59.7	17.0	54.6	48.6	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.8	43.4	7.4	70.3	31.5	4.4	72.1	59.7	17.0	54.6	48.6	9.0
Queue Length 50th (ft)	81	332	5	71	438	59	104	54	0	216	84	0
Queue Length 95th (ft)	122	443	m32	m103	548	171	169	86	58	261	135	69
Internal Link Dist (ft)		5224			2291			385			710	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	391	1577	808	205	1859	1285	237	1036	494	731	613	683
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.51	0.08	0.45	0.56	0.33	0.53	0.12	0.23	0.71	0.18	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	461	418	47	620	27	395	114	36	39	155	171
Future Volume (vph)	122	461	418	47	620	27	395	114	36	39	155	171
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1610	3539	1468	1634	3539	1356	3127	1863	1471	1671	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			428			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2371			962			528				401
Travel Time (s)		46.2			18.7			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	133	501	454	51	674	29	429	124	39	42	168	186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	501	454	51	674	29	429	124	39	42	168	186
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/23/2023

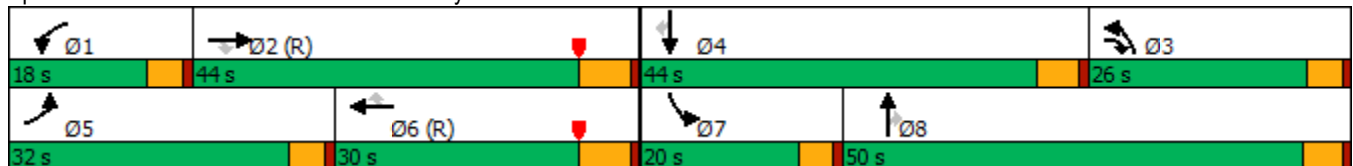


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	32.0	44.0	26.0	18.0	30.0	30.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	24.2%	33.3%	19.7%	13.6%	22.7%	22.7%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	27.5	38.0	21.5	13.5	24.0	24.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		32.0	32.0		32.0	32.0
Pedestrian Calls (#/hr)		27			27	27		43	43		43	43
Act Effct Green (s)	16.4	52.7	73.6	9.9	44.1	44.1	21.0	48.3	48.3	9.2	34.5	34.5
Actuated g/C Ratio	0.12	0.40	0.56	0.08	0.33	0.33	0.16	0.37	0.37	0.07	0.26	0.26
v/c Ratio	0.65	0.36	0.45	0.41	0.57	0.05	0.81	0.18	0.06	0.36	0.36	0.40
Control Delay	61.5	31.3	7.5	75.3	45.6	0.5	66.6	28.2	0.2	66.0	40.2	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	31.3	7.5	75.3	45.6	0.5	66.6	28.2	0.2	66.0	40.2	12.8
LOS	E	C	A	E	D	A	E	C	A	E	D	B
Approach Delay		25.1			45.9			54.2			30.1	
Approach LOS		C			D			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 49 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 37.4
 Intersection LOS: D
 Intersection Capacity Utilization 83.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	133	501	454	51	674	29	429	124	39	42	168	186
v/c Ratio	0.65	0.36	0.45	0.41	0.57	0.05	0.81	0.18	0.06	0.36	0.36	0.40
Control Delay	61.5	31.3	7.5	75.3	45.6	0.5	66.6	28.2	0.2	66.0	40.2	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	31.3	7.5	75.3	45.6	0.5	66.6	28.2	0.2	66.0	40.2	12.8
Queue Length 50th (ft)	90	220	121	46	247	0	183	68	0	35	111	28
Queue Length 95th (ft)	m141	225	118	82	388	1	243	118	0	73	174	92
Internal Link Dist (ft)		2291			882			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	350	1411	1025	175	1183	566	553	716	649	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.36	0.44	0.29	0.57	0.05	0.78	0.17	0.06	0.20	0.31	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/23/2023

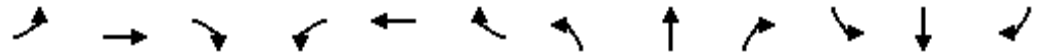


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	135	254	4	76	0	218	39	12	0	22	92
Future Volume (vph)	163	135	254	4	76	0	218	39	12	0	22	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.902						0.965				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1770	1680	0	1770	1863	0	1770	1798	0	0	1863	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	1770	1680	0	1770	1863	0	1770	1798	0	0	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		77						13				132
Link Speed (mph)		45			30			45				30
Link Distance (ft)		612			484			505				482
Travel Time (s)		9.3			11.0			7.7				11.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	147	276	4	83	0	237	42	13	0	24	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	423	0	4	83	0	237	55	0	0	24	100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2			2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100		20	100		20	100			100	20
Trailing Detector (ft)	0	0		0	0		0	0			0	0
Detector 1 Position(ft)	0	0		0	0		0	0			0	0
Detector 1 Size(ft)	20	6		20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/23/2023

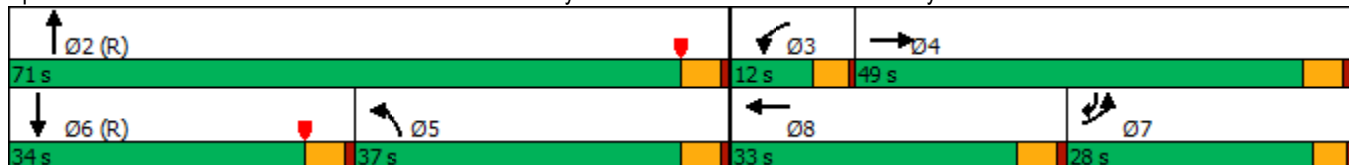


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	15.0		8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	28.0	49.0		12.0	33.0		37.0	71.0			34.0	28.0
Total Split (%)	21.2%	37.1%		9.1%	25.0%		28.0%	53.8%			25.8%	21.2%
Maximum Green (s)	24.0	44.0		8.0	28.0		32.0	66.0			29.0	24.0
Yellow Time (s)	3.5	4.0		3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0		0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None		None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	20.6	34.4		5.9	11.9		32.0	85.5			48.5	20.6
Actuated g/C Ratio	0.16	0.26		0.04	0.09		0.24	0.65			0.37	0.16
v/c Ratio	0.64	0.86		0.05	0.49		0.55	0.05			0.04	0.28
Control Delay	46.7	39.0		61.5	66.9		49.5	9.5			32.9	4.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	46.7	39.0		61.5	66.9		49.5	9.5			32.9	4.4
LOS	D	D		E	E		D	A			C	A
Approach Delay		41.2			66.6			41.9			9.9	
Approach LOS		D			E			D			A	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 15 (11%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 39.9
 Intersection LOS: D
 Intersection Capacity Utilization 49.8%
 ICU Level of Service A
 Analysis Period (min) 15

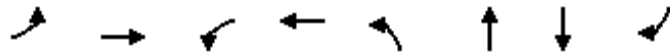
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/23/2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	177	423	4	83	237	55	24	100
v/c Ratio	0.64	0.86	0.05	0.49	0.55	0.05	0.04	0.28
Control Delay	46.7	39.0	61.5	66.9	49.5	9.5	32.9	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	39.0	61.5	66.9	49.5	9.5	32.9	4.4
Queue Length 50th (ft)	149	157	3	69	179	11	13	0
Queue Length 95th (ft)	190	389	16	121	267	41	41	22
Internal Link Dist (ft)		532		404		425	402	
Turn Bay Length (ft)	150				100			
Base Capacity (vph)	354	613	107	395	429	1168	684	422
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.69	0.04	0.21	0.55	0.05	0.04	0.24

Intersection Summary

Lanes, Volumes, Timings
 17: Placerita Canyon Road/Arch Street & 12th Street

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	5	5	5	42	5	60	10	194	85	61	113	5
Future Volume (vph)	5	5	5	42	5	60	10	194	85	61	113	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	250		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.955			0.924			0.960			0.997	
Flt Protected		0.984			0.981			0.998			0.983	
Satd. Flow (prot)	0	1750	0	0	1688	0	0	1785	0	0	1826	0
Flt Permitted		0.984			0.981			0.998			0.983	
Satd. Flow (perm)	0	1750	0	0	1688	0	0	1785	0	0	1826	0
Link Speed (mph)		25			25			35			25	
Link Distance (ft)		391			842			1231			505	
Travel Time (s)		10.7			23.0			24.0			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	5	46	5	65	11	211	92	66	123	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	0	116	0	0	314	0	0	194	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	44.4%
ICU Level of Service	A
Analysis Period (min)	15

HCM 6th TWSC
 17: Placerita Canyon Road/Arch Street & 12th Street

01/23/2023

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↗			↕			↕	
Traffic Vol, veh/h	5	5	5	42	5	60	10	194	85	61	113	5
Future Vol, veh/h	5	5	5	42	5	60	10	194	85	61	113	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	46	5	65	11	211	92	66	123	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	572	583	126	542	539	257	128	0	0	303	0	0
Stage 1	258	258	-	279	279	-	-	-	-	-	-	-
Stage 2	314	325	-	263	260	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	431	424	924	451	449	782	1458	-	-	1258	-	-
Stage 1	747	694	-	728	680	-	-	-	-	-	-	-
Stage 2	697	649	-	742	693	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	372	396	924	422	420	782	1458	-	-	1258	-	-
Mov Cap-2 Maneuver	372	396	-	422	420	-	-	-	-	-	-	-
Stage 1	740	654	-	721	674	-	-	-	-	-	-	-
Stage 2	628	643	-	690	653	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	10.4	0.3	2.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1458	-	-	477	733	1258	-	-
HCM Lane V/C Ratio	0.007	-	-	0.034	0.096	0.053	-	-
HCM Control Delay (s)	7.5	0	-	12.8	10.4	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.2	-	-

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	11	16	319	7	3	10	8	220	7	13	1
Future Volume (vph)	3	11	16	319	7	3	10	8	220	7	13	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.912			0.959			0.875			0.994	
Flt Protected	0.950			0.950				0.998			0.983	
Satd. Flow (prot)	1770	1699	0	1770	1786	0	0	1627	0	0	1820	0
Flt Permitted	0.950			0.950				0.998			0.983	
Satd. Flow (perm)	1770	1699	0	1770	1786	0	0	1627	0	0	1820	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		671			3882			2703			372	
Travel Time (s)		15.3			88.2			61.4			8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	12	17	347	8	3	11	9	239	8	14	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	29	0	347	11	0	0	259	0	0	23	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	45.9%
ICU Level of Service	A
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	9.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Traffic Vol, veh/h	3	11	16	319	7	3	10	8	220	7	13	1
Future Vol, veh/h	3	11	16	319	7	3	10	8	220	7	13	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	12	17	347	8	3	11	9	239	8	14	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	11	0	0	29	0	0	738	732	21	855	739	10
Stage 1	-	-	-	-	-	-	27	27	-	704	704	-
Stage 2	-	-	-	-	-	-	711	705	-	151	35	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1608	-	-	1584	-	-	334	348	1056	278	345	1071
Stage 1	-	-	-	-	-	-	990	873	-	428	440	-
Stage 2	-	-	-	-	-	-	424	439	-	851	866	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1608	-	-	1584	-	-	266	271	1056	174	269	1071
Mov Cap-2 Maneuver	-	-	-	-	-	-	266	271	-	174	269	-
Stage 1	-	-	-	-	-	-	988	871	-	427	344	-
Stage 2	-	-	-	-	-	-	317	343	-	651	864	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			7.7			10.9			22		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	864	1608	-	-	1584	-	-	235
HCM Lane V/C Ratio	0.299	0.002	-	-	0.219	-	-	0.097
HCM Control Delay (s)	10.9	7.2	-	-	7.9	-	-	22
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.3	0	-	-	0.8	-	-	0.3

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	186	126	60	216	1901	166
Future Volume (vph)	186	126	60	216	1901	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.979	0.850				0.850
Flt Protected	0.959		0.950			
Satd. Flow (prot)	3393	1441	1770	3539	3539	1583
Flt Permitted	0.959		0.950			
Satd. Flow (perm)	3393	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	13	105				68
Link Speed (mph)	30			50	50	
Link Distance (ft)	3882			2854	2872	
Travel Time (s)	88.2			38.9	39.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	202	137	65	235	2066	180
Shared Lane Traffic (%)		23%				
Lane Group Flow (vph)	234	105	65	235	2066	180
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/23/2023

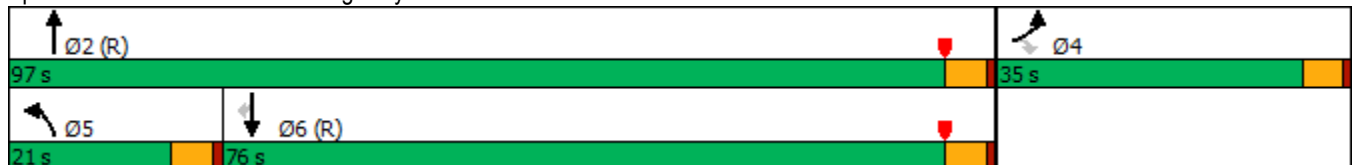


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	21.0	21.0	30.0	30.0
Total Split (s)	35.0	35.0	21.0	97.0	76.0	76.0
Total Split (%)	26.5%	26.5%	15.9%	73.5%	57.6%	57.6%
Maximum Green (s)	30.0	30.0	16.0	92.0	71.0	71.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	14.0	14.0	32.0	108.0	71.0	71.0
Actuated g/C Ratio	0.11	0.11	0.24	0.82	0.54	0.54
v/c Ratio	0.63	0.43	0.15	0.08	1.09	0.20
Control Delay	60.9	15.0	47.8	0.3	73.1	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	15.0	47.8	0.3	73.1	11.7
LOS	E	B	D	A	E	B
Approach Delay	46.7			10.5	68.2	
Approach LOS	D			B	E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 59.7
 Intersection LOS: E
 Intersection Capacity Utilization 69.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/23/2023



























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	234	105	65	235	2066	180
v/c Ratio	0.63	0.43	0.15	0.08	1.09	0.20
Control Delay	60.9	15.0	47.8	0.3	73.1	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	15.0	47.8	0.3	73.1	11.7
Queue Length 50th (ft)	94	0	31	1	~1047	25
Queue Length 95th (ft)	135	59	58	2	#1167	m80
Internal Link Dist (ft)	3802			2774	2792	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	781	408	429	2896	1903	882
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.26	0.15	0.08	1.09	0.20

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	21	25	129	24	278	13	315	88	139	1890	60
Future Volume (vph)	43	21	25	129	24	278	13	315	88	139	1890	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.739			0.742			0.950			0.950		
Satd. Flow (perm)	1377	3539	1583	1382	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			302			99			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		715			720			2872			794	
Travel Time (s)		10.8			10.9			39.2			10.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	23	27	140	26	302	14	342	96	151	2054	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	23	27	140	26	302	14	342	96	151	2054	65
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8		6				2

Lanes, Volumes, Timings
21: Sierra Highway & Placerita Canyon Road

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.0	21.0	21.0	37.0	37.0	37.0	15.0	21.0	21.0	15.0	39.0	39.0
Total Split (s)	37.0	37.0	37.0	37.0	37.0	37.0	15.0	70.0	70.0	25.0	80.0	80.0
Total Split (%)	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%	11.4%	53.0%	53.0%	18.9%	60.6%	60.6%
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0	32.0	10.0	65.0	65.0	20.0	75.0	75.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag								Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?								Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	19.0	19.0	19.0	19.0	19.0	19.0	10.0	81.5	81.5	16.5	97.0	97.0
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.14	0.14	0.08	0.62	0.62	0.12	0.73	0.73
v/c Ratio	0.24	0.05	0.09	0.70	0.05	0.62	0.10	0.16	0.09	0.69	0.79	0.06
Control Delay	50.5	45.5	0.6	71.6	45.7	10.9	90.2	4.8	3.2	70.5	17.0	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	45.5	0.6	71.6	45.7	10.9	90.2	4.8	3.2	70.5	17.0	2.9
LOS	D	D	A	E	D	B	F	A	A	E	B	A
Approach Delay		35.4			31.0			7.1			20.2	
Approach LOS		D			C			A			C	

Intersection Summary

Area Type: Other

Cycle Length: 132

Actuated Cycle Length: 132

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 20.4

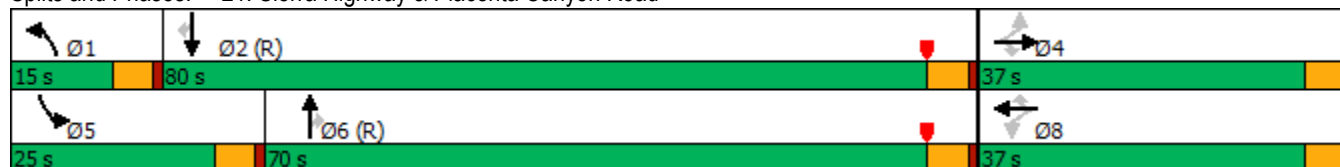
Intersection LOS: C

Intersection Capacity Utilization 86.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	47	23	27	140	26	302	14	342	96	151	2054	65
v/c Ratio	0.24	0.05	0.09	0.70	0.05	0.62	0.10	0.16	0.09	0.69	0.79	0.06
Control Delay	50.5	45.5	0.6	71.6	45.7	10.9	90.2	4.8	3.2	70.5	17.0	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	45.5	0.6	71.6	45.7	10.9	90.2	4.8	3.2	70.5	17.0	2.9
Queue Length 50th (ft)	36	8	0	116	10	0	0	16	0	126	406	1
Queue Length 95th (ft)	70	21	0	178	23	79	33	102	45	191	#1053	21
Internal Link Dist (ft)		635			640			2792			714	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	333	857	458	335	857	612	134	2185	1015	274	2599	1178
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.03	0.06	0.42	0.03	0.49	0.10	0.16	0.09	0.55	0.79	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/23/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗		↖	↕↖
Traffic Volume (vph)	0	26	429	145	494	2074
Future Volume (vph)	0	26	429	145	494	2074
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.865	0.962			
Flt Protected					0.950	
Satd. Flow (prot)	0	1611	3405	0	1770	3539
Flt Permitted					0.950	
Satd. Flow (perm)	0	1611	3405	0	1770	3539
Link Speed (mph)	30		50			50
Link Distance (ft)	717		794			675
Travel Time (s)	16.3		10.8			9.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	28	466	158	537	2254
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	28	624	0	537	2254
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	60.7%
Analysis Period (min)	15
	ICU Level of Service B

HCM 6th TWSC
 22: Sierra Highway & SR-14 Southbound Ramps

01/23/2023

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕		↖	↕
Traffic Vol, veh/h	0	26	429	145	494	2074
Future Vol, veh/h	0	26	429	145	494	2074
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	160	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	28	466	158	537	2254

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	312	0	0	624
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22
Pot Cap-1 Maneuver	0	684	-	-	953
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	684	-	-	953
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

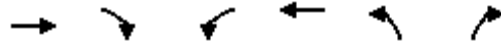
Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	2.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	684	953
HCM Lane V/C Ratio	-	-	0.041	0.563
HCM Control Delay (s)	-	-	10.5	13.5
HCM Lane LOS	-	-	B	B
HCM 95th %tile Q(veh)	-	-	0.1	3.6

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/23/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	26	0	0	278	204	57
Future Volume (vph)	26	0	0	278	204	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	720			392	651	
Travel Time (s)	10.9			5.9	14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	0	0	302	222	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	0	0	302	222	62
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	25.7%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	4.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	26	0	0	278	204	57
Future Vol, veh/h	26	0	0	278	204	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	0	0	302	222	62

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	179 14
Stage 1	-	-	-	-	28 -
Stage 2	-	-	-	-	151 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	793 1062
Stage 1	-	0	0	-	991 -
Stage 2	-	0	0	-	861 -
Platoon blocked, %	-			-	
Mov Cap-1 Maneuver	-	-	-	-	793 1062
Mov Cap-2 Maneuver	-	-	-	-	793 -
Stage 1	-	-	-	-	991 -
Stage 2	-	-	-	-	861 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	793	1062	-	-
HCM Lane V/C Ratio	0.28	0.058	-	-
HCM Control Delay (s)	11.3	8.6	-	-
HCM Lane LOS	B	A	-	-
HCM 95th %tile Q(veh)	1.1	0.2	-	-

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	743	1593	379	372	958	310	532	1728	371	372	1132	219
Future Volume (vph)	743	1593	379	372	958	310	532	1728	371	372	1132	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	300		230
Storage Lanes	3		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62			295			303			99
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			1975			1020	
Travel Time (s)		13.2			11.3			29.9			15.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	808	1732	412	404	1041	337	578	1878	403	404	1230	238
Shared Lane Traffic (%)												
Lane Group Flow (vph)	808	1732	412	404	1041	337	578	1878	403	404	1230	238
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	25.0	39.0	26.0	22.0	36.0	36.0	26.0	45.0	45.0	26.0	45.0	25.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023

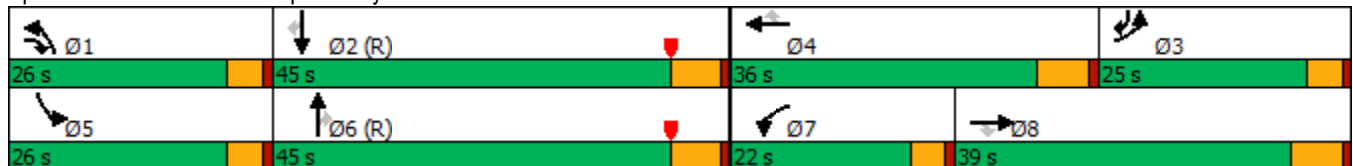


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	29.5%	19.7%	16.7%	27.3%	27.3%	19.7%	34.1%	34.1%	19.7%	34.1%	18.9%
Maximum Green (s)	20.5	33.0	21.5	17.5	30.0	30.0	21.5	39.0	39.0	21.5	39.0	20.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	22.8	35.6	61.6	17.4	30.2	30.2	22.0	44.1	44.1	18.9	41.0	63.8
Actuated g/C Ratio	0.17	0.27	0.47	0.13	0.23	0.23	0.17	0.33	0.33	0.14	0.31	0.48
v/c Ratio	0.94	1.00	0.53	0.89	0.71	0.57	1.01	0.88	0.55	0.82	0.62	0.29
Control Delay	72.8	70.2	24.1	78.9	49.7	11.5	89.1	34.8	11.6	69.1	40.4	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.8	70.2	24.1	78.9	49.7	11.5	89.1	34.8	11.6	69.1	40.4	7.1
LOS	E	E	C	E	D	B	F	C	B	E	D	A
Approach Delay		64.5			49.1			42.5			42.4	
Approach LOS		E			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 55 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 50.6
 Intersection LOS: D
 Intersection Capacity Utilization 82.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	808	1732	412	404	1041	337	578	1878	403	404	1230	238
v/c Ratio	0.94	1.00	0.53	0.89	0.71	0.57	1.01	0.88	0.55	0.82	0.62	0.29
Control Delay	72.8	70.2	24.1	78.9	49.7	11.5	89.1	34.8	11.6	69.1	40.4	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.8	70.2	24.1	78.9	49.7	11.5	89.1	34.8	11.6	69.1	40.4	7.1
Queue Length 50th (ft)	~251	~456	210	177	236	28	~275	431	93	174	261	36
Queue Length 95th (ft)	#346	#533	311	#261	276	120	m#328	#543	m104	227	301	65
Internal Link Dist (ft)		790			665			1895			940	
Turn Bay Length (ft)	270		265	280		340	300			300		230
Base Capacity (vph)	861	1728	771	468	1553	607	572	2140	730	572	1990	816
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	1.00	0.53	0.86	0.67	0.56	1.01	0.88	0.55	0.71	0.62	0.29

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

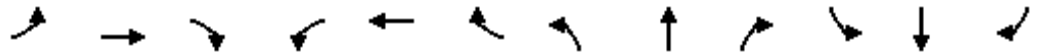
01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1160	1361	27	424	798	302	26	1242	537	363	1012	641
Future Volume (vph)	1160	1361	27	424	798	302	26	1242	537	363	1012	641
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Fr _t		0.997				0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5070	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5070	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				124			112			524
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			3555			1975	
Travel Time (s)		32.4			35.4			53.9			29.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1261	1479	29	461	867	328	28	1350	584	395	1100	697
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1261	1508	0	461	867	328	28	1350	584	395	1100	697
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			48			48	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	40.0	48.0		22.0	30.0	20.0	18.0	42.0	22.0	20.0	44.0	40.0
Total Split (%)	30.3%	36.4%		16.7%	22.7%	15.2%	13.6%	31.8%	16.7%	15.2%	33.3%	30.3%
Maximum Green (s)	35.5	42.0		17.5	24.0	15.5	13.5	36.0	17.5	15.5	38.0	35.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023

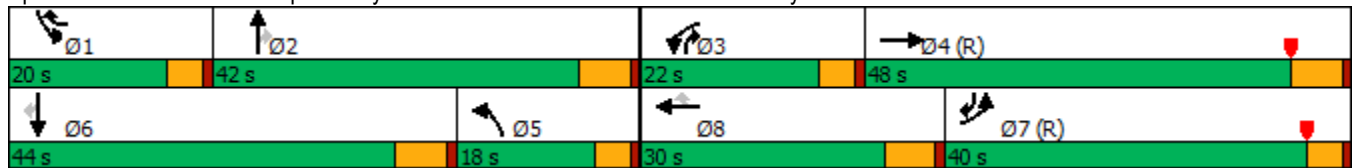


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	None	None	None	Max	None	None	None	C-Max
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effect Green (s)	36.1	44.6		17.4	25.9	41.9	11.5	38.0	59.4	16.0	46.6	86.7
Actuated g/C Ratio	0.27	0.34		0.13	0.20	0.32	0.09	0.29	0.45	0.12	0.35	0.66
v/c Ratio	0.93	0.88		0.70	0.87	0.56	0.18	0.92	0.75	0.95	0.61	0.35
Control Delay	58.9	48.4		61.0	61.7	15.2	49.7	50.9	35.2	77.2	39.6	3.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	48.4		61.0	61.7	15.2	49.7	50.9	35.2	77.2	39.6	3.7
LOS	E	D		E	E	B	D	D	D	E	D	A
Approach Delay		53.2			52.3			46.2			34.9	
Approach LOS		D			D			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 92 (70%), Referenced to phase 4:EBT and 7:EBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 46.7 Intersection LOS: D
 Intersection Capacity Utilization 85.2% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/23/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1261	1508	461	867	328	28	1350	584	395	1100	697
v/c Ratio	0.93	0.88	0.70	0.87	0.56	0.18	0.92	0.75	0.95	0.61	0.35
Control Delay	58.9	48.4	61.0	61.7	15.2	49.7	50.9	35.2	77.2	39.6	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	48.4	61.0	61.7	15.2	49.7	50.9	35.2	77.2	39.6	3.7
Queue Length 50th (ft)	374	447	135	265	65	25	444	422	184	332	106
Queue Length 95th (ft)	#459	513	174	#322	113	m32	#512	554	m#274	388	m105
Internal Link Dist (ft)		2060		2257			3475			1895	
Turn Bay Length (ft)											
Base Capacity (vph)	1362	1713	680	1001	587	195	1463	780	416	1818	2010
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.88	0.68	0.87	0.56	0.14	0.92	0.75	0.95	0.61	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	292	612	445	1617	1319	232
Future Volume (vph)	292	612	445	1617	1319	232
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		34				252
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4671	3555	
Travel Time (s)	44.4			63.7	53.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	317	665	484	1758	1434	252
Shared Lane Traffic (%)						
Lane Group Flow (vph)	317	665	484	1758	1434	252
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023

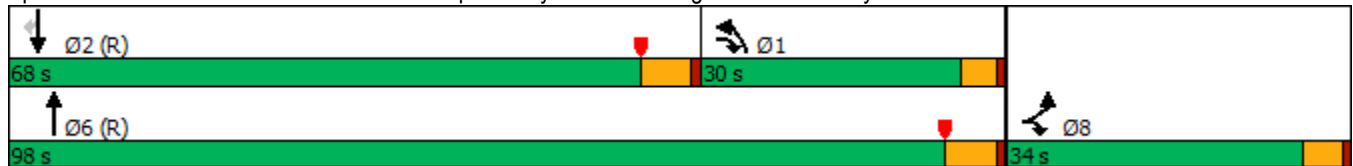


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effct Green (s)	33.6	62.2	24.6	90.4	61.8	61.8
Actuated g/C Ratio	0.25	0.47	0.19	0.68	0.47	0.47
v/c Ratio	0.70	0.50	0.76	0.73	0.87	0.29
Control Delay	55.6	24.8	53.2	7.9	34.6	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.6	24.8	53.2	7.9	34.6	4.7
LOS	E	C	D	A	C	A
Approach Delay	34.7			17.6	30.1	
Approach LOS	C			B	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 25.4
 Intersection LOS: C
 Intersection Capacity Utilization 75.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	317	665	484	1758	1434	252
v/c Ratio	0.70	0.50	0.76	0.73	0.87	0.29
Control Delay	55.6	24.8	53.2	7.9	34.6	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.6	24.8	53.2	7.9	34.6	4.7
Queue Length 50th (ft)	258	214	220	133	687	29
Queue Length 95th (ft)	#395	277	280	131	760	m58
Internal Link Dist (ft)	2848			4591	3475	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	450	1317	676	2520	1715	897
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.50	0.72	0.70	0.84	0.28

Intersection Summary

















95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/23/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	46	449	1460	71	378	1298
Future Volume (vph)	46	449	1460	71	378	1298
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.876	0.850		0.850		
Flt Protected	0.992				0.950	
Satd. Flow (prot)	3140	1441	3539	1583	3433	3539
Flt Permitted	0.992				0.950	
Satd. Flow (perm)	3140	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	244	244		45		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4671
Travel Time (s)	10.9		27.3			63.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	488	1587	77	411	1411
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	294	244	1587	77	411	1411
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings

4: Railroad Avenue & Oak Ridge Drive

01/23/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	10.3	10.3	88.2	88.2	21.5	113.7
Actuated g/C Ratio	0.08	0.08	0.67	0.67	0.16	0.86
v/c Ratio	0.63	0.72	0.67	0.07	0.74	0.46
Control Delay	17.8	19.3	8.7	0.8	72.8	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	19.3	8.7	0.8	72.8	1.0
LOS	B	B	A	A	E	A
Approach Delay	18.5		8.3			17.2
Approach LOS	B		A			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 37 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 13.7
 Intersection Capacity Utilization 67.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/23/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	294	244	1587	77	411	1411
v/c Ratio	0.63	0.72	0.67	0.07	0.74	0.46
Control Delay	17.8	19.3	8.7	0.8	72.8	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	19.3	8.7	0.8	72.8	1.0
Queue Length 50th (ft)	21	0	109	0	189	20
Queue Length 95th (ft)	61	87	m790	m1	m196	60
Internal Link Dist (ft)	558		1922			4591
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1011	561	2364	1072	679	3047
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.43	0.67	0.07	0.61	0.46

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	0	365	0	252	2	1239	348	251	1219	5
Future Volume (vph)	1	0	0	365	0	252	2	1239	348	251	1219	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	140		0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt					0.945				0.850		0.999	
Flt Protected		0.950			0.971		0.950			0.950		
Satd. Flow (prot)	0	1770	0	0	1709	0	1770	3539	1583	1770	3536	0
Flt Permitted		0.950			0.971		0.950			0.950		
Satd. Flow (perm)	0	1770	0	0	1709	0	1770	3539	1583	1770	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					149				378			
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		337			628			1217			3340	
Travel Time (s)		9.2			17.1			18.4			50.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	0	0	397	0	274	2	1347	378	273	1325	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	671	0	2	1347	378	273	1330	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA		Split	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	8	8		7	7		1	6	7	5	2	
Permitted Phases									6			

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/23/2023

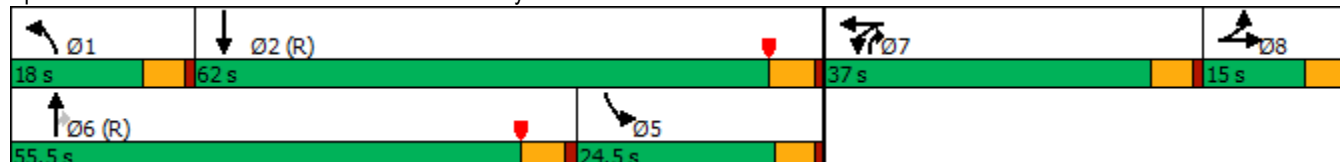


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8		7	7		1	6	7	5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		10.0	10.0		9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)	15.0	15.0		33.0	33.0		14.0	23.5	33.0	14.0	23.5	
Total Split (s)	15.0	15.0		37.0	37.0		18.0	55.5	37.0	24.5	62.0	
Total Split (%)	11.4%	11.4%		28.0%	28.0%		13.6%	42.0%	28.0%	18.6%	47.0%	
Maximum Green (s)	10.0	10.0		32.0	32.0		13.0	50.0	32.0	19.5	56.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.5	5.0	5.0	5.5	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	None	None	C-Max	
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)				21.0	21.0			11.0	21.0		11.0	
Pedestrian Calls (#/hr)				0	0			0	0		0	
Act Effct Green (s)		5.6			32.0		9.0	62.8	99.3	19.5	84.5	
Actuated g/C Ratio		0.04			0.24		0.07	0.48	0.75	0.15	0.64	
v/c Ratio		0.01			1.27		0.02	0.80	0.29	1.05	0.59	
Control Delay		61.0			172.6		67.0	32.4	1.4	111.8	14.0	
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		61.0			172.6		67.0	32.4	1.4	111.8	14.0	
LOS		E			F		E	C	A	F	B	
Approach Delay		61.0			172.6			25.7			30.7	
Approach LOS		E			F			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 60 (45%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.27
 Intersection Signal Delay: 52.3 Intersection LOS: D
 Intersection Capacity Utilization 93.0% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Queues

5: Railroad Avenue & Driveway/13th Street

01/23/2023



Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1	671	2	1347	378	273	1330
v/c Ratio	0.01	1.27	0.02	0.80	0.29	1.05	0.59
Control Delay	61.0	172.6	67.0	32.4	1.4	111.8	14.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	172.6	67.0	32.4	1.4	111.8	14.0
Queue Length 50th (ft)	1	~640	2	420	29	~248	224
Queue Length 95th (ft)	8	#923	m3	#718	8	#432	444
Internal Link Dist (ft)	257	548		1137			3260
Turn Bay Length (ft)			100		570	140	
Base Capacity (vph)	134	527	174	1683	1284	261	2263
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	1.27	0.01	0.80	0.29	1.05	0.59

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	565	131	232	1030	1176	428			
Future Volume (vph)	565	131	232	1030	1176	428			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		142				465			
Link Speed (mph)	35			35	45				
Link Distance (ft)	1347			1246	1217				
Travel Time (s)	26.2			24.3	18.4				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	614	142	252	1120	1278	465			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	614	142	252	1120	1278	465			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	34			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	42.0	30.0	30.0	30.0	30.0

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/23/2023

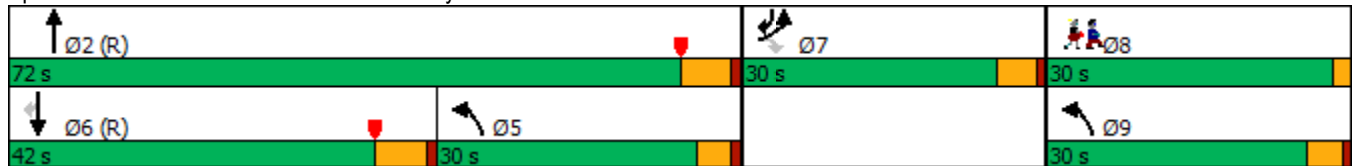


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	31.8%	22.7%	23%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	36.0	25.0	25.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effct Green (s)	33.1	33.1	20.8	77.6	62.2	95.2			
Actuated g/C Ratio	0.25	0.25	0.16	0.59	0.47	0.72			
v/c Ratio	0.71	0.28	0.47	0.54	0.77	0.37			
Control Delay	59.5	24.0	27.2	27.2	30.6	1.4			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	59.5	24.0	27.2	27.2	30.6	1.4			
LOS	E	C	C	C	C	A			
Approach Delay	52.8			27.2	22.8				
Approach LOS	D			C	C				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 30.2
 Intersection LOS: C
 Intersection Capacity Utilization 65.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	614	142	252	1120	1278	465
v/c Ratio	0.71	0.28	0.47	0.54	0.77	0.37
Control Delay	59.5	24.0	27.2	27.2	30.6	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	24.0	27.2	27.2	30.6	1.4
Queue Length 50th (ft)	196	57	67	341	501	0
Queue Length 95th (ft)	230	92	85	367	m603	m66
Internal Link Dist (ft)	1267			1166	1137	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	862	503	1352	2080	1666	1272
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.28	0.19	0.54	0.77	0.37

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/23/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	749	514	1170	1174	0	
Future Volume (vph)	0	749	514	1170	1174	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.98			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1272			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1913		1540		
Travel Time (s)		6.2	32.6		30.0		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	814	559	1272	1276	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	814	559	1272	1276	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		82.0	38.0	50.0	50.0	44.0	
Total Split (%)		62.1%	28.8%	37.9%	37.9%	33%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/23/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		76.0	32.0	44.0	44.0		42.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effect Green (s)		78.0	78.0	124.0	46.0		
Actuated g/C Ratio		0.59	0.59	0.94	0.35		
v/c Ratio		0.39	0.51	0.48	1.07		
Control Delay		15.0	4.8	2.6	62.4		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		15.0	4.8	2.6	62.4		
LOS		B	A	A	E		
Approach Delay		15.0	3.3		62.4		
Approach LOS		B	A		E		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	32 (24%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.07
Intersection Signal Delay:	25.0
Intersection LOS:	C
Intersection Capacity Utilization:	67.2%
ICU Level of Service:	C
Analysis Period (min):	15

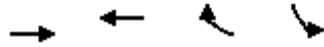
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/23/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	814	559	1272	1276
v/c Ratio	0.39	0.51	0.48	1.07
Control Delay	15.0	4.8	2.6	62.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.0	4.8	2.6	62.4
Queue Length 50th (ft)	185	109	0	~638
Queue Length 95th (ft)	228	53	7	#736
Internal Link Dist (ft)	282	1833		1460
Turn Bay Length (ft)				
Base Capacity (vph)	2091	1100	2653	1196
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.39	0.51	0.48	1.07

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/23/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗↗	↖↖↖		↘	↘
Traffic Volume (vph)	285	1801	1423	88	60	166
Future Volume (vph)	285	1801	1423	88	60	166
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	3			2	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.991			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5040	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5040	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			9			180
Link Speed (mph)		40	40		30	
Link Distance (ft)		1403	3070		2619	
Travel Time (s)		23.9	52.3		59.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	310	1958	1547	96	65	180
Shared Lane Traffic (%)						
Lane Group Flow (vph)	310	1958	1643	0	65	180
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	35.0	98.0	63.0		34.0	34.0

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/23/2023

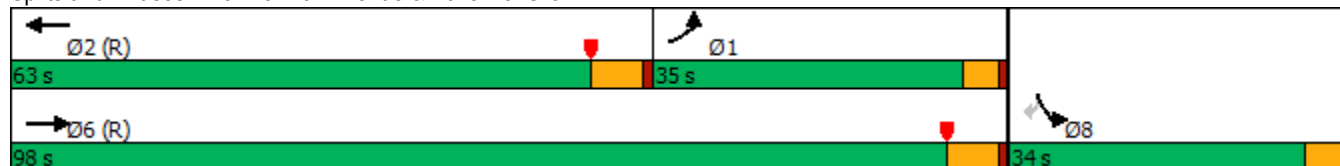


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	26.5%	74.2%	47.7%		25.8%	25.8%
Maximum Green (s)	30.5	92.0	57.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)				7.0	7.0	7.0
Flash Dont Walk (s)				11.0	22.0	22.0
Pedestrian Calls (#/hr)				0	0	0
Act Effct Green (s)	31.0	112.8	77.8		11.2	11.2
Actuated g/C Ratio	0.23	0.85	0.59		0.08	0.08
v/c Ratio	0.75	0.45	0.55		0.43	0.60
Control Delay	44.6	3.0	6.7		69.0	24.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	44.6	3.0	6.7		69.0	24.9
LOS	D	A	A		E	C
Approach Delay			8.7	6.7	36.6	
Approach LOS			A	A	D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 53 (40%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 9.6
 Intersection Capacity Utilization 58.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

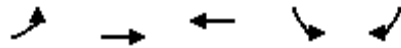
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/23/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	310	1958	1643	65	180
v/c Ratio	0.75	0.45	0.55	0.43	0.60
Control Delay	44.6	3.0	6.7	69.0	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	3.0	6.7	69.0	24.9
Queue Length 50th (ft)	212	145	121	53	0
Queue Length 95th (ft)	m248	m155	171	108	99
Internal Link Dist (ft)		1323	2990	2539	
Turn Bay Length (ft)	150				
Base Capacity (vph)	415	4344	2973	402	498
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.45	0.55	0.16	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/23/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	366	1585	57	52	1356	511	227	917	62	54	113	252
Future Volume (vph)	366	1585	57	52	1356	511	227	917	62	54	113	252
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		300
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.896	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4556	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4556	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			277			149		274	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3070			687			398			2905	
Travel Time (s)		52.3			11.7			9.0			66.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	398	1723	62	57	1474	555	247	997	67	59	123	274
Shared Lane Traffic (%)												
Lane Group Flow (vph)	398	1723	62	57	1474	555	247	997	67	59	397	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	50.0	50.0	20.0	45.0	45.0	20.0	42.0	42.0	20.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/23/2023

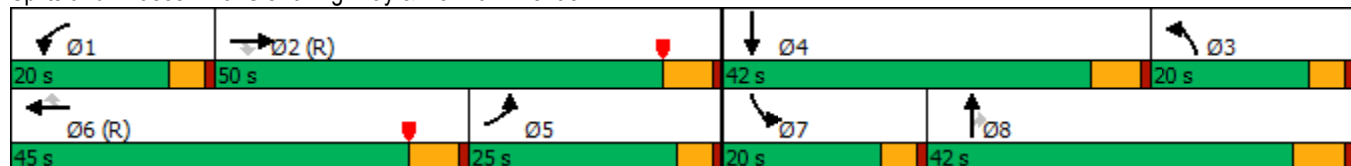


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	37.9%	37.9%	15.2%	34.1%	34.1%	15.2%	31.8%	31.8%	15.2%	31.8%	
Maximum Green (s)	20.5	44.0	44.0	15.5	39.0	39.0	15.5	36.0	36.0	15.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	59.3	59.3	8.1	44.3	44.3	39.4	42.5	40.5	10.3	11.3	
Actuated g/C Ratio	0.16	0.45	0.45	0.06	0.34	0.34	0.30	0.32	0.31	0.08	0.09	
v/c Ratio	0.73	0.75	0.08	0.27	0.86	0.78	0.24	0.88	0.11	0.43	0.62	
Control Delay	60.8	34.6	0.9	61.9	48.1	28.5	35.4	52.1	0.4	58.1	23.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.8	34.6	0.9	61.9	48.1	28.5	35.4	52.1	0.4	58.1	23.7	
LOS	E	C	A	E	D	C	D	D	A	E	C	
Approach Delay		38.4			43.3			46.3			28.1	
Approach LOS		D			D			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 41.0
 Intersection LOS: D
 Intersection Capacity Utilization 78.7%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	398	1723	62	57	1474	555	247	997	67	59	397
v/c Ratio	0.73	0.75	0.08	0.27	0.86	0.78	0.24	0.88	0.11	0.43	0.62
Control Delay	60.8	34.6	0.9	61.9	48.1	28.5	35.4	52.1	0.4	58.1	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.8	34.6	0.9	61.9	48.1	28.5	35.4	52.1	0.4	58.1	23.7
Queue Length 50th (ft)	177	529	0	24	449	235	79	417	0	49	55
Queue Length 95th (ft)	241	623	7	47	#543	399	119	#566	0	80	55
Internal Link Dist (ft)	2990				607		318				2825
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	2283	792	416	1708	715	1024	1139	588	214	1506
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.75	0.08	0.14	0.86	0.78	0.24	0.88	0.11	0.28	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Volume (vph)	0	539	894	29	1664	0	0	0	0	5	0	312
Future Volume (vph)	0	539	894	29	1664	0	0	0	0	5	0	312
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.932	0.850									0.850
Fl _t Protected				0.950							0.950	
Satd. Flow (prot)	0	3160	1441	1770	3539	0	0	0	0	0	1770	1583
Fl _t Permitted				0.950							0.950	
Satd. Flow (perm)	0	3160	1441	1770	3539	0	0	0	0	0	1770	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		687			492			504			602	
Travel Time (s)		11.7			8.4			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	586	972	32	1809	0	0	0	0	5	0	339
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1072	486	32	1809	0	0	0	0	0	5	339
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	75.3%
ICU Level of Service	D
Analysis Period (min)	15

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/23/2023

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	539	894	29	1664	0	0	0	0	5	0	312
Future Vol, veh/h	0	539	894	29	1664	0	0	0	0	5	0	312
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082488832	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	586	972	32	1809	0	0	0	0	5	0	339

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	586	0	0	2166	2459	-
Stage 1	-	-	-	-	-	-	1873	1873	-
Stage 2	-	-	-	-	-	-	293	586	-
Critical Hdwy	-	-	-	4.14	-	-	6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-	3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	985	-	0	40	30	0
Stage 1	0	-	-	-	-	0	107	120	0
Stage 2	0	-	-	-	-	0	731	495	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	985	-	-	39	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	39	0	-
Stage 1	-	-	-	-	-	-	107	0	-
Stage 2	-	-	-	-	-	-	708	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	111.7
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	985	-	39	-
HCM Lane V/C Ratio	-	-	0.032	-	0.139	-
HCM Control Delay (s)	-	-	8.8	-	111.7	0
HCM Lane LOS	-	-	A	-	F	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.4	-

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/23/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	1040	0	0	111	0	644
Future Volume (vph)	1040	0	0	111	0	644
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr _t						0.865
Fl _t Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Fl _t Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	492			551	676	
Travel Time (s)	8.4			9.4	15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1130	0	0	121	0	700
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1130	0	0	121	0	700
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	75.3% ICU Level of Service D
Analysis Period (min)	15

HCM 6th TWSC
 11: SR 14 Northbound Ramp & Newhall Avenue

01/23/2023

Intersection						
Int Delay, s/veh	91.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	1040	0	0	111	0	644
Future Vol, veh/h	1040	0	0	111	0	644
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1130	0	0	121	0	700

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-




















Approach	EB	WB	NB
HCM Control Delay, s	0	0	255.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	469	-	-
HCM Lane V/C Ratio	1.493	-	-
HCM Control Delay (s)	255.5	-	-
HCM Lane LOS	F	-	-
HCM 95th %tile Q(veh)	36.1	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	986	0	0	859	399	543	0	614	0	0	0
Future Volume (vph)	169	986	0	0	859	399	543	0	614	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.952				0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1770	3539	0	0	4841	0	1681	1681	1583	0	0	0
Flt Permitted	0.950						0.950	0.950				
Satd. Flow (perm)	1770	3539	0	0	4841	0	1681	1681	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					128				73			
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		1093			1835			601			382	
Travel Time (s)		18.6			31.3			13.7			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	184	1072	0	0	934	434	590	0	667	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	184	1072	0	0	1368	0	295	295	667	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023

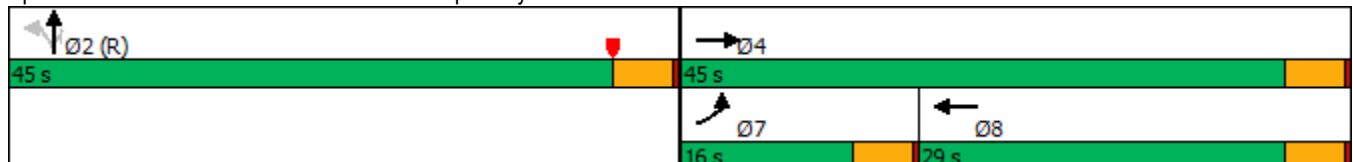


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			10.0		10.0	10.0	10.0			
Minimum Split (s)	14.5	22.5			22.5		32.5	32.5	32.5			
Total Split (s)	16.0	45.0			29.0		45.0	45.0	45.0			
Total Split (%)	17.8%	50.0%			32.2%		50.0%	50.0%	50.0%			
Maximum Green (s)	11.5	40.5			24.5		40.5	40.5	40.5			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	0.5	0.5			0.5		0.5	0.5	0.5			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	4.5			4.5		4.5	4.5	4.5			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	11.3	40.5			24.7		40.5	40.5	40.5			
Actuated g/C Ratio	0.13	0.45			0.27		0.45	0.45	0.45			
v/c Ratio	0.83	0.67			0.96		0.39	0.39	0.89			
Control Delay	69.2	22.2			46.4		18.5	18.5	36.1			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	69.2	22.2			46.4		18.5	18.5	36.1			
LOS	E	C			D		B	B	D			
Approach Delay		29.1			46.4			27.8				
Approach LOS		C			D			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 34.8
 Intersection LOS: C
 Intersection Capacity Utilization 72.8%
 ICU Level of Service C
 Analysis Period (min) 15

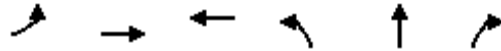
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/23/2023

































Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	184	1072	1368	295	295	667
v/c Ratio	0.83	0.67	0.96	0.39	0.39	0.89
Control Delay	69.2	22.2	46.4	18.5	18.5	36.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2	22.2	46.4	18.5	18.5	36.1
Queue Length 50th (ft)	103	244	258	113	113	305
Queue Length 95th (ft)	#215	315	#362	182	182	#534
Internal Link Dist (ft)		1013	1755		521	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	226	1592	1423	756	756	752
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.67	0.96	0.39	0.39	0.89

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			  			 		 	 	
Traffic Volume (vph)	407	969	130	181	792	98	122	448	239	186	390	271
Future Volume (vph)	407	969	130	181	792	98	122	448	239	186	390	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.983				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4999	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4999	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			110		17				260			144
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1835			5346			887				1679
Travel Time (s)		31.3			91.1			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	442	1053	141	197	861	107	133	487	260	202	424	295
Shared Lane Traffic (%)												
Lane Group Flow (vph)	442	1053	141	197	968	0	133	487	260	202	424	295
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/23/2023

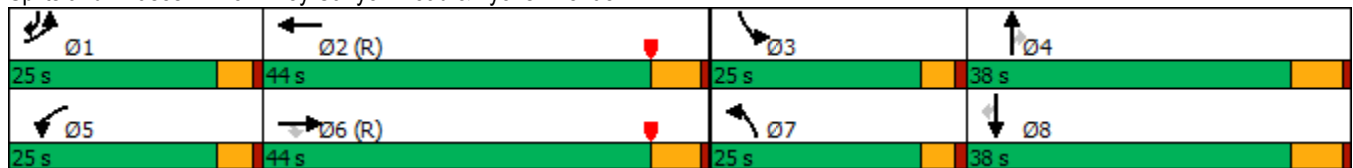


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	25.0	44.0	44.0	25.0	44.0		25.0	38.0	38.0	25.0	38.0	25.0
Total Split (%)	18.9%	33.3%	33.3%	18.9%	33.3%		18.9%	28.8%	28.8%	18.9%	28.8%	18.9%
Maximum Green (s)	20.5	38.0	38.0	20.5	38.0		20.5	32.0	32.0	20.5	32.0	20.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	22.6	48.8	48.8	20.3	46.5		16.1	27.5	27.5	19.5	30.9	57.4
Actuated g/C Ratio	0.17	0.37	0.37	0.15	0.35		0.12	0.21	0.21	0.15	0.23	0.43
v/c Ratio	0.81	0.86	0.23	0.78	0.55		0.66	0.71	0.51	0.83	0.53	0.38
Control Delay	64.7	48.4	10.6	84.6	22.7		70.6	54.1	8.3	81.5	46.5	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.7	48.4	10.6	84.6	22.7		70.6	54.1	8.3	81.5	46.5	13.3
LOS	E	D	B	F	C		E	D	A	F	D	B
Approach Delay		49.5			33.2			43.1			43.6	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 43.0
 Intersection LOS: D
 Intersection Capacity Utilization 72.8%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	442	1053	141	197	968	133	487	260	202	424	295
v/c Ratio	0.81	0.86	0.23	0.78	0.55	0.66	0.71	0.51	0.83	0.53	0.38
Control Delay	64.7	48.4	10.6	84.6	22.7	70.6	54.1	8.3	81.5	46.5	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.7	48.4	10.6	84.6	22.7	70.6	54.1	8.3	81.5	46.5	13.3
Queue Length 50th (ft)	184	454	18	122	302	110	205	0	168	166	76
Queue Length 95th (ft)	#279	#653	71	#264	212	174	251	69	#286	216	151
Internal Link Dist (ft)		1755			5266		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	557	1220	615	274	1770	262	850	573	262	881	774
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.86	0.23	0.72	0.55	0.51	0.57	0.45	0.77	0.48	0.38






























Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 		 		
Traffic Volume (vph)	286	1028	117	110	975	331	104	163	84	389	161	214
Future Volume (vph)	286	1028	117	110	975	331	104	163	84	389	161	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			217			112			233
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5346			2329			465				345
Travel Time (s)		104.1			45.4			9.1				5.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	311	1117	127	120	1060	360	113	177	91	423	175	233
Shared Lane Traffic (%)												
Lane Group Flow (vph)	311	1117	127	120	1060	360	113	177	91	423	175	233
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023

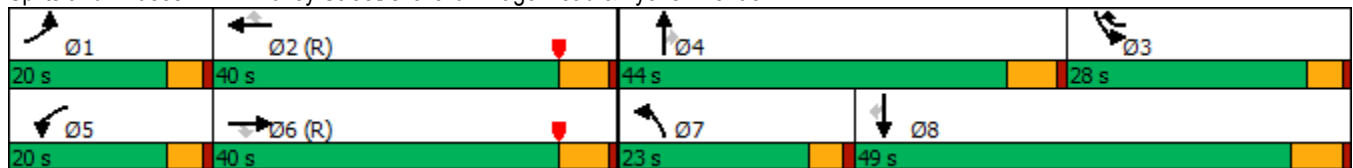


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	18.8	63.5	63.5	15.3	60.0	83.0	14.5	14.2	14.2	23.0	22.7	22.7
Actuated g/C Ratio	0.14	0.48	0.48	0.12	0.45	0.63	0.11	0.11	0.11	0.17	0.17	0.17
v/c Ratio	0.68	0.70	0.16	0.63	0.60	0.31	0.62	0.48	0.37	0.71	0.57	0.51
Control Delay	40.6	43.5	13.3	62.0	40.4	8.6	70.5	59.5	9.6	57.7	57.1	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	43.5	13.3	62.0	40.4	8.6	70.5	59.5	9.6	57.7	57.1	9.6
LOS	D	D	B	E	D	A	E	E	A	E	E	A
Approach Delay		40.5			34.6			50.8			44.1	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 2 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 40.0
 Intersection LOS: D
 Intersection Capacity Utilization 64.0%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	311	1117	127	120	1060	360	113	177	91	423	175	233
v/c Ratio	0.68	0.70	0.16	0.63	0.60	0.31	0.62	0.48	0.37	0.71	0.57	0.51
Control Delay	40.6	43.5	13.3	62.0	40.4	8.6	70.5	59.5	9.6	57.7	57.1	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	43.5	13.3	62.0	40.4	8.6	70.5	59.5	9.6	57.7	57.1	9.6
Queue Length 50th (ft)	120	518	38	82	481	122	94	76	0	178	140	0
Queue Length 95th (ft)	m163	#635	m64	m123	569	m181	154	112	34	221	207	70
Internal Link Dist (ft)		5266			2249			385			265	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	464	1588	813	216	1768	1202	237	1036	493	660	613	675
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.70	0.16	0.56	0.60	0.30	0.48	0.17	0.18	0.64	0.29	0.35

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	680	656	44	658	23	414	101	45	19	109	107
Future Volume (vph)	104	680	656	44	658	23	414	101	45	19	109	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1612	3539	1468	1639	3539	1356	3114	1863	1471	1670	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			498			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2329			1347			528				401
Travel Time (s)		45.4			26.2			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	739	713	48	715	25	450	110	49	21	118	116
Shared Lane Traffic (%)												
Lane Group Flow (vph)	113	739	713	48	715	25	450	110	49	21	118	116
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22			22	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings

15: Newhall Avenue & Lyons Avenue

01/23/2023

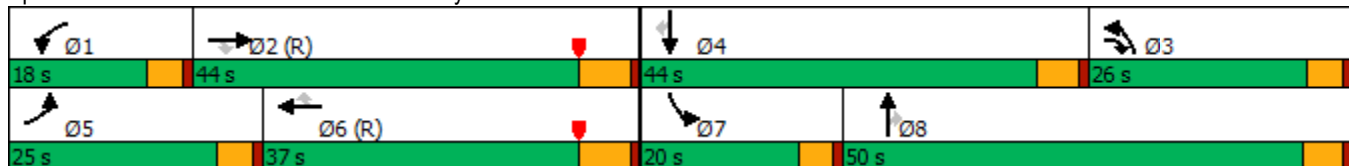


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	25.0	44.0	26.0	18.0	37.0	37.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	18.9%	33.3%	19.7%	13.6%	28.0%	28.0%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	20.5	38.0	21.5	13.5	31.0	31.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		32.0	32.0		32.0	32.0
Pedestrian Calls (#/hr)		27			27	27		43	43		43	43
Act Effct Green (s)	14.8	52.9	74.4	9.7	45.8	45.8	21.5	51.8	51.8	7.7	33.9	33.9
Actuated g/C Ratio	0.11	0.40	0.56	0.07	0.35	0.35	0.16	0.39	0.39	0.06	0.26	0.26
v/c Ratio	0.61	0.52	0.68	0.40	0.58	0.04	0.83	0.15	0.07	0.21	0.26	0.25
Control Delay	73.6	24.0	12.2	68.2	43.4	0.2	67.8	25.7	0.2	63.5	38.0	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.6	24.0	12.2	68.2	43.4	0.2	67.8	25.7	0.2	63.5	38.0	4.4
LOS	E	C	B	E	D	A	E	C	A	E	D	A
Approach Delay		22.2			43.5			54.8			24.8	
Approach LOS		C			D			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 47 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 33.8
 Intersection LOS: C
 Intersection Capacity Utilization 81.1%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	113	739	713	48	715	25	450	110	49	21	118	116
v/c Ratio	0.61	0.52	0.68	0.40	0.58	0.04	0.83	0.15	0.07	0.21	0.26	0.25
Control Delay	73.6	24.0	12.2	68.2	43.4	0.2	67.8	25.7	0.2	63.5	38.0	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.6	24.0	12.2	68.2	43.4	0.2	67.8	25.7	0.2	63.5	38.0	4.4
Queue Length 50th (ft)	81	312	377	41	296	0	193	58	0	18	75	0
Queue Length 95th (ft)	m130	259	520	86	407	1	#268	102	0	45	127	30
Internal Link Dist (ft)		2249			1267			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	262	1418	1058	175	1228	581	553	768	686	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.52	0.67	0.27	0.58	0.04	0.81	0.14	0.07	0.10	0.22	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	104	370	8	135	0	319	30	9	0	39	163
Future Volume (vph)	125	104	370	8	135	0	319	30	9	0	39	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.883						0.965				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1770	1645	0	1770	1863	0	1770	1798	0	0	1863	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	1770	1645	0	1770	1863	0	1770	1798	0	0	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		149						10				177
Link Speed (mph)		45			30			45				30
Link Distance (ft)		628			467			423				391
Travel Time (s)		9.5			10.6			6.4				8.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	113	402	9	147	0	347	33	10	0	42	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	515	0	9	147	0	347	43	0	0	42	177
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2			2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100		20	100		20	100			100	20
Trailing Detector (ft)	0	0		0	0		0	0			0	0
Detector 1 Position(ft)	0	0		0	0		0	0			0	0
Detector 1 Size(ft)	20	6		20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/23/2023

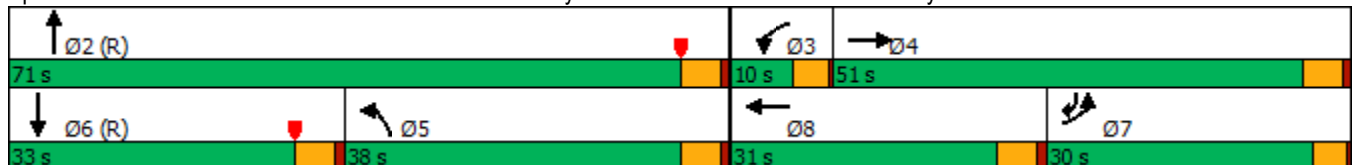


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	15.0		8.0	23.0		14.0	21.0			30.0	8.0
Total Split (s)	30.0	51.0		10.0	31.0		38.0	71.0			33.0	30.0
Total Split (%)	22.7%	38.6%		7.6%	23.5%		28.8%	53.8%			25.0%	22.7%
Maximum Green (s)	26.0	46.0		6.0	26.0		33.0	66.0			28.0	26.0
Yellow Time (s)	3.5	4.0		3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0		0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None		None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			5.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	19.1	36.8		5.8	15.7		33.0	83.2			45.2	19.1
Actuated g/C Ratio	0.14	0.28		0.04	0.12		0.25	0.63			0.34	0.14
v/c Ratio	0.53	0.91		0.12	0.67		0.79	0.04			0.07	0.47
Control Delay	58.7	55.2		63.9	69.6		60.0	10.7			35.3	10.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	58.7	55.2		63.9	69.6		60.0	10.7			35.3	10.2
LOS	E	E		E	E		E	B			D	B
Approach Delay		55.9			69.3			54.5			15.0	
Approach LOS		E			E			D			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 50.7 Intersection LOS: D
 Intersection Capacity Utilization 67.6% ICU Level of Service C
 Analysis Period (min) 15

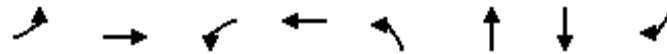
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/23/2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	136	515	9	147	347	43	42	177
v/c Ratio	0.53	0.91	0.12	0.67	0.79	0.04	0.07	0.47
Control Delay	58.7	55.2	63.9	69.6	60.0	10.7	35.3	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.7	55.2	63.9	69.6	60.0	10.7	35.3	10.2
Queue Length 50th (ft)	104	296	8	122	279	10	24	0
Queue Length 95th (ft)	m86	m174	27	187	#418	34	63	60
Internal Link Dist (ft)		548		387		343	311	
Turn Bay Length (ft)	150				100			
Base Capacity (vph)	361	670	80	366	442	1136	638	463
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.77	0.11	0.40	0.79	0.04	0.07	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Placerita Canyon Road/Arch Street & 12th Street

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	10	5	5	44	5	125	5	158	35	128	168	5
Future Volume (vph)	10	5	5	44	5	125	5	158	35	128	168	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	250		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.968			0.903			0.976			0.998	
Flt Protected		0.974			0.987			0.999			0.979	
Satd. Flow (prot)	0	1756	0	0	1660	0	0	1816	0	0	1820	0
Flt Permitted		0.974			0.987			0.999			0.979	
Satd. Flow (perm)	0	1756	0	0	1660	0	0	1816	0	0	1820	0
Link Speed (mph)		25			25			35			25	
Link Distance (ft)		391			842			1231			423	
Travel Time (s)		10.7			23.0			24.0			11.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	5	5	48	5	136	5	172	38	139	183	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	189	0	0	215	0	0	327	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.0%
ICU Level of Service	A
Analysis Period (min)	15

HCM 6th TWSC
 17: Placerita Canyon Road/Arch Street & 12th Street

01/23/2023

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↗			↕			↕	
Traffic Vol, veh/h	10	5	5	44	5	125	5	158	35	128	168	5
Future Vol, veh/h	10	5	5	44	5	125	5	158	35	128	168	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	5	5	48	5	136	5	172	38	139	183	5




















Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	736	684	186	670	667	191	188	0	0	210	0	0
Stage 1	464	464	-	201	201	-	-	-	-	-	-	-
Stage 2	272	220	-	469	466	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	335	371	856	371	380	851	1386	-	-	1361	-	-
Stage 1	578	564	-	801	735	-	-	-	-	-	-	-
Stage 2	734	721	-	575	562	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	253	327	856	331	335	851	1386	-	-	1361	-	-
Mov Cap-2 Maneuver	253	327	-	331	335	-	-	-	-	-	-	-
Stage 1	576	500	-	798	732	-	-	-	-	-	-	-
Stage 2	610	718	-	501	498	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.7	10.4	0.2	3.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1386	-	-	330	803	1361	-	-
HCM Lane V/C Ratio	0.004	-	-	0.066	0.176	0.102	-	-
HCM Control Delay (s)	7.6	0	-	16.7	10.4	7.9	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.6	0.3	-	-

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	8	11	216	9	3	11	8	184	0	6	1
Future Volume (vph)	2	8	11	216	9	3	11	8	184	0	6	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.914			0.965			0.878			0.983	
Flt Protected	0.950			0.950				0.997				
Satd. Flow (prot)	1770	1703	0	1770	1798	0	0	1631	0	0	1831	0
Flt Permitted	0.950			0.950				0.997				
Satd. Flow (perm)	1770	1703	0	1770	1798	0	0	1631	0	0	1831	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		298			3919			2619			300	
Travel Time (s)		6.8			89.1			59.5			6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	9	12	235	10	3	12	9	200	0	7	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	21	0	235	13	0	0	221	0	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	44.4%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	8.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Traffic Vol, veh/h	2	8	11	216	9	3	11	8	184	0	6	1
Future Vol, veh/h	2	8	11	216	9	3	11	8	184	0	6	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	9	12	235	10	3	12	9	200	0	7	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	13	0	0	21	0	0	505	502	15	606	507	12
Stage 1	-	-	-	-	-	-	19	19	-	482	482	-
Stage 2	-	-	-	-	-	-	486	483	-	124	25	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1606	-	-	1595	-	-	478	471	1065	409	468	1069
Stage 1	-	-	-	-	-	-	1000	880	-	565	553	-
Stage 2	-	-	-	-	-	-	563	553	-	880	874	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1606	-	-	1595	-	-	418	401	1065	290	399	1069
Mov Cap-2 Maneuver	-	-	-	-	-	-	418	401	-	290	399	-
Stage 1	-	-	-	-	-	-	999	879	-	564	472	-
Stage 2	-	-	-	-	-	-	473	472	-	707	873	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			7.2			10.1			13.4		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	927	1606	-	-	1595	-	-	438
HCM Lane V/C Ratio	0.238	0.001	-	-	0.147	-	-	0.017
HCM Control Delay (s)	10.1	7.2	-	-	7.6	-	-	13.4
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.9	0	-	-	0.5	-	-	0.1

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	118	46	65	1265	502	183
Future Volume (vph)	118	46	65	1265	502	183
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			0
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.994	0.850				0.850
Flt Protected	0.954		0.950			
Satd. Flow (prot)	3427	1441	1770	3539	3539	1583
Flt Permitted	0.954		0.950			
Satd. Flow (perm)	3427	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	3	45				199
Link Speed (mph)	30			50	50	
Link Distance (ft)	3919			2905	621	
Travel Time (s)	89.1			39.6	8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	128	50	71	1375	546	199
Shared Lane Traffic (%)		10%				
Lane Group Flow (vph)	133	45	71	1375	546	199
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/23/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	15.0	21.0	30.0	30.0
Total Split (s)	36.0	36.0	22.0	96.0	74.0	74.0
Total Split (%)	27.3%	27.3%	16.7%	72.7%	56.1%	56.1%
Maximum Green (s)	31.0	31.0	17.0	91.0	69.0	69.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	11.1	11.1	11.5	110.9	97.4	97.4
Actuated g/C Ratio	0.08	0.08	0.09	0.84	0.74	0.74
v/c Ratio	0.46	0.28	0.46	0.46	0.21	0.16
Control Delay	61.4	19.7	61.0	1.6	5.9	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	19.7	61.0	1.6	5.9	1.0
LOS	E	B	E	A	A	A
Approach Delay	50.9			4.5	4.6	
Approach LOS	D			A	A	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.46
 Intersection Signal Delay: 8.0
 Intersection LOS: A
 Intersection Capacity Utilization 51.6%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/23/2023



























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	133	45	71	1375	546	199
v/c Ratio	0.46	0.28	0.46	0.46	0.21	0.16
Control Delay	61.4	19.7	61.0	1.6	5.9	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	19.7	61.0	1.6	5.9	1.0
Queue Length 50th (ft)	55	0	61	64	65	0
Queue Length 95th (ft)	88	42	m74	85	104	19
Internal Link Dist (ft)	3839			2825	541	
Turn Bay Length (ft)	200	200	350			
Base Capacity (vph)	807	372	227	2974	2611	1220
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.12	0.31	0.46	0.21	0.16

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/23/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	45	13	41	36	175	16	1262	149	41	381	54
Future Volume (vph)	60	45	13	41	36	175	16	1262	149	41	381	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.730			0.723			0.950			0.950		
Satd. Flow (perm)	1360	3539	1583	1347	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			58			165			97			59
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		816			677			2247			787	
Travel Time (s)		12.4			10.3			30.6			10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	49	14	45	39	190	17	1372	162	45	414	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	49	14	45	39	190	17	1372	162	45	414	59
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8		6				2

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/23/2023

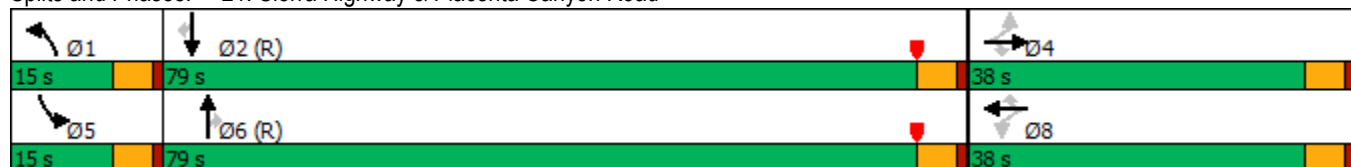


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	20.0	20.0	20.0	37.0	37.0	37.0	15.0	20.0	20.0	15.0	39.0	39.0
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	15.0	79.0	79.0	15.0	79.0	79.0
Total Split (%)	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	11.4%	59.8%	59.8%	11.4%	59.8%	59.8%
Maximum Green (s)	33.0	33.0	33.0	33.0	33.0	33.0	10.0	74.0	74.0	10.0	74.0	74.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	12.5	12.5	12.5	12.5	12.5	12.5	10.0	97.1	97.1	10.4	103.5	103.5
Actuated g/C Ratio	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.74	0.74	0.08	0.78	0.78
v/c Ratio	0.51	0.15	0.07	0.35	0.12	0.64	0.13	0.53	0.14	0.32	0.15	0.05
Control Delay	69.9	54.6	0.7	62.9	54.1	21.8	55.7	15.5	6.3	63.8	4.6	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.9	54.6	0.7	62.9	54.1	21.8	55.7	15.5	6.3	63.8	4.6	1.7
LOS	E	D	A	E	D	C	E	B	A	E	A	A
Approach Delay		56.5			33.1			15.0			9.4	
Approach LOS		E			C			B			A	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 18.0
 Intersection LOS: B
 Intersection Capacity Utilization 66.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/23/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	65	49	14	45	39	190	17	1372	162	45	414	59
v/c Ratio	0.51	0.15	0.07	0.35	0.12	0.64	0.13	0.53	0.14	0.32	0.15	0.05
Control Delay	69.9	54.6	0.7	62.9	54.1	21.8	55.7	15.5	6.3	63.8	4.6	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.9	54.6	0.7	62.9	54.1	21.8	55.7	15.5	6.3	63.8	4.6	1.7
Queue Length 50th (ft)	54	20	0	37	16	20	13	388	42	37	26	0
Queue Length 95th (ft)	101	40	0	76	34	94	m29	527	81	78	82	14
Internal Link Dist (ft)		736			597			2167			707	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	340	884	439	336	884	519	134	2603	1190	139	2775	1254
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.06	0.03	0.13	0.04	0.37	0.13	0.53	0.14	0.32	0.15	0.05

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/23/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↖	↑↑		↘	↓↓
Traffic Volume (vph)	0	10	1102	127	391	466
Future Volume (vph)	0	10	1102	127	391	466
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.865	0.985			
Flt Protected					0.950	
Satd. Flow (prot)	0	1611	3486	0	1770	3539
Flt Permitted					0.950	
Satd. Flow (perm)	0	1611	3486	0	1770	3539
Link Speed (mph)	30		50			50
Link Distance (ft)	615		787			1009
Travel Time (s)	14.0		10.7			13.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	11	1198	138	425	507
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	11	1336	0	425	507
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	62.8%
ICU Level of Service	B
Analysis Period (min)	15

HCM 6th TWSC
 22: Sierra Highway & SR 14 Southbound Ramps

01/23/2023

Intersection						
Int Delay, s/veh	7.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕		↖	↕
Traffic Vol, veh/h	0	10	1102	127	391	466
Future Vol, veh/h	0	10	1102	127	391	466
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	160	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	1198	138	425	507

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	668	0	0	1336
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22
Pot Cap-1 Maneuver	0	401	-	-	512
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	401	-	-	512
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

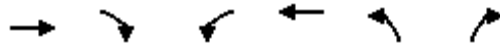
Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	17.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	401	512
HCM Lane V/C Ratio	-	-	0.027	0.83
HCM Control Delay (s)	-	-	14.2	37.7
HCM Lane LOS	-	-	B	E
HCM 95th %tile Q(veh)	-	-	0.1	8.3

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/23/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	82	0	0	160	144	88
Future Volume (vph)	82	0	0	160	144	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	677			645	774	
Travel Time (s)	10.3			9.8	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	0	0	174	157	96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	0	0	174	157	96
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	19.1%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	4.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	82	0	0	160	144	88
Future Vol, veh/h	82	0	0	160	144	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	0	0	174	157	96

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	176 45
Stage 1	-	-	-	-	89 -
Stage 2	-	-	-	-	87 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	797 1015
Stage 1	-	0	0	-	924 -
Stage 2	-	0	0	-	926 -
Platoon blocked, %	-				-
Mov Cap-1 Maneuver	-	-	-	-	797 1015
Mov Cap-2 Maneuver	-	-	-	-	797 -
Stage 1	-	-	-	-	924 -
Stage 2	-	-	-	-	926 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	797	1015	-	-
HCM Lane V/C Ratio	0.196	0.094	-	-
HCM Control Delay (s)	10.6	8.9	-	-
HCM Lane LOS	B	A	-	-
HCM 95th %tile Q(veh)	0.7	0.3	-	-

***Future without Project
without DDEP Conditions***

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	880	250	670	1840	70	450	620	170	210	2530	450
Future Volume (vph)	140	880	250	670	1840	70	450	620	170	210	2530	450
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	0		230
Storage Lanes	3		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			136			186			112
Link Speed (mph)		45		45			45			45		45
Link Distance (ft)		870		745			2037			1105		
Travel Time (s)		13.2		11.3			30.9			16.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	957	272	728	2000	76	489	674	185	228	2750	489
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	957	272	728	2000	76	489	674	185	228	2750	489
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36		36			24			24		
Link Offset(ft)		0		0			0			0		
Crosswalk Width(ft)		16		16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	21.0	36.0	22.0	21.0	36.0	36.0	22.0	45.0	45.0	30.0	53.0	21.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

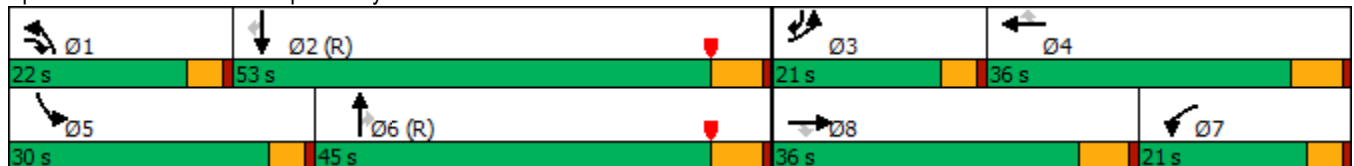


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	15.9%	27.3%	16.7%	15.9%	27.3%	27.3%	16.7%	34.1%	34.1%	22.7%	40.2%	15.9%
Maximum Green (s)	16.5	30.0	17.5	16.5	30.0	30.0	17.5	39.0	39.0	25.5	47.0	16.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	7.9	29.2	47.2	19.8	41.1	41.1	18.0	54.3	54.3	12.7	49.0	60.9
Actuated g/C Ratio	0.06	0.22	0.36	0.15	0.31	0.31	0.14	0.41	0.41	0.10	0.37	0.46
v/c Ratio	0.51	0.67	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.16	0.62
Control Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.7	39.9	17.0	68.7	113.6	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.7	39.9	17.0	68.7	113.6	23.8
LOS	E	D	B	F	E	A	F	D	B	E	F	C
Approach Delay		43.9			109.4			57.0			98.0	
Approach LOS		D			F			E			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 105 (80%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.42
 Intersection Signal Delay: 87.1
 Intersection LOS: F
 Intersection Capacity Utilization 94.7%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	957	272	728	2000	76	489	674	185	228	2750	489
v/c Ratio	0.51	0.67	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.16	0.62
Control Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.7	39.9	17.0	68.7	113.6	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.7	39.9	17.0	68.7	113.6	23.8
Queue Length 50th (ft)	45	218	63	~438	~500	0	~234	156	45	98	~806	240
Queue Length 95th (ft)	69	252	115	#589	#621	0	#331	188	119	139	#874	348
Internal Link Dist (ft)		790			665			1957			1025	
Turn Bay Length (ft)	270		265	280		340	300					230
Base Capacity (vph)	642	1553	638	513	1993	586	468	2636	760	676	2378	892
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.62	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.34	1.16	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	350	910	40	570	1030	290	20	560	280	450	1790	1550
Future Volume (vph)	350	910	40	570	1030	290	20	560	280	450	1790	1550
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		225	450		400
Storage Lanes	3		0	3		1	1		1	1		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5055	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5055	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				99			112			476
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			888			2037	
Travel Time (s)		32.4			35.4			13.5			30.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	380	989	43	620	1120	315	22	609	304	489	1946	1685
Shared Lane Traffic (%)												
Lane Group Flow (vph)	380	1032	0	620	1120	315	22	609	304	489	1946	1685
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	26.0	39.0		31.0	44.0	20.0	19.0	42.0	31.0	20.0	43.0	26.0

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

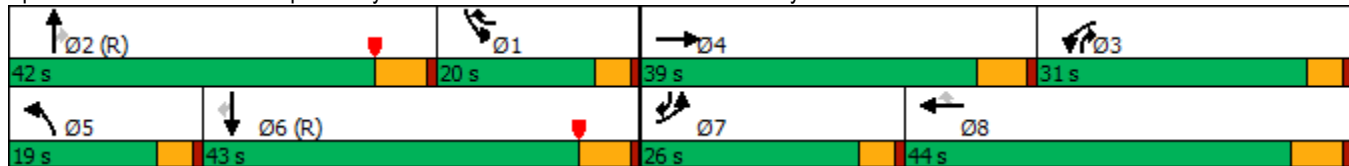


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	19.7%	29.5%		23.5%	33.3%	15.2%	14.4%	31.8%	23.5%	15.2%	32.6%	19.7%
Maximum Green (s)	21.5	33.0		26.5	38.0	15.5	14.5	36.0	26.5	15.5	37.0	21.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	22.0	33.5		25.5	37.0	53.0	7.7	41.0	70.5	16.0	53.4	79.4
Actuated g/C Ratio	0.17	0.25		0.19	0.28	0.40	0.06	0.31	0.53	0.12	0.40	0.60
v/c Ratio	0.46	0.80		0.64	0.79	0.45	0.21	0.39	0.34	1.18	0.95	0.90
Control Delay	51.6	51.3		52.3	48.1	12.1	51.9	31.2	5.3	115.6	21.9	17.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.6	51.3		52.3	48.1	12.1	51.9	31.2	5.3	115.6	21.9	17.2
LOS	D	D		D	D	B	D	C	A	F	C	B
Approach Delay		51.4			43.8			23.3			31.1	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.18
 Intersection Signal Delay: 36.7
 Intersection LOS: D
 Intersection Capacity Utilization 87.5%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	380	1032	620	1120	315	22	609	304	489	1946	1685
v/c Ratio	0.46	0.80	0.64	0.79	0.45	0.21	0.39	0.34	1.18	0.95	0.90
Control Delay	51.6	51.3	52.3	48.1	12.1	51.9	31.2	5.3	115.6	21.9	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.6	51.3	52.3	48.1	12.1	51.9	31.2	5.3	115.6	21.9	17.2
Queue Length 50th (ft)	105	298	175	320	73	18	179	46	~255	~658	768
Queue Length 95th (ft)	139	353	215	369	116	m33	164	76	m#208	m452	m637
Internal Link Dist (ft)		2060		2257			808			1957	
Turn Bay Length (ft)						250		225	450		400
Base Capacity (vph)	831	1344	1020	1540	695	201	1577	887	416	2056	1865
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.77	0.61	0.73	0.45	0.11	0.39	0.34	1.18	0.95	0.90

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	340	510	1230	1870	540
Future Volume (vph)	140	340	510	1230	1870	540
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		5				477
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4834	2595	
Travel Time (s)	44.4			65.9	39.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	370	554	1337	2033	587
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	370	554	1337	2033	587
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

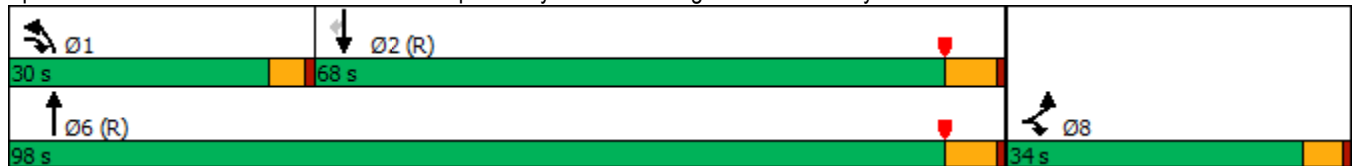


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	30.0	59.0	25.0	94.0	65.0	65.0
Actuated g/C Ratio	0.23	0.45	0.19	0.71	0.49	0.49
v/c Ratio	0.38	0.30	0.85	0.53	1.17	0.57
Control Delay	46.4	23.5	60.4	10.9	105.7	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	23.5	60.4	10.9	105.7	5.0
LOS	D	C	E	B	F	A
Approach Delay	30.2			25.4	83.2	
Approach LOS	C			C	F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 77 (58%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.17
 Intersection Signal Delay: 56.0
 Intersection LOS: E
 Intersection Capacity Utilization 84.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	152	370	554	1337	2033	587
v/c Ratio	0.38	0.30	0.85	0.53	1.17	0.57
Control Delay	46.4	23.5	60.4	10.9	105.7	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	23.5	60.4	10.9	105.7	5.0
Queue Length 50th (ft)	111	109	194	492	~1131	68
Queue Length 95th (ft)	178	150	#310	101	m#1249	m68
Internal Link Dist (ft)	2848			4754	2515	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	402	1269	676	2520	1743	1022
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.29	0.82	0.53	1.17	0.57

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	90	690	1150	60	510	1240
Future Volume (vph)	90	690	1150	60	510	1240
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.881	0.850		0.850		
Flt Protected	0.990				0.950	
Satd. Flow (prot)	3152	1441	3539	1583	3433	3539
Flt Permitted	0.990				0.950	
Satd. Flow (perm)	3152	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	354	354		48		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4834
Travel Time (s)	10.9		27.3			65.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	750	1250	65	554	1348
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	473	375	1250	65	554	1348
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	14.8	14.8	78.1	78.1	27.1	109.2
Actuated g/C Ratio	0.11	0.11	0.59	0.59	0.21	0.83
v/c Ratio	0.71	0.79	0.60	0.07	0.79	0.46
Control Delay	19.7	19.1	22.0	7.3	44.2	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	19.1	22.0	7.3	44.2	6.1
LOS	B	B	C	A	D	A
Approach Delay	19.5		21.3			17.2
Approach LOS	B		C			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 19.0
 Intersection LOS: B
 Intersection Capacity Utilization 66.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023






















Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	473	375	1250	65	554	1348
v/c Ratio	0.71	0.79	0.60	0.07	0.79	0.46
Control Delay	19.7	19.1	22.0	7.3	44.2	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	19.1	22.0	7.3	44.2	6.1
Queue Length 50th (ft)	50	18	454	8	238	261
Queue Length 95th (ft)	95	127	647	m49	m234	m150
Internal Link Dist (ft)	558		1922			4754
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1095	642	2093	956	736	2927
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.58	0.60	0.07	0.75	0.46

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	190	0	150	10	1120	350	160	1550	0
Future Volume (vph)	0	0	0	190	0	150	10	1120	350	160	1550	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	100		100	100		0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor					0.98		1.00		0.94	0.99		
Frt					0.941				0.850			
Flt Protected					0.973		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1615	0	1770	3539	1583	1770	3539	0
Flt Permitted					0.973		0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1608	0	1761	3539	1489	1749	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					112				278			
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		183			612			1314			3196	
Travel Time (s)		5.0			11.9			19.9			48.4	
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	207	0	163	11	1217	380	174	1685	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	370	0	11	1217	380	174	1685	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)				50	50		50	50	50	50	50	
Trailing Detector (ft)				0	0		0	0	0	0	0	
Detector 1 Position(ft)				0	0		0	0	0	0	0	
Detector 1 Size(ft)				50	50		50	50	50	50	50	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type				custom	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases				7	7		1	6	7	5	2	
Permitted Phases				7					6			
Detector Phase				7	7		1	6	7	5	2	
Switch Phase												

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/24/2023

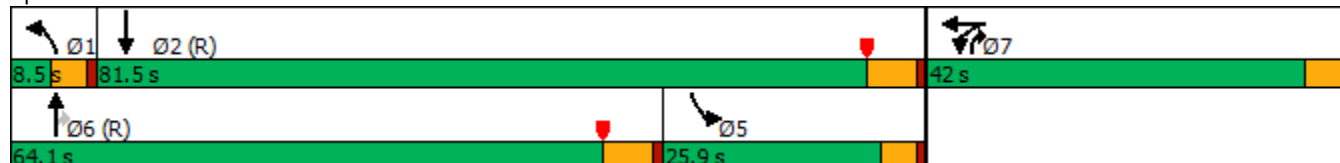


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)				4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)				36.0	36.0		8.5	25.0	36.0	8.5	25.0	
Total Split (s)				42.0	42.0		8.5	64.1	42.0	25.9	81.5	
Total Split (%)				31.8%	31.8%		6.4%	48.6%	31.8%	19.6%	61.7%	
Maximum Green (s)				37.0	37.0		4.0	58.1	37.0	21.4	75.5	
Yellow Time (s)				4.0	4.0		3.5	5.0	4.0	3.5	5.0	
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)					-1.0		-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)					4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode				None	None		None	C-Max	None	None	C-Max	
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)				21.0	21.0			11.0	21.0		11.0	
Pedestrian Calls (#/hr)				30	30			17	30		14	
Act Effct Green (s)					29.1		6.2	69.0	98.1	21.9	90.9	
Actuated g/C Ratio					0.22		0.05	0.52	0.74	0.17	0.69	
v/c Ratio					0.84		0.13	0.66	0.32	0.59	0.69	
Control Delay					49.9		58.3	29.4	3.4	65.2	18.2	
Queue Delay					0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay					49.9		58.3	29.4	3.4	65.2	18.2	
LOS					D		E	C	A	E	B	
Approach Delay					49.9			23.5			22.6	
Approach LOS					D			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 25.6
 Intersection LOS: C
 Intersection Capacity Utilization 83.6%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 5: Railroad Avenue & 13th Street



Queues

5: Railroad Avenue & 13th Street

01/24/2023



Lane Group	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	370	11	1217	380	174	1685
v/c Ratio	0.84	0.13	0.66	0.32	0.59	0.69
Control Delay	49.9	58.3	29.4	3.4	65.2	18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	58.3	29.4	3.4	65.2	18.2
Queue Length 50th (ft)	218	8	405	50	153	390
Queue Length 95th (ft)	316	m22	504	78	231	646
Internal Link Dist (ft)	532		1234			3116
Turn Bay Length (ft)		100		100	100	
Base Capacity (vph)	544	82	1850	1232	293	2437
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.13	0.66	0.31	0.59	0.69

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations	↔↔	↗	↔↔	↕↕	↕↕	↗			
Traffic Volume (vph)	260	140	300	1020	1170	340			
Future Volume (vph)	260	140	300	1020	1170	340			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		152				288			
Link Speed (mph)	35			35	45				
Link Distance (ft)	374			1566	1314				
Travel Time (s)	7.3			30.5	19.9				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	283	152	326	1109	1272	370			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	283	152	326	1109	1272	370			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	24			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	52.0	30.0	20.0	30.0	30.0

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023

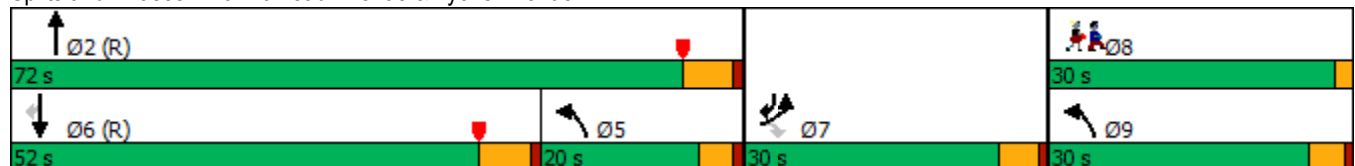


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	39.4%	22.7%	15%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	46.0	25.0	15.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effct Green (s)	18.4	18.4	23.3	92.7	74.3	92.7			
Actuated g/C Ratio	0.14	0.14	0.18	0.70	0.56	0.70			
v/c Ratio	0.59	0.43	0.54	0.45	0.64	0.31			
Control Delay	86.6	47.3	20.6	13.9	37.0	4.4			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	86.6	47.3	20.6	13.9	37.0	4.4			
LOS	F	D	C	B	D	A			
Approach Delay	72.9			15.4	29.7				
Approach LOS	E			B	C				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 103 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 29.2
 Intersection LOS: C
 Intersection Capacity Utilization 58.3%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023

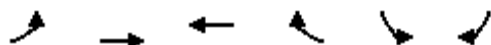


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	283	152	326	1109	1272	370
v/c Ratio	0.59	0.43	0.54	0.45	0.64	0.31
Control Delay	86.6	47.3	20.6	13.9	37.0	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.6	47.3	20.6	13.9	37.0	4.4
Queue Length 50th (ft)	132	96	62	208	395	55
Queue Length 95th (ft)	180	148	79	285	657	101
Internal Link Dist (ft)	294			1486	1234	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	676	433	1092	2486	1992	1272
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.35	0.30	0.45	0.64	0.29

Intersection Summary

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1030	610	1240	1300	0	
Future Volume (vph)	0	1030	610	1240	1300	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.97			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1348			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1645		1196		
Travel Time (s)		6.2	28.0		23.3		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1120	663	1348	1413	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1120	663	1348	1413	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		62.0	15.0	70.0	70.0	47.0	
Total Split (%)		47.0%	11.4%	53.0%	53.0%	36%	

Lanes, Volumes, Timings

7: Newhall Avenue & Railroad Avenue

01/24/2023

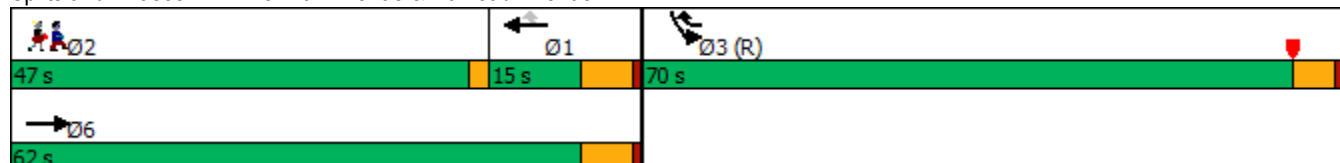


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		56.0	9.0	64.0	64.0		45.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effect Green (s)		58.0	58.0	124.0	66.0		
Actuated g/C Ratio		0.44	0.44	0.94	0.50		
v/c Ratio		0.72	0.81	0.51	0.82		
Control Delay		33.6	19.5	4.5	15.0		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		33.6	19.5	4.5	15.0		
LOS		C	B	A	B		
Approach Delay		33.6	9.5		15.0		
Approach LOS		C	A		B		

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 20 (15%), Referenced to phase 3:SBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 17.1
 Intersection LOS: B
 Intersection Capacity Utilization 75.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1120	663	1348	1413
v/c Ratio	0.72	0.81	0.51	0.82
Control Delay	33.6	19.5	4.5	15.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	33.6	19.5	4.5	15.0
Queue Length 50th (ft)	407	139	366	511
Queue Length 95th (ft)	490	173	434	76
Internal Link Dist (ft)	282	1565		1116
Turn Bay Length (ft)				
Base Capacity (vph)	1555	818	2669	1716
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.72	0.81	0.51	0.82
Intersection Summary				

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑↔		↘	↙
Traffic Volume (vph)	170	1610	1390	30	330	160
Future Volume (vph)	170	1610	1390	30	330	160
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.997			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5070	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5070	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			4			174
Link Speed (mph)		40	40		30	
Link Distance (ft)		1545	3086		2703	
Travel Time (s)		26.3	52.6		61.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	1750	1511	33	359	174
Shared Lane Traffic (%)						
Lane Group Flow (vph)	185	1750	1544	0	359	174
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	25.0	98.0	73.0		34.0	34.0

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023

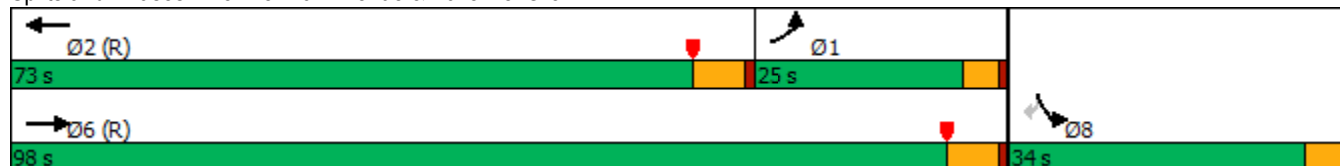


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	18.9%	74.2%	55.3%		25.8%	25.8%
Maximum Green (s)	20.5	92.0	67.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	21.0	94.8	69.8		29.2	29.2
Actuated g/C Ratio	0.16	0.72	0.53		0.22	0.22
v/c Ratio	0.66	0.48	0.58		0.92	0.36
Control Delay	61.5	9.8	10.1		71.2	3.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	61.5	9.8	10.1		71.2	3.1
LOS	E	A	B		E	A
Approach Delay		14.8	10.1		49.0	
Approach LOS		B	B		D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 50 (38%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 17.5
 Intersection LOS: B
 Intersection Capacity Utilization 65.2%
 ICU Level of Service C
 Analysis Period (min) 15

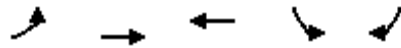
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	185	1750	1544	359	174
v/c Ratio	0.66	0.48	0.58	0.92	0.36
Control Delay	61.5	9.8	10.1	71.2	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	9.8	10.1	71.2	3.1
Queue Length 50th (ft)	152	238	163	307	1
Queue Length 95th (ft)	m204	263	165	#484	7
Internal Link Dist (ft)		1465	3006	2623	
Turn Bay Length (ft)	150				
Base Capacity (vph)	281	3653	2684	402	494
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.66	0.48	0.58	0.89	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	1340	10	710	840	40	10	110	110	390	970	320
Future Volume (vph)	220	1340	10	710	840	40	10	110	110	390	970	320
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		350
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4897	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4897	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			124			161		63	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3086			633			398			2854	
Travel Time (s)		52.6			10.8			9.0			64.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	1457	11	772	913	43	11	120	120	424	1054	348
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	1457	11	772	913	43	11	120	120	424	1402	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	45.0	45.0	25.0	45.0	45.0	20.0	20.0	20.0	42.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

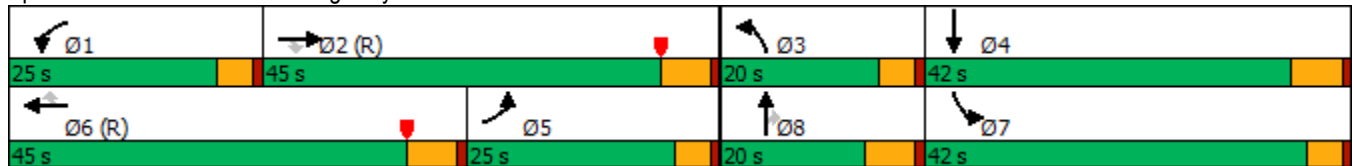


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	34.1%	34.1%	18.9%	34.1%	34.1%	15.2%	15.2%	15.2%	31.8%	31.8%	
Maximum Green (s)	20.5	39.0	39.0	20.5	39.0	39.0	15.5	14.0	14.0	37.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	41.0	41.0	27.2	47.2	47.2	6.5	11.8	9.8	36.0	47.5	
Actuated g/C Ratio	0.16	0.31	0.31	0.21	0.36	0.36	0.05	0.09	0.07	0.27	0.36	
v/c Ratio	0.44	0.92	0.02	1.09	0.50	0.07	0.07	0.38	0.45	0.88	0.78	
Control Delay	60.1	60.5	0.1	110.3	35.5	0.2	60.5	59.7	8.4	27.6	15.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.1	60.5	0.1	110.3	35.5	0.2	60.5	59.7	8.4	27.6	15.8	
LOS	E	E	A	F	D	A	E	E	A	C	B	
Approach Delay		60.0			68.0			35.2			18.6	
Approach LOS		E			E			D			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 121 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 47.7
 Intersection LOS: D
 Intersection Capacity Utilization 84.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	239	1457	11	772	913	43	11	120	120	424	1402
v/c Ratio	0.44	0.92	0.02	1.09	0.50	0.07	0.07	0.38	0.45	0.88	0.78
Control Delay	60.1	60.5	0.1	110.3	35.5	0.2	60.5	59.7	8.4	27.6	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	60.5	0.1	110.3	35.5	0.2	60.5	59.7	8.4	27.6	15.8
Queue Length 50th (ft)	102	452	0	~406	228	0	4	52	0	348	262
Queue Length 95th (ft)	m140	#536	m0	#584	288	0	14	83	26	m337	m362
Internal Link Dist (ft)		3006			553			318			2774
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1579	568	706	1816	645	416	428	311	521	1800
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.92	0.02	1.09	0.50	0.07	0.03	0.28	0.39	0.81	0.78

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Volume (vph)	0	410	1560	10	730	0	0	0	0	10	10	780
Future Volume (vph)	0	410	1560	10	730	0	0	0	0	10	10	780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.902	0.850									0.850
Fl _t Protected				0.950							0.976	
Satd. Flow (prot)	0	3058	1441	1770	3539	0	0	0	0	0	1818	1583
Fl _t Permitted				0.950							0.976	
Satd. Flow (perm)	0	3058	1441	1770	3539	0	0	0	0	0	1818	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		633			469			446			465	
Travel Time (s)		10.8			8.0			10.1			10.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	446	1696	11	793	0	0	0	0	11	11	848
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1294	848	11	793	0	0	0	0	0	22	848
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	81.1%
Analysis Period (min)	15
	ICU Level of Service D

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	410	1560	10	730	0	0	0	0	10	10	780
Future Vol, veh/h	0	410	1560	10	730	0	0	0	0	10	10	780
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082378240	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	446	1696	11	793	0	0	0	0	11	11	848

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	446	0	0		1038	1261	-
Stage 1	-	-	-	-	-	-		815	815	-
Stage 2	-	-	-	-	-	-		223	446	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	1111	-	0		227	169	0
Stage 1	0	-	-	-	-	0		396	389	0
Stage 2	0	-	-	-	-	0		793	572	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1111	-	-		225	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		225	0	-
Stage 1	-	-	-	-	-	-		396	0	-
Stage 2	-	-	-	-	-	-		785	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	22.7
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1111	-	225	-
HCM Lane V/C Ratio	-	-	0.01	-	0.097	-
HCM Control Delay (s)	-	-	8.3	-	22.7	0
HCM Lane LOS	-	-	A	-	C	A
HCM 95th %tile Q(veh)	-	-	0	-	0.3	-

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	0	0	0	60	0	10
Future Volume (vph)	0	0	0	60	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Flt						0.865
Flt Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	469			639	290	
Travel Time (s)	8.0			10.9	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	65	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	65	0	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	81.1% ICU Level of Service D
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	0	0	0	60	0	10
Future Vol, veh/h	0	0	0	60	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	65	0	11

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	1083	-	-
HCM Lane V/C Ratio	0.01	-	-
HCM Control Delay (s)	8.4	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	1120	0	0	800	570	110	10	140	0	0	0
Future Volume (vph)	180	1120	0	0	800	570	110	10	140	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.938				0.850			
Flt Protected	0.950						0.950	0.960				
Satd. Flow (prot)	1770	3539	0	0	4770	0	1681	1699	1583	0	0	0
Flt Permitted	0.950						0.950	0.960				
Satd. Flow (perm)	1770	3539	0	0	4770	0	1681	1699	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					210				85			
Link Speed (mph)		40			40			30				30
Link Distance (ft)		722			1900			440				464
Travel Time (s)		12.3			32.4			10.0				10.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	1217	0	0	870	620	120	11	152	0	0	0
Shared Lane Traffic (%)							46%					
Lane Group Flow (vph)	196	1217	0	0	1490	0	65	66	152	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

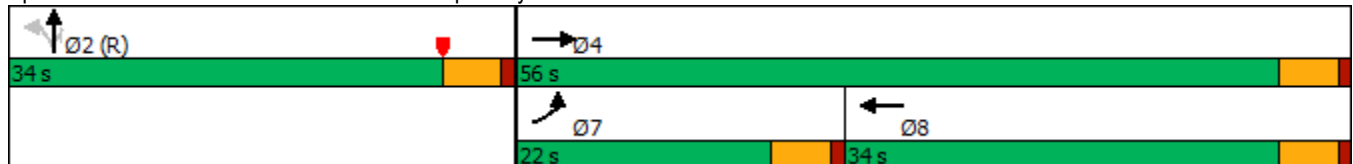


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			5.0		10.0	10.0	10.0			
Minimum Split (s)	15.0	23.0			23.0		33.0	33.0	33.0			
Total Split (s)	22.0	56.0			34.0		34.0	34.0	34.0			
Total Split (%)	24.4%	62.2%			37.8%		37.8%	37.8%	37.8%			
Maximum Green (s)	17.0	51.0			29.0		29.0	29.0	29.0			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.4	49.5			30.1		30.5	30.5	30.5			
Actuated g/C Ratio	0.16	0.55			0.33		0.34	0.34	0.34			
v/c Ratio	0.69	0.63			0.91dr		0.11	0.11	0.26			
Control Delay	48.6	15.4			30.3		22.3	22.3	11.9			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	48.6	15.4			30.3		22.3	22.3	11.9			
LOS	D	B			C		C	C	B			
Approach Delay		20.0			30.3			16.8				
Approach LOS		C			C			B				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 24.5
 Intersection LOS: C
 Intersection Capacity Utilization 59.0%
 ICU Level of Service B
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

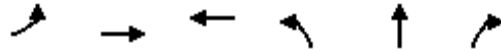
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	196	1217	1490	65	66	152
v/c Ratio	0.69	0.63	0.91dr	0.11	0.11	0.26
Control Delay	48.6	15.4	30.3	22.3	22.3	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	15.4	30.3	22.3	22.3	11.9
Queue Length 50th (ft)	106	224	246	27	27	27
Queue Length 95th (ft)	174	286	#328	58	60	72
Internal Link Dist (ft)		642	1820		360	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	334	2005	1740	569	575	592
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.61	0.86	0.11	0.11	0.26

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	780	130	240	770	120	200	240	200	130	410	270
Future Volume (vph)	140	780	130	240	770	120	200	240	200	130	410	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.980				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			132		24				217			112
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1900			5304			887				1679
Travel Time (s)		32.4			90.4			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	848	141	261	837	130	217	261	217	141	446	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	848	141	261	967	0	217	261	217	141	446	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

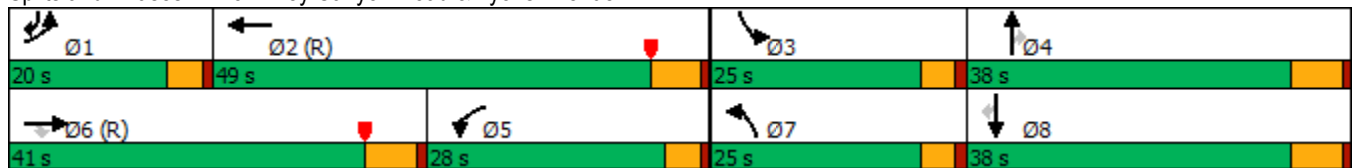
01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	41.0	41.0	28.0	49.0		25.0	38.0	38.0	25.0	38.0	20.0
Total Split (%)	15.2%	31.1%	31.1%	21.2%	37.1%		18.9%	28.8%	28.8%	18.9%	28.8%	15.2%
Maximum Green (s)	15.5	35.0	35.0	23.5	43.0		20.5	32.0	32.0	20.5	32.0	15.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	12.3	47.4	47.4	24.0	59.2		20.1	28.0	28.0	16.6	24.5	40.7
Actuated g/C Ratio	0.09	0.36	0.36	0.18	0.45		0.15	0.21	0.21	0.13	0.19	0.31
v/c Ratio	0.51	0.72	0.23	0.87	0.43		0.86	0.37	0.45	0.68	0.70	0.52
Control Delay	62.7	41.6	7.2	61.2	10.6		85.3	45.9	8.5	71.3	56.4	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	41.6	7.2	61.2	10.6		85.3	45.9	8.5	71.3	56.4	24.9
LOS	E	D	A	E	B		F	D	A	E	E	C
Approach Delay		40.1			21.4			46.5			48.3	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 37.2
 Intersection LOS: D
 Intersection Capacity Utilization 70.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	848	141	261	967	217	261	217	141	446	293
v/c Ratio	0.51	0.72	0.23	0.87	0.43	0.86	0.37	0.45	0.68	0.70	0.52
Control Delay	62.7	41.6	7.2	61.2	10.6	85.3	45.9	8.5	71.3	56.4	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	41.6	7.2	61.2	10.6	85.3	45.9	8.5	71.3	56.4	24.9
Queue Length 50th (ft)	64	331	5	221	161	182	101	0	117	190	126
Queue Length 95th (ft)	98	437	54	#376	171	#318	142	67	184	237	193
Internal Link Dist (ft)		1820			5224		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	389	1186	615	300	2247	262	850	541	262	881	608
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.72	0.23	0.87	0.43	0.83	0.31	0.40	0.54	0.51	0.48

























Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	950	60	110	1170	390	120	120	90	470	100	240
Future Volume (vph)	200	950	60	110	1170	390	120	120	90	470	100	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			213			112			261
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5304			2371			465				790
Travel Time (s)		103.3			46.2			9.1				12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1033	65	120	1272	424	130	130	98	511	109	261
Shared Lane Traffic (%)												
Lane Group Flow (vph)	217	1033	65	120	1272	424	130	130	98	511	109	261
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	14.7	61.2	61.2	15.3	61.8	88.9	15.5	12.4	12.4	27.1	24.0	24.0
Actuated g/C Ratio	0.11	0.46	0.46	0.12	0.47	0.67	0.12	0.09	0.09	0.21	0.18	0.18
v/c Ratio	0.61	0.67	0.08	0.63	0.70	0.34	0.67	0.40	0.43	0.72	0.33	0.53
Control Delay	57.3	53.2	7.0	66.9	38.7	4.3	72.4	59.7	12.8	54.9	49.0	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.3	53.2	7.0	66.9	38.7	4.3	72.4	59.7	12.8	54.9	49.0	9.2
LOS	E	D	A	E	D	A	E	E	B	D	D	A
Approach Delay		51.6			32.5			51.5			40.6	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 132

Actuated Cycle Length: 132

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 41.4

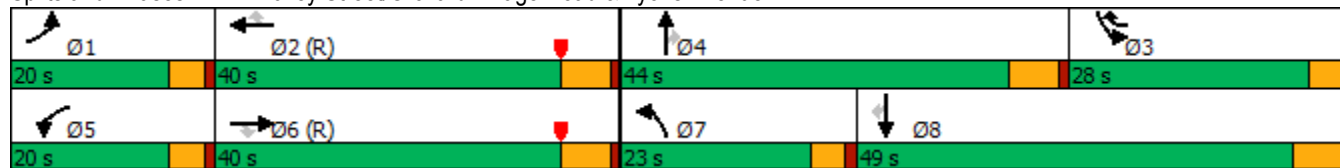
Intersection LOS: D

Intersection Capacity Utilization 68.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	217	1033	65	120	1272	424	130	130	98	511	109	261
v/c Ratio	0.61	0.67	0.08	0.63	0.70	0.34	0.67	0.40	0.43	0.72	0.33	0.53
Control Delay	57.3	53.2	7.0	66.9	38.7	4.3	72.4	59.7	12.8	54.9	49.0	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.3	53.2	7.0	66.9	38.7	4.3	72.4	59.7	12.8	54.9	49.0	9.2
Queue Length 50th (ft)	100	470	5	94	581	49	108	56	0	212	83	0
Queue Length 95th (ft)	m141	#575	m21	m113	m660	m118	174	88	42	257	133	72
Internal Link Dist (ft)		5224			2291			385			710	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	402	1531	789	216	1822	1250	237	1036	493	721	613	693
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.67	0.08	0.56	0.70	0.34	0.55	0.13	0.20	0.71	0.18	0.38

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

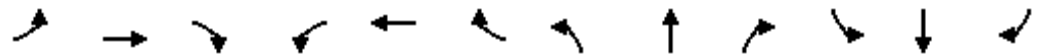
Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	490	850	60	630	30	600	120	50	40	180	190
Future Volume (vph)	130	490	850	60	630	30	600	120	50	40	180	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1611	3539	1468	1635	3539	1356	3135	1863	1471	1671	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			371			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2371			962			528				401
Travel Time (s)		46.2			18.7			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	533	924	65	685	33	652	130	54	43	196	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	533	924	65	685	33	652	130	54	43	196	207
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

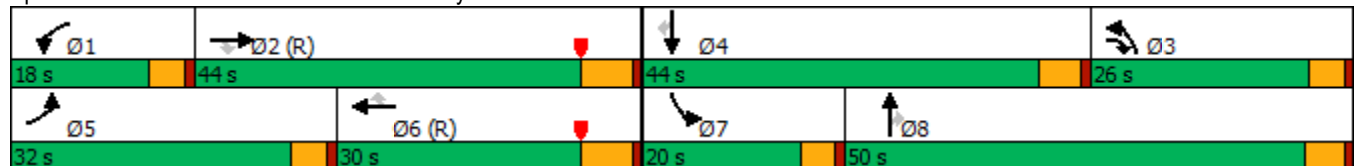


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	32.0	44.0	26.0	18.0	30.0	30.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	24.2%	33.3%	19.7%	13.6%	22.7%	22.7%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	27.5	38.0	21.5	13.5	24.0	24.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	24.0		24.0		24.0		32.0		32.0		32.0	
Pedestrian Calls (#/hr)	27		27		27		43		43		43	
Act Effct Green (s)	17.1	45.4	72.6	10.8	36.9	36.9	27.2	54.8	54.8	9.2	34.8	34.8
Actuated g/C Ratio	0.13	0.34	0.55	0.08	0.28	0.28	0.21	0.42	0.42	0.07	0.26	0.26
v/c Ratio	0.66	0.44	0.94	0.49	0.69	0.07	0.95	0.17	0.08	0.36	0.41	0.44
Control Delay	65.2	29.7	33.4	86.0	34.4	0.7	77.0	26.5	0.2	66.1	41.4	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.2	29.7	33.4	86.0	34.4	0.7	77.0	26.5	0.2	66.1	41.4	15.4
LOS	E	C	C	F	C	A	E	C	A	E	D	B
Approach Delay	35.0		37.2		64.2		31.7					
Approach LOS	C		D		E		C					

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 49 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 41.7 Intersection LOS: D
 Intersection Capacity Utilization 94.0% ICU Level of Service F
 Analysis Period (min) 15

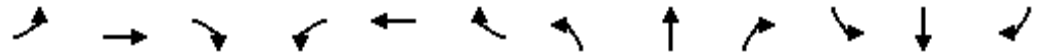
Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	141	533	924	65	685	33	652	130	54	43	196	207
v/c Ratio	0.66	0.44	0.94	0.49	0.69	0.07	0.95	0.17	0.08	0.36	0.41	0.44
Control Delay	65.2	29.7	33.4	86.0	34.4	0.7	77.0	26.5	0.2	66.1	41.4	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.2	29.7	33.4	86.0	34.4	0.7	77.0	26.5	0.2	66.1	41.4	15.4
Queue Length 50th (ft)	100	216	~485	53	225	0	~344	71	0	36	131	42
Queue Length 95th (ft)	m152	193	#706	94	382	2	#464	123	0	74	201	113
Internal Link Dist (ft)		2291			882			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	350	1217	987	175	990	501	684	773	690	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.44	0.94	0.37	0.69	0.07	0.95	0.17	0.08	0.21	0.36	0.40

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Placerita Canyon Road/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	10	10	10	10	10	160	10	150	10	220	240	20
Future Volume (vph)	10	10	10	10	10	160	10	150	10	220	240	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.955			0.880			0.992			0.994	
Flt Protected		0.984			0.997			0.997			0.978	
Satd. Flow (prot)	0	1750	0	0	1634	0	0	1842	0	0	1811	0
Flt Permitted		0.984			0.997			0.997			0.978	
Satd. Flow (perm)	0	1750	0	0	1634	0	0	1842	0	0	1811	0
Link Speed (mph)		25			25			35			25	
Link Distance (ft)		391			842			1231			505	
Travel Time (s)		10.7			23.0			24.0			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	11	11	11	11	174	11	163	11	239	261	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	196	0	0	185	0	0	522	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	56.3%
ICU Level of Service	B
Analysis Period (min)	15

HCM 6th TWSC
 17: Placerita Canyon Road/Arch Street & 12th Street

01/24/2023

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	10	10	10	10	160	10	150	10	220	240	20
Future Vol, veh/h	10	10	10	10	10	160	10	150	10	220	240	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	11	11	11	174	11	163	11	239	261	22

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1033	946	272	952	952	169	283	0	0	174	0	0
Stage 1	750	750	-	191	191	-	-	-	-	-	-	-
Stage 2	283	196	-	761	761	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	211	262	767	239	259	875	1279	-	-	1403	-	-
Stage 1	403	419	-	811	742	-	-	-	-	-	-	-
Stage 2	724	739	-	398	414	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	136	207	767	190	204	875	1279	-	-	1403	-	-
Mov Cap-2 Maneuver	136	207	-	190	204	-	-	-	-	-	-	-
Stage 1	399	334	-	803	735	-	-	-	-	-	-	-
Stage 2	566	732	-	303	330	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24	11.6	0.5	3.7
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1279	-	-	222	733	1403	-	-
HCM Lane V/C Ratio	0.008	-	-	0.147	0.252	0.17	-	-
HCM Control Delay (s)	7.8	0	-	24	11.6	8.1	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	1	0.6	-	-

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	20	10	390	1	10	10	10	270	10	10	10
Future Volume (vph)	10	20	10	390	1	10	10	10	270	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.950			0.862			0.874			0.955	
Flt Protected	0.950			0.950				0.998			0.984	
Satd. Flow (prot)	1770	1770	0	1770	1606	0	0	1625	0	0	1750	0
Flt Permitted	0.950			0.950				0.998			0.984	
Satd. Flow (perm)	1770	1770	0	1770	1606	0	0	1625	0	0	1750	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		671			3882			2703			372	
Travel Time (s)		15.3			88.2			61.4			8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	22	11	424	1	11	11	11	293	11	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	33	0	424	12	0	0	315	0	0	33	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	53.0%
ICU Level of Service	A
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	10											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Traffic Vol, veh/h	10	20	10	390	1	10	10	10	270	10	10	10
Future Vol, veh/h	10	20	10	390	1	10	10	10	270	10	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	22	11	424	1	11	11	11	293	11	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	12	0	0	33	0	0	916	910	28	1057	910	7
Stage 1	-	-	-	-	-	-	50	50	-	855	855	-
Stage 2	-	-	-	-	-	-	866	860	-	202	55	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1607	-	-	1579	-	-	253	275	1047	203	275	1075
Stage 1	-	-	-	-	-	-	963	853	-	353	375	-
Stage 2	-	-	-	-	-	-	348	373	-	800	849	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1607	-	-	1579	-	-	190	200	1047	111	200	1075
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	200	-	111	200	-
Stage 1	-	-	-	-	-	-	956	847	-	351	274	-
Stage 2	-	-	-	-	-	-	242	273	-	564	843	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.8			7.9			12.3			26.3		
HCM LOS							B			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	804	1607	-	-	1579	-	-	201
HCM Lane V/C Ratio	0.392	0.007	-	-	0.268	-	-	0.162
HCM Control Delay (s)	12.3	7.3	-	-	8.1	-	-	26.3
HCM Lane LOS	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	1.9	0	-	-	1.1	-	-	0.6

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	100	80	40	390	1860	260
Future Volume (vph)	100	80	40	390	1860	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.972	0.850				0.850
Flt Protected	0.961		0.950			
Satd. Flow (prot)	3376	1441	1770	3539	3539	1583
Flt Permitted	0.961		0.950			
Satd. Flow (perm)	3376	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	20	62				110
Link Speed (mph)	30			50	50	
Link Distance (ft)	3882			2854	2872	
Travel Time (s)	88.2			38.9	39.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	87	43	424	2022	283
Shared Lane Traffic (%)		29%				
Lane Group Flow (vph)	134	62	43	424	2022	283
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023

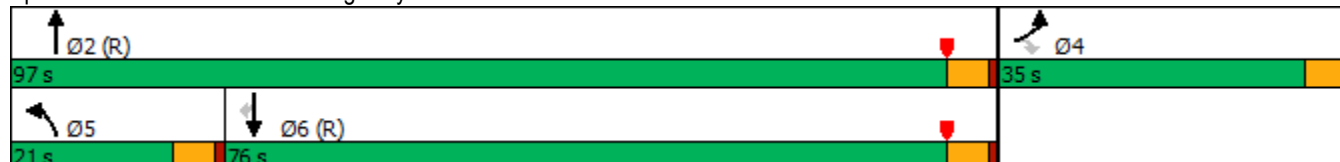


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	21.0	21.0	30.0	30.0
Total Split (s)	35.0	35.0	21.0	97.0	76.0	76.0
Total Split (%)	26.5%	26.5%	15.9%	73.5%	57.6%	57.6%
Maximum Green (s)	30.0	30.0	16.0	92.0	71.0	71.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	10.8	10.8	35.2	111.2	71.0	71.0
Actuated g/C Ratio	0.08	0.08	0.27	0.84	0.54	0.54
v/c Ratio	0.46	0.36	0.09	0.14	1.06	0.31
Control Delay	54.0	19.1	33.0	0.5	75.5	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	19.1	33.0	0.5	75.5	18.7
LOS	D	B	C	A	E	B
Approach Delay	43.0			3.5	68.6	
Approach LOS	D			A	E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 56.6
 Intersection LOS: E
 Intersection Capacity Utilization 68.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	134	62	43	424	2022	283
v/c Ratio	0.46	0.36	0.09	0.14	1.06	0.31
Control Delay	54.0	19.1	33.0	0.5	75.5	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	19.1	33.0	0.5	75.5	18.7
Queue Length 50th (ft)	48	0	17	5	~983	114
Queue Length 95th (ft)	81	49	34	7	#1168	m214
Internal Link Dist (ft)	3802			2774	2792	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	782	375	471	2981	1903	902
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.17	0.09	0.14	1.06	0.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	40	10	360	30	680	10	380	130	550	1440	40
Future Volume (vph)	10	40	10	360	30	680	10	380	130	550	1440	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.734			0.728			0.950			0.950		
Satd. Flow (perm)	1367	3539	1583	1356	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			739			141			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		715			720			2872			794	
Travel Time (s)		10.8			10.9			39.2			10.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	43	11	391	33	739	11	413	141	598	1565	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	43	11	391	33	739	11	413	141	598	1565	43
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8		6				2

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

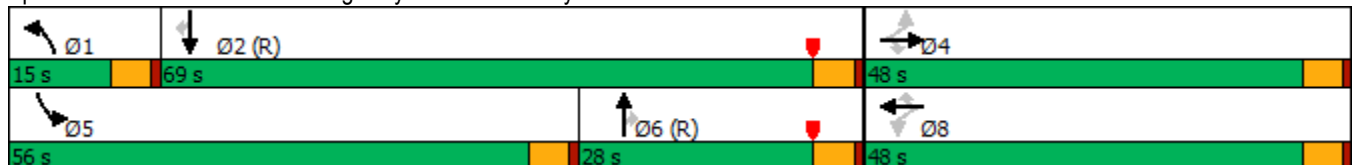


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.0	21.0	21.0	37.0	37.0	37.0	15.0	21.0	21.0	15.0	39.0	39.0
Total Split (s)	48.0	48.0	48.0	48.0	48.0	48.0	15.0	28.0	28.0	56.0	69.0	69.0
Total Split (%)	36.4%	36.4%	36.4%	36.4%	36.4%	36.4%	11.4%	21.2%	21.2%	42.4%	52.3%	52.3%
Maximum Green (s)	43.0	43.0	43.0	43.0	43.0	43.0	10.0	23.0	23.0	51.0	64.0	64.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	10.0	27.8	27.8	47.9	77.7	77.7
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31	0.31	0.08	0.21	0.21	0.36	0.59	0.59
v/c Ratio	0.03	0.04	0.02	0.92	0.03	0.74	0.08	0.55	0.32	0.93	0.75	0.05
Control Delay	30.7	30.6	0.1	71.9	30.5	7.4	46.8	64.2	26.8	56.1	29.7	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0
Total Delay	30.7	30.6	0.1	71.9	30.5	7.4	46.8	64.2	26.8	56.1	31.5	6.1
LOS	C	C	A	E	C	A	D	E	C	E	C	A
Approach Delay		25.5			29.7			54.5			37.7	
Approach LOS		C			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 30 (23%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 37.6
 Intersection LOS: D
 Intersection Capacity Utilization 87.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	43	11	391	33	739	11	413	141	598	1565	43
v/c Ratio	0.03	0.04	0.02	0.92	0.03	0.74	0.08	0.55	0.32	0.93	0.75	0.05
Control Delay	30.7	30.6	0.1	71.9	30.5	7.4	46.8	64.2	26.8	56.1	29.7	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0
Total Delay	30.7	30.6	0.1	71.9	30.5	7.4	46.8	64.2	26.8	56.1	31.5	6.1
Queue Length 50th (ft)	6	13	0	317	10	0	8	193	21	472	600	1
Queue Length 95th (ft)	21	27	0	#505	23	108	25	251	116	#686	805	m8
Internal Link Dist (ft)		635			640			2792			714	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	445	1152	582	441	1152	1013	134	745	444	683	2082	955
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	344	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.04	0.02	0.89	0.03	0.73	0.08	0.55	0.32	0.88	0.90	0.05

Intersection Summary












95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	30	890	280	1250	2100
Future Volume (vph)	10	30	890	280	1250	2100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		0	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Frt		0.850	0.964			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3412	0	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3412	0	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		33	37			
Link Speed (mph)	30		50			50
Link Distance (ft)	717		794			675
Travel Time (s)	16.3		10.8			9.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	33	967	304	1359	2283
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	33	1271	0	1359	2283
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				

Lanes, Volumes, Timings

22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

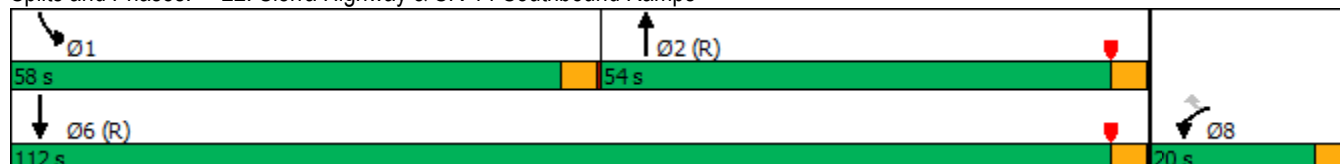


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		8.0	20.0
Total Split (s)	20.0	20.0	54.0		58.0	112.0
Total Split (%)	15.2%	15.2%	40.9%		43.9%	84.8%
Maximum Green (s)	16.0	16.0	50.0		54.0	108.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	6.6	6.6	58.3		58.9	122.8
Actuated g/C Ratio	0.05	0.05	0.44		0.45	0.93
v/c Ratio	0.12	0.30	0.83		0.89	0.69
Control Delay	62.3	25.8	50.9		41.5	3.1
Queue Delay	0.0	0.0	0.0		0.0	0.1
Total Delay	62.3	25.8	50.9		41.5	3.2
LOS	E	C	D		D	A
Approach Delay	34.9		50.9			17.5
Approach LOS	C		D			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 26.2
 Intersection LOS: C
 Intersection Capacity Utilization 82.5%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR-14 Southbound Ramps



Queues

22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	11	33	1271	1359	2283
v/c Ratio	0.12	0.30	0.83	0.89	0.69
Control Delay	62.3	25.8	50.9	41.5	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.1
Total Delay	62.3	25.8	50.9	41.5	3.2
Queue Length 50th (ft)	9	0	556	528	195
Queue Length 95th (ft)	29	34	#713	622	298
Internal Link Dist (ft)	637		714		595
Turn Bay Length (ft)				160	
Base Capacity (vph)	214	220	1528	1537	3293
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	163
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.05	0.15	0.83	0.88	0.73

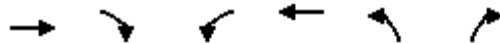
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	220	0	0	790	440	100
Future Volume (vph)	220	0	0	790	440	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	720			392	651	
Travel Time (s)	10.9			5.9	14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	0	0	859	478	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	0	0	859	478	109
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	52.9%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	43.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	220	0	0	790	440	100
Future Vol, veh/h	220	0	0	790	440	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	239	0	0	859	478	109

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	669 120
Stage 1	-	-	-	-	239 -
Stage 2	-	-	-	-	430 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	~ 391 909
Stage 1	-	0	0	-	778 -
Stage 2	-	0	0	-	624 -
Platoon blocked, %	-			-	
Mov Cap-1 Maneuver	-	-	-	-	~ 391 909
Mov Cap-2 Maneuver	-	-	-	-	~ 391 -
Stage 1	-	-	-	-	778 -
Stage 2	-	-	-	-	624 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	125.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	391	909	-	-
HCM Lane V/C Ratio	1.223	0.12	-	-
HCM Control Delay (s)	151.5	9.5	-	-
HCM Lane LOS	F	A	-	-
HCM 95th %tile Q(veh)	19.9	0.4	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	820	1800	360	390	1320	430	450	1930	650	410	1500	230
Future Volume (vph)	820	1800	360	390	1320	430	450	1930	650	410	1500	230
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	300		230
Storage Lanes	3		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62			295			299			99
Link Speed (mph)		45		45			45			45		45
Link Distance (ft)		870		745			1975			1020		
Travel Time (s)		13.2		11.3			29.9			15.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	891	1957	391	424	1435	467	489	2098	707	446	1630	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2098	707	446	1630	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36		36			24			24		
Link Offset(ft)		0		0			0			0		
Crosswalk Width(ft)		16		16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	25.0	39.0	26.0	22.0	36.0	36.0	26.0	45.0	45.0	26.0	45.0	25.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

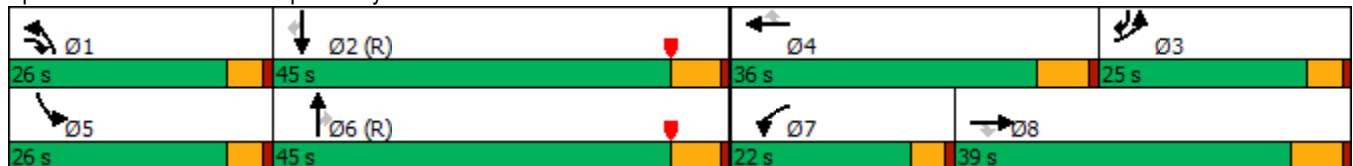


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	29.5%	19.7%	16.7%	27.3%	27.3%	19.7%	34.1%	34.1%	19.7%	34.1%	18.9%
Maximum Green (s)	20.5	33.0	21.5	17.5	30.0	30.0	21.5	39.0	39.0	21.5	39.0	20.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	21.0	35.4	60.3	17.6	32.0	32.0	20.9	43.0	43.0	20.0	42.1	63.1
Actuated g/C Ratio	0.16	0.27	0.46	0.13	0.24	0.24	0.16	0.33	0.33	0.15	0.32	0.48
v/c Ratio	1.12	1.14	0.52	0.92	0.92	0.77	0.90	1.00	0.99	0.86	0.80	0.31
Control Delay	121.3	114.3	23.8	83.3	59.6	26.1	73.5	33.6	25.6	71.2	44.8	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	23.8	83.3	59.6	26.1	73.5	33.6	25.6	71.2	44.8	7.5
LOS	F	F	C	F	E	C	E	C	C	E	D	A
Approach Delay		105.3			57.2			37.8			45.9	
Approach LOS		F			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 55 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 63.1
 Intersection LOS: E
 Intersection Capacity Utilization 90.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2098	707	446	1630	250
v/c Ratio	1.12	1.14	0.52	0.92	0.92	0.77	0.90	1.00	0.99	0.86	0.80	0.31
Control Delay	121.3	114.3	23.8	83.3	59.6	26.1	73.5	33.6	25.6	71.2	44.8	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	23.8	83.3	59.6	26.1	73.5	33.6	25.6	71.2	44.8	7.5
Queue Length 50th (ft)	~311	~572	194	187	350	142	230	~569	~515	192	375	40
Queue Length 95th (ft)	#400	#647	290	#281	#417	285	m201	m340	m161	251	422	70
Internal Link Dist (ft)		790			665			1895			940	
Turn Bay Length (ft)	270		265	280		340	300			300		230
Base Capacity (vph)	793	1716	768	468	1553	607	572	2088	717	572	2043	808
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	1.14	0.51	0.91	0.92	0.77	0.85	1.00	0.99	0.78	0.80	0.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔↔	↕↕↕	↔↔
Traffic Volume (vph)	1120	1620	10	420	1000	170	20	2010	600	200	1460	610
Future Volume (vph)	1120	1620	10	420	1000	170	20	2010	600	200	1460	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Fr _t		0.999				0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5080	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5080	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				124			112			562
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			3555			1975	
Travel Time (s)		32.4			35.4			53.9			29.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1217	1761	11	457	1087	185	22	2185	652	217	1587	663
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1217	1772	0	457	1087	185	22	2185	652	217	1587	663
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			48			48	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	40.0	48.0		22.0	30.0	20.0	18.0	42.0	22.0	20.0	44.0	40.0
Total Split (%)	30.3%	36.4%		16.7%	22.7%	15.2%	13.6%	31.8%	16.7%	15.2%	33.3%	30.3%
Maximum Green (s)	35.5	42.0		17.5	24.0	15.5	13.5	36.0	17.5	15.5	38.0	35.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

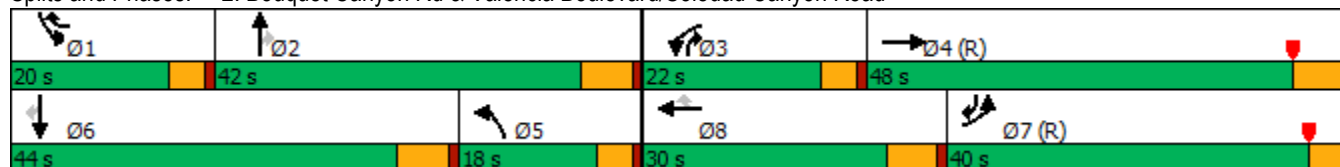


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	None	None	None	Max	None	None	None	C-Max
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	36.0	44.6		17.4	26.0	39.7	10.9	40.3	61.7	13.7	47.2	87.2
Actuated g/C Ratio	0.27	0.34		0.13	0.20	0.30	0.08	0.31	0.47	0.10	0.36	0.66
v/c Ratio	0.89	1.03		0.70	1.09	0.33	0.15	1.41	0.82	0.61	0.87	0.33
Control Delay	55.8	73.2		60.8	103.9	7.7	54.1	219.6	28.8	47.0	48.3	2.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	73.2		60.8	103.9	7.7	54.1	219.6	28.8	47.0	48.3	2.7
LOS	E	E		E	F	A	D	F	C	D	D	A
Approach Delay		66.1			82.2			174.8				35.9
Approach LOS		E			F			F				D

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 92 (70%), Referenced to phase 4:EBT and 7:EBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.41
 Intersection Signal Delay: 92.4 Intersection LOS: F
 Intersection Capacity Utilization 98.5% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1217	1772	457	1087	185	22	2185	652	217	1587	663
v/c Ratio	0.89	1.03	0.70	1.09	0.33	0.15	1.41	0.82	0.61	0.87	0.33
Control Delay	55.8	73.2	60.8	103.9	7.7	54.1	219.6	28.8	47.0	48.3	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	73.2	60.8	103.9	7.7	54.1	219.6	28.8	47.0	48.3	2.7
Queue Length 50th (ft)	356	~603	133	~382	18	18	~930	427	93	~546	50
Queue Length 95th (ft)	#418	#701	173	#476	45	m17	m#803	m432	m119	#639	m51
Internal Link Dist (ft)		2060		2257			3475			1895	
Turn Bay Length (ft)											
Base Capacity (vph)	1360	1717	680	1001	588	187	1550	805	416	1818	2031
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	1.03	0.67	1.09	0.31	0.12	1.41	0.81	0.52	0.87	0.33

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	770	790	780	1890	1750	460
Future Volume (vph)	770	790	780	1890	1750	460
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		8				435
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4671	3555	
Travel Time (s)	44.4			63.7	53.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	837	859	848	2054	1902	500
Shared Lane Traffic (%)						
Lane Group Flow (vph)	837	859	848	2054	1902	500
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

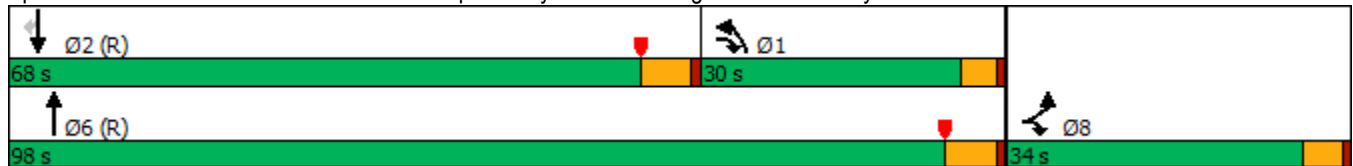


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	30.0	60.0	26.0	94.0	64.0	64.0
Actuated g/C Ratio	0.23	0.45	0.20	0.71	0.48	0.48
v/c Ratio	2.08	0.68	1.25	0.82	1.11	0.50
Control Delay	522.1	31.4	161.5	9.4	82.0	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	522.1	31.4	161.5	9.4	82.0	3.6
LOS	F	C	F	A	F	A
Approach Delay	273.6			53.8	65.6	
Approach LOS	F			D	E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.08
 Intersection Signal Delay: 111.1
 Intersection LOS: F
 Intersection Capacity Utilization 123.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	837	859	848	2054	1902	500
v/c Ratio	2.08	0.68	1.25	0.82	1.11	0.50
Control Delay	522.1	31.4	161.5	9.4	82.0	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	522.1	31.4	161.5	9.4	82.0	3.6
Queue Length 50th (ft)	~1131	319	~476	251	~1004	46
Queue Length 95th (ft)	#1380	402	m#607	318	#1146	m63
Internal Link Dist (ft)	2848			4591	3475	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	402	1271	676	2520	1715	991
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.08	0.68	1.25	0.82	1.11	0.50

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	100	790	1250	90	910	1680
Future Volume (vph)	100	790	1250	90	910	1680
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.880	0.850		0.850		
Flt Protected	0.990				0.950	
Satd. Flow (prot)	3148	1441	3539	1583	3433	3539
Flt Permitted	0.990				0.950	
Satd. Flow (perm)	3148	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	349	349		67		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4671
Travel Time (s)	10.9		27.3			63.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	859	1359	98	989	1826
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	539	429	1359	98	989	1826
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	20.2	20.2	57.2	57.2	42.6	103.8
Actuated g/C Ratio	0.15	0.15	0.43	0.43	0.32	0.79
v/c Ratio	0.69	0.83	0.89	0.14	0.89	0.66
Control Delay	21.8	24.8	55.4	23.6	49.8	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	24.8	55.4	23.6	49.8	5.1
LOS	C	C	E	C	D	A
Approach Delay	23.1		53.3			20.8
Approach LOS	C		D			C

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 37 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 30.3
 Intersection LOS: C
 Intersection Capacity Utilization 81.7%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	539	429	1359	98	989	1826
v/c Ratio	0.69	0.83	0.89	0.14	0.89	0.66
Control Delay	21.8	24.8	55.4	23.6	49.8	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	24.8	55.4	23.6	49.8	5.1
Queue Length 50th (ft)	79	71	548	41	373	81
Queue Length 95th (ft)	120	194	m510	m37	m#579	m401
Internal Link Dist (ft)	558		1922			4591
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1091	638	1581	744	1108	2783
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.67	0.86	0.13	0.89	0.66

Intersection Summary




















95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	350	0	230	10	1570	310	280	1690	0
Future Volume (vph)	0	0	0	350	0	230	10	1570	310	280	1690	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		570	140		0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt					0.946				0.850			
Flt Protected					0.971		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1711	0	1770	3539	1583	1770	3539	0
Flt Permitted					0.971		0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1711	0	1770	3539	1583	1770	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					107				75			
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		337			628			1217			3340	
Travel Time (s)		9.2			17.1			18.4			50.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	380	0	250	11	1707	337	304	1837	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	630	0	11	1707	337	304	1837	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2	1	1	2	
Detector Template				Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)				20	100		20	100	20	20	100	
Trailing Detector (ft)				0	0		0	0	0	0	0	
Detector 1 Position(ft)				0	0		0	0	0	0	0	
Detector 1 Size(ft)				20	6		20	6	20	20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Split	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases				7	7		1	6	7	5	2	
Permitted Phases									6			

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/24/2023

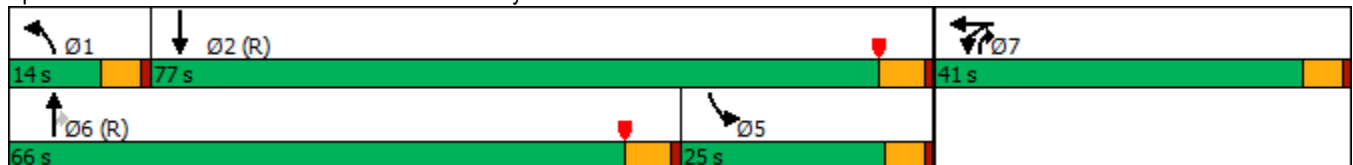


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				7	7		1	6	7	5	2	
Switch Phase												
Minimum Initial (s)				10.0	10.0		9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				33.0	33.0		14.0	23.5	33.0	14.0	23.5	
Total Split (s)				41.0	41.0		14.0	66.0	41.0	25.0	77.0	
Total Split (%)				31.1%	31.1%		10.6%	50.0%	31.1%	18.9%	58.3%	
Maximum Green (s)				36.0	36.0		9.0	60.5	36.0	20.0	71.5	
Yellow Time (s)				4.0	4.0		4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)					5.0		5.0	5.5	5.0	5.0	5.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None		None	C-Max	None	None	C-Max	
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)				21.0	21.0			11.0	21.0		11.0	
Pedestrian Calls (#/hr)				0	0			0	0		0	
Act Effct Green (s)					36.0		9.0	60.5	102.0	20.0	82.7	
Actuated g/C Ratio					0.27		0.07	0.46	0.77	0.15	0.63	
v/c Ratio					1.16		0.09	1.05	0.27	1.13	0.83	
Control Delay					126.0		71.5	68.6	2.0	146.2	29.0	
Queue Delay					0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay					126.0		71.5	68.6	2.0	146.2	29.0	
LOS					F		E	E	A	F	C	
Approach Delay					126.0			57.7			45.6	
Approach LOS					F			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay: 61.3
 Intersection LOS: E
 Intersection Capacity Utilization 105.3%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Queues

5: Railroad Avenue & Driveway/13th Street

01/24/2023



Lane Group	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	630	11	1707	337	304	1837
v/c Ratio	1.16	0.09	1.05	0.27	1.13	0.83
Control Delay	126.0	71.5	68.6	2.0	146.2	29.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.0	71.5	68.6	2.0	146.2	29.0
Queue Length 50th (ft)	~567	9	~853	17	~310	811
Queue Length 95th (ft)	#804	m20	#983	38	#502	#987
Internal Link Dist (ft)	548		1137			3260
Turn Bay Length (ft)		100		570	140	
Base Capacity (vph)	544	120	1622	1240	268	2217
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.16	0.09	1.05	0.27	1.13	0.83

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations	↶↶	↷	↶↶	↶↶	↶↶	↷			
Traffic Volume (vph)	480	160	330	1070	1260	460			
Future Volume (vph)	480	160	330	1070	1260	460			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		174				335			
Link Speed (mph)	35			35	45				
Link Distance (ft)	1347			1246	1217				
Travel Time (s)	26.2			24.3	18.4				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	522	174	359	1163	1370	500			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	522	174	359	1163	1370	500			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	34			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	42.0	30.0	30.0	30.0	30.0

Lanes, Volumes, Timings

6: Railroad Avenue & Lyons Avenue

01/24/2023

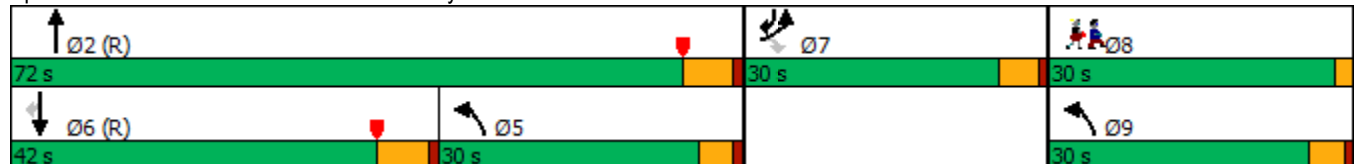


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	31.8%	22.7%	23%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	36.0	25.0	25.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effct Green (s)	28.7	28.7	24.8	80.8	62.4	91.2			
Actuated g/C Ratio	0.22	0.22	0.19	0.61	0.47	0.69			
v/c Ratio	0.70	0.36	0.56	0.54	0.82	0.42			
Control Delay	69.8	27.3	25.4	23.9	38.4	3.9			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	69.8	27.3	25.4	23.9	38.4	3.9			
LOS	E	C	C	C	D	A			
Approach Delay	59.2			24.2	29.2				
Approach LOS	E			C	C				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 32.5
 Intersection LOS: C
 Intersection Capacity Utilization 67.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	522	174	359	1163	1370	500
v/c Ratio	0.70	0.36	0.56	0.54	0.82	0.42
Control Delay	69.8	27.3	25.4	23.9	38.4	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.8	27.3	25.4	23.9	38.4	3.9
Queue Length 50th (ft)	198	73	74	325	416	86
Queue Length 95th (ft)	196	103	107	391	m#721	m130
Internal Link Dist (ft)	1267			1166	1137	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	774	491	1352	2167	1674	1207
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.35	0.27	0.54	0.82	0.41

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1470	930	1480	1040	0	
Future Volume (vph)	0	1470	930	1480	1040	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.98			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1212			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1913		1540		
Travel Time (s)		6.2	32.6		30.0		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1598	1011	1609	1130	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1598	1011	1609	1130	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		82.0	38.0	50.0	50.0	44.0	
Total Split (%)		62.1%	28.8%	37.9%	37.9%	33%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		76.0	32.0	44.0	44.0		42.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effect Green (s)		78.0	78.0	124.0	46.0		
Actuated g/C Ratio		0.59	0.59	0.94	0.35		
v/c Ratio		0.76	0.92	0.61	0.94		
Control Delay		23.3	25.2	4.5	34.7		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		23.3	25.2	4.5	34.7		
LOS		C	C	A	C		
Approach Delay		23.3	12.5		34.7		
Approach LOS		C	B		C		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	32 (24%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay:	20.4
Intersection LOS:	C
Intersection Capacity Utilization	85.3%
ICU Level of Service	E
Analysis Period (min)	15

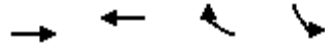
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1598	1011	1609	1130
v/c Ratio	0.76	0.92	0.61	0.94
Control Delay	23.3	25.2	4.5	34.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.3	25.2	4.5	34.7
Queue Length 50th (ft)	511	340	136	423
Queue Length 95th (ft)	605	#1098	106	#599
Internal Link Dist (ft)	282	1833		1460
Turn Bay Length (ft)				
Base Capacity (vph)	2091	1100	2650	1196
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.76	0.92	0.61	0.94

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023

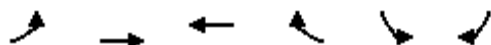


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑↔		↘	↙
Traffic Volume (vph)	280	2100	1470	90	70	170
Future Volume (vph)	280	2100	1470	90	70	170
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	3			2	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.991			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5040	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5040	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			9			185
Link Speed (mph)		40	40		30	
Link Distance (ft)		1403	3070		2619	
Travel Time (s)		23.9	52.3		59.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	2283	1598	98	76	185
Shared Lane Traffic (%)						
Lane Group Flow (vph)	304	2283	1696	0	76	185
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	35.0	98.0	63.0		34.0	34.0

Lanes, Volumes, Timings

8: Newhall Avenue & Valle Del Oro

01/24/2023



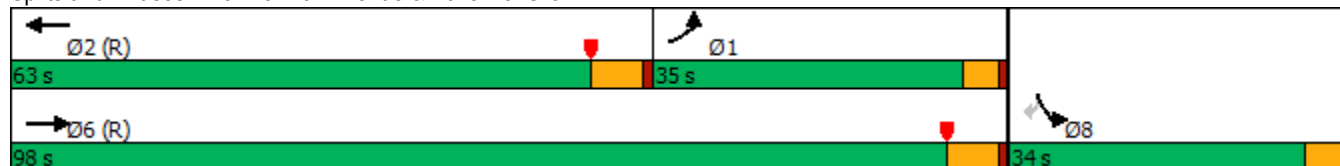
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	26.5%	74.2%	47.7%		25.8%	25.8%
Maximum Green (s)	30.5	92.0	57.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	31.0	112.0	77.0		12.0	12.0
Actuated g/C Ratio	0.23	0.85	0.58		0.09	0.09
v/c Ratio	0.73	0.53	0.58		0.47	0.59
Control Delay	53.0	3.3	7.1		67.8	22.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	53.0	3.3	7.1		67.8	22.4
LOS	D	A	A		E	C
Approach Delay	9.1		7.1		35.6	
Approach LOS	A		A		D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 53 (40%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 9.9
 Intersection Capacity Utilization 59.8%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service B

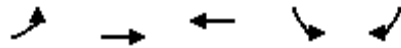
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	304	2283	1696	76	185
v/c Ratio	0.73	0.53	0.58	0.47	0.59
Control Delay	53.0	3.3	7.1	67.8	22.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	53.0	3.3	7.1	67.8	22.4
Queue Length 50th (ft)	238	177	121	66	21
Queue Length 95th (ft)	m297	m209	140	119	104
Internal Link Dist (ft)		1323	2990	2539	
Turn Bay Length (ft)	150				
Base Capacity (vph)	415	4313	2942	402	502
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.73	0.53	0.58	0.19	0.37

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	1750	10	240	1130	660	50	1450	140	80	260	250
Future Volume (vph)	100	1750	10	240	1130	660	50	1450	140	80	260	250
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		300
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.926	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4709	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4709	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			395			149		186	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3070			687			398			2905	
Travel Time (s)		52.3			11.7			9.0			66.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	1902	11	261	1228	717	54	1576	152	87	283	272
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	1902	11	261	1228	717	54	1576	152	87	555	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	50.0	50.0	20.0	45.0	45.0	20.0	42.0	42.0	20.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

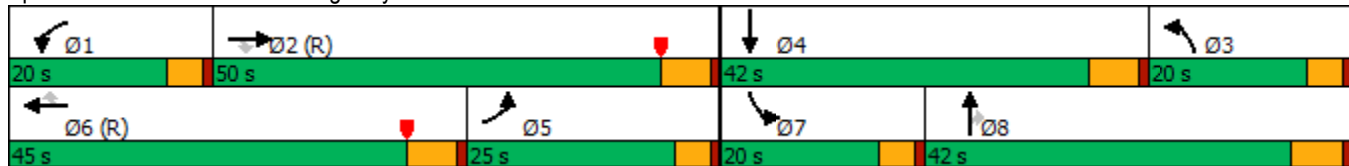


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	37.9%	37.9%	15.2%	34.1%	34.1%	15.2%	31.8%	31.8%	15.2%	31.8%	
Maximum Green (s)	20.5	44.0	44.0	15.5	39.0	39.0	15.5	36.0	36.0	15.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	47.3	47.3	14.7	41.0	41.0	28.7	41.9	39.9	12.1	27.4	
Actuated g/C Ratio	0.16	0.36	0.36	0.11	0.31	0.31	0.22	0.32	0.30	0.09	0.21	
v/c Ratio	0.20	1.04	0.02	0.68	0.78	0.94	0.07	1.40	0.26	0.54	0.49	
Control Delay	61.6	83.8	0.0	65.8	45.5	40.7	38.4	222.7	7.1	76.5	33.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	61.6	83.8	0.0	65.8	45.5	40.7	38.4	222.7	7.1	76.5	33.1	
LOS	E	F	A	E	D	D	D	F	A	E	C	
Approach Delay		82.2			46.3			198.7			39.0	
Approach LOS		F			D			F			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.40
 Intersection Signal Delay: 97.3
 Intersection LOS: F
 Intersection Capacity Utilization 98.5%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023





















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	109	1902	11	261	1228	717	54	1576	152	87	555
v/c Ratio	0.20	1.04	0.02	0.68	0.78	0.94	0.07	1.40	0.26	0.54	0.49
Control Delay	61.6	83.8	0.0	65.8	45.5	40.7	38.4	222.7	7.1	76.5	33.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	83.8	0.0	65.8	45.5	40.7	38.4	222.7	7.1	76.5	33.1
Queue Length 50th (ft)	47	~662	0	111	350	318	17	~952	2	68	81
Queue Length 95th (ft)	81	#781	m0	158	408	#589	37	#1137	55	137	171
Internal Link Dist (ft)		2990			607			318			2825
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1821	662	416	1579	764	796	1122	582	214	1625
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	1.04	0.02	0.63	0.78	0.94	0.07	1.40	0.26	0.41	0.34

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	980	1150	20	1870	0	0	0	0	10	0	460
Future Volume (vph)	0	980	1150	20	1870	0	0	0	0	10	0	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.950	0.850									0.850
Fl _t Protected				0.950							0.950	
Satd. Flow (prot)	0	3221	1441	1770	3539	0	0	0	0	0	1770	1583
Fl _t Permitted				0.950							0.950	
Satd. Flow (perm)	0	3221	1441	1770	3539	0	0	0	0	0	1770	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		687			492			504			602	
Travel Time (s)		11.7			8.4			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1065	1250	22	2033	0	0	0	0	11	0	500
Shared Lane Traffic (%)			43%									
Lane Group Flow (vph)	0	1603	712	22	2033	0	0	0	0	0	11	500
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	86.8%
ICU Level of Service	E
Analysis Period (min)	15

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	980	1150	20	1870	0	0	0	0	10	0	460
Future Vol, veh/h	0	980	1150	20	1870	0	0	0	0	10	0	460
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082488832	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1065	1250	22	2033	0	0	0	0	11	0	500

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	1065	0	0		2610	3142	-
Stage 1	-	-	-	-	-	-		2077	2077	-
Stage 2	-	-	-	-	-	-		533	1065	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	650	-	0		20	11	0
Stage 1	0	-	-	-	-	0		82	94	0
Stage 2	0	-	-	-	-	0		553	297	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	650	-	-		19	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		19	0	-
Stage 1	-	-	-	-	-	-		82	0	-
Stage 2	-	-	-	-	-	-		534	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	\$ 339.1
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	650	-	19	-
HCM Lane V/C Ratio	-	-	0.033	-	0.572	-
HCM Control Delay (s)	-	-	10.7	-	\$ 339.1	0
HCM Lane LOS	-	-	B	-	F	A
HCM 95th %tile Q(veh)	-	-	0.1	-	1.6	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	0	0	0	110	0	620
Future Volume (vph)	0	0	0	110	0	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr _t						0.865
Fl _t Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Fl _t Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	492			551	676	
Travel Time (s)	8.4			9.4	15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	120	0	674
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	120	0	674
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	86.8%
Analysis Period (min)	15
	ICU Level of Service E

Intersection						
Int Delay, s/veh	11.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	0	0	0	110	0	620
Future Vol, veh/h	0	0	0	110	0	620
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	120	0	674



















Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	-	-	-	1
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	0	0	-	1083
Stage 1	-	0	0	-	0
Stage 2	-	0	0	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	1083
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	1083	-	-
HCM Lane V/C Ratio	0.622	-	-
HCM Control Delay (s)	13.6	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	4.5	-	-

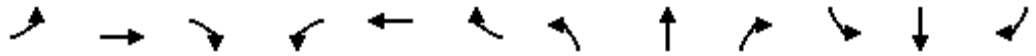
Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	1130	0	0	840	690	370	0	330	0	0	0
Future Volume (vph)	220	1130	0	0	840	690	370	0	330	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.932				0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1770	3539	0	0	4739	0	1681	1681	1583	0	0	0
Flt Permitted	0.950						0.950	0.950				
Satd. Flow (perm)	1770	3539	0	0	4739	0	1681	1681	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					254				73			
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		1093			1835			601			382	
Travel Time (s)		18.6			31.3			13.7			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	1228	0	0	913	750	402	0	359	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	239	1228	0	0	1663	0	201	201	359	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

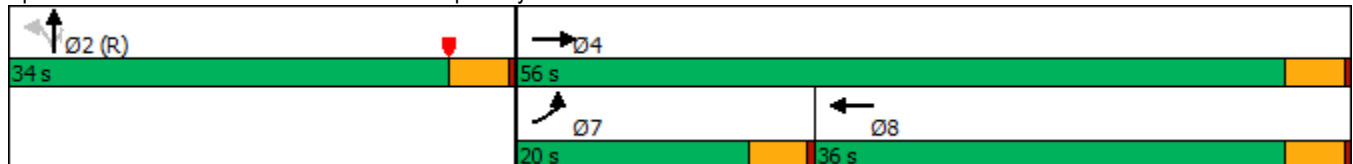


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			10.0		10.0	10.0	10.0			
Minimum Split (s)	14.5	22.5			22.5		32.5	32.5	32.5			
Total Split (s)	20.0	56.0			36.0		34.0	34.0	34.0			
Total Split (%)	22.2%	62.2%			40.0%		37.8%	37.8%	37.8%			
Maximum Green (s)	15.5	51.5			31.5		29.5	29.5	29.5			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	0.5	0.5			0.5		0.5	0.5	0.5			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	4.5			4.5		4.5	4.5	4.5			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.8	50.9			31.6		30.1	30.1	30.1			
Actuated g/C Ratio	0.16	0.57			0.35		0.33	0.33	0.33			
v/c Ratio	0.82	0.61			1.03dr		0.36	0.36	0.62			
Control Delay	60.0	14.6			32.4		25.2	25.2	25.6			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	60.0	14.6			32.4		25.2	25.2	25.6			
LOS	E	B			C		C	C	C			
Approach Delay		22.0			32.4			25.4				
Approach LOS		C			C			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 27.1 Intersection LOS: C
 Intersection Capacity Utilization 65.4% ICU Level of Service C
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

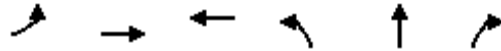
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	239	1228	1663	201	201	359
v/c Ratio	0.82	0.61	1.03dr	0.36	0.36	0.62
Control Delay	60.0	14.6	32.4	25.2	25.2	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	14.6	32.4	25.2	25.2	25.6
Queue Length 50th (ft)	132	223	283	91	91	136
Queue Length 95th (ft)	#248	286	#385	153	153	232
Internal Link Dist (ft)		1013	1755		521	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	304	2025	1827	562	562	578
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.61	0.91	0.36	0.36	0.62

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	400	1210	130	180	1150	160	160	490	280	270	390	270
Future Volume (vph)	400	1210	130	180	1150	160	160	490	280	270	390	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.982				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4994	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4994	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99		20				304			94
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1835			5346			887				1679
Travel Time (s)		31.3			91.1			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	435	1315	141	196	1250	174	174	533	304	293	424	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	435	1315	141	196	1424	0	174	533	304	293	424	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/24/2023

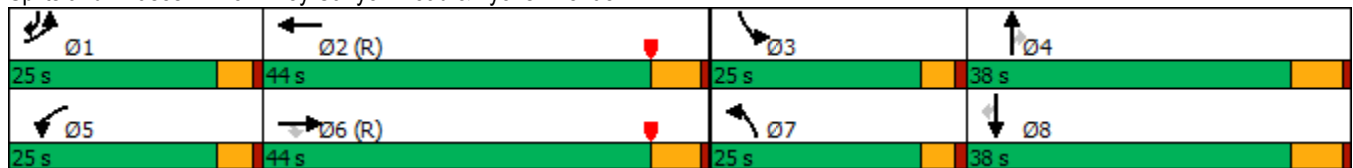


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	25.0	44.0	44.0	25.0	44.0		25.0	38.0	38.0	25.0	38.0	25.0
Total Split (%)	18.9%	33.3%	33.3%	18.9%	33.3%		18.9%	28.8%	28.8%	18.9%	28.8%	18.9%
Maximum Green (s)	20.5	38.0	38.0	20.5	38.0		20.5	32.0	32.0	20.5	32.0	20.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	21.7	46.2	46.2	19.7	44.2		18.2	29.0	29.0	21.0	31.8	57.5
Actuated g/C Ratio	0.16	0.35	0.35	0.15	0.33		0.14	0.22	0.22	0.16	0.24	0.44
v/c Ratio	0.83	1.14	0.24	0.80	0.84		0.77	0.73	0.54	1.12	0.51	0.39
Control Delay	67.0	112.1	12.8	93.1	19.8		76.1	54.0	8.1	141.0	45.8	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	112.1	12.8	93.1	19.8		76.1	54.0	8.1	141.0	45.8	18.1
LOS	E	F	B	F	B		E	D	A	F	D	B
Approach Delay		94.3			28.6			44.0			65.4	
Approach LOS		F			C			D			E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 60.6
 Intersection LOS: E
 Intersection Capacity Utilization 85.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	435	1315	141	196	1424	174	533	304	293	424	293
v/c Ratio	0.83	1.14	0.24	0.80	0.84	0.77	0.73	0.54	1.12	0.51	0.39
Control Delay	67.0	112.1	12.8	93.1	19.8	76.1	54.0	8.1	141.0	45.8	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	112.1	12.8	93.1	19.8	76.1	54.0	8.1	141.0	45.8	18.1
Queue Length 50th (ft)	182	~716	25	155	367	144	224	0	~287	168	108
Queue Length 95th (ft)	#273	#902	79	m198	m250	223	276	75	#471	216	182
Internal Link Dist (ft)		1755			5266		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	539	1156	581	268	1687	262	850	606	262	881	748
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	1.14	0.24	0.73	0.84	0.66	0.63	0.50	1.12	0.48	0.39

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

























Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	280	1260	120	120	1370	640	80	130	10	540	160	220
Future Volume (vph)	280	1260	120	120	1370	640	80	130	10	540	160	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			298			112			239
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5346			2329			465				345
Travel Time (s)		104.1			45.4			9.1				5.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	1370	130	130	1489	696	87	141	11	587	174	239
Shared Lane Traffic (%)												
Lane Group Flow (vph)	304	1370	130	130	1489	696	87	141	11	587	174	239
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

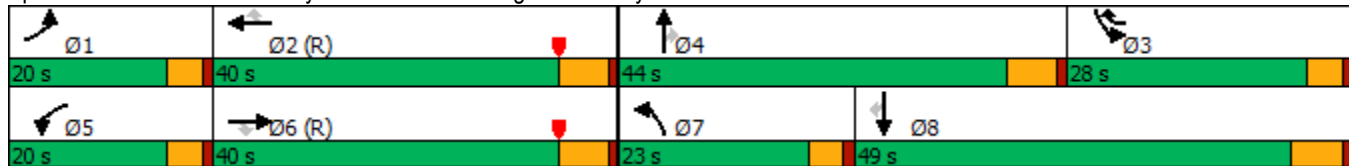


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	18.5	54.5	54.5	16.2	52.2	84.7	12.8	12.8	12.8	32.5	32.6	32.6
Actuated g/C Ratio	0.14	0.41	0.41	0.12	0.40	0.64	0.10	0.10	0.10	0.25	0.25	0.25
v/c Ratio	0.68	1.01	0.18	0.64	0.97	0.57	0.55	0.42	0.05	0.70	0.39	0.43
Control Delay	35.4	58.4	15.9	49.0	60.9	12.7	68.9	59.6	0.4	49.5	43.7	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	58.4	15.9	49.0	60.9	12.7	68.9	59.6	0.4	49.5	43.7	7.0
LOS	D	E	B	D	E	B	E	E	A	D	D	A
Approach Delay		51.4			45.7			60.3			38.4	
Approach LOS		D			D			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 2 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 46.9 Intersection LOS: D
 Intersection Capacity Utilization 78.2% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	304	1370	130	130	1489	696	87	141	11	587	174	239
v/c Ratio	0.68	1.01	0.18	0.64	0.97	0.57	0.55	0.42	0.05	0.70	0.39	0.43
Control Delay	35.4	58.4	15.9	49.0	60.9	12.7	68.9	59.6	0.4	49.5	43.7	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	58.4	15.9	49.0	60.9	12.7	68.9	59.6	0.4	49.5	43.7	7.0
Queue Length 50th (ft)	126	~667	41	98	710	279	72	61	0	236	125	0
Queue Length 95th (ft)	m117	m#734	m42	m95	m#768	m264	124	94	0	283	187	64
Internal Link Dist (ft)		5266			2249			385			265	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	458	1363	719	222	1540	1224	237	1036	493	844	613	679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	1.01	0.18	0.59	0.97	0.57	0.37	0.14	0.02	0.70	0.28	0.35

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	610	1510	70	780	30	930	110	60	10	140	110
Future Volume (vph)	110	610	1510	70	780	30	930	110	60	10	140	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1619	3539	1468	1638	3539	1356	3123	1863	1471	1671	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			403			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2329			1347			528				401
Travel Time (s)		45.4			26.2			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	663	1641	76	848	33	1011	120	65	11	152	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	120	663	1641	76	848	33	1011	120	65	11	152	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

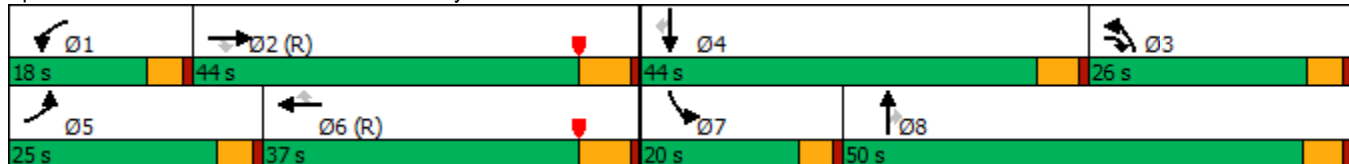


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	25.0	44.0	26.0	18.0	37.0	37.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	18.9%	33.3%	19.7%	13.6%	28.0%	28.0%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	20.5	38.0	21.5	13.5	31.0	31.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	24.0		24.0		24.0		32.0		32.0		32.0	
Pedestrian Calls (#/hr)	27		27		27		43		43		43	
Act Effct Green (s)	15.3	44.9	72.6	11.4	38.7	38.7	27.7	61.2	61.2	7.0	34.3	34.3
Actuated g/C Ratio	0.12	0.34	0.55	0.09	0.29	0.29	0.21	0.46	0.46	0.05	0.26	0.26
v/c Ratio	0.63	0.55	1.64	0.54	0.82	0.06	1.45	0.14	0.09	0.12	0.33	0.26
Control Delay	78.2	25.2	310.5	82.5	45.4	0.4	247.8	22.3	0.2	62.0	39.5	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.2	25.2	310.5	82.5	45.4	0.4	247.8	22.3	0.2	62.0	39.5	4.8
LOS	E	C	F	F	D	A	F	C	A	E	D	A
Approach Delay	221.0		46.8		211.7		25.7					
Approach LOS	F		D		F		C					

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 47 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.64
 Intersection Signal Delay: 173.0 Intersection LOS: F
 Intersection Capacity Utilization 134.9% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	120	663	1641	76	848	33	1011	120	65	11	152	120
v/c Ratio	0.63	0.55	1.64	0.54	0.82	0.06	1.45	0.14	0.09	0.12	0.33	0.26
Control Delay	78.2	25.2	310.5	82.5	45.4	0.4	247.8	22.3	0.2	62.0	39.5	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.2	25.2	310.5	82.5	45.4	0.4	247.8	22.3	0.2	62.0	39.5	4.8
Queue Length 50th (ft)	95	193	~2084	64	324	0	~673	53	0	9	99	0
Queue Length 95th (ft)	m127	m165	m#2189	118	#507	1	#806	108	0	29	159	33
Internal Link Dist (ft)		2249			1267			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	262	1202	1001	175	1036	516	697	864	755	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.55	1.64	0.43	0.82	0.06	1.45	0.14	0.09	0.05	0.28	0.23

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Placerita Canyon Road/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	30	10	50	10	20	160	20	280	10	240	220	10
Future Volume (vph)	30	10	50	10	20	160	20	280	10	240	220	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.926			0.887			0.996			0.997	
Flt Protected		0.983			0.997			0.997			0.975	
Satd. Flow (prot)	0	1696	0	0	1647	0	0	1850	0	0	1811	0
Flt Permitted		0.983			0.997			0.997			0.975	
Satd. Flow (perm)	0	1696	0	0	1647	0	0	1850	0	0	1811	0
Link Speed (mph)		25			25			35			25	
Link Distance (ft)		391			842			1231			423	
Travel Time (s)		10.7			23.0			24.0			11.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	11	54	11	22	174	22	304	11	261	239	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	98	0	0	207	0	0	337	0	0	511	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	68.7%
ICU Level of Service	C
Analysis Period (min)	15

HCM 6th TWSC
 17: Placerita Canyon Road/Arch Street & 12th Street

01/24/2023

Intersection												
Int Delay, s/veh	8.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	30	10	50	10	20	160	20	280	10	240	220	10
Future Vol, veh/h	30	10	50	10	20	160	20	280	10	240	220	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	11	54	11	22	174	22	304	11	261	239	11




















Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1219	1126	245	1153	1126	310	250	0	0	315	0	0
Stage 1	767	767	-	354	354	-	-	-	-	-	-	-
Stage 2	452	359	-	799	772	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	157	205	794	174	205	730	1316	-	-	1245	-	-
Stage 1	395	411	-	663	630	-	-	-	-	-	-	-
Stage 2	587	627	-	379	409	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	86	152	794	123	152	730	1316	-	-	1245	-	-
Mov Cap-2 Maneuver	86	152	-	123	152	-	-	-	-	-	-	-
Stage 1	387	311	-	650	617	-	-	-	-	-	-	-
Stage 2	423	614	-	258	309	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	43.2	16.3	0.5	4.4
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1316	-	-	188	513	1245	-	-
HCM Lane V/C Ratio	0.017	-	-	0.52	0.381	0.21	-	-
HCM Control Delay (s)	7.8	0	-	43.2	16.3	8.7	0	-
HCM Lane LOS	A	A	-	E	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.6	1.8	0.8	-	-

Lanes, Volumes, Timings
19: Valle Del Oro & Dockweiler Drive

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	220	330	10	10	20	10	420	10	10	10
Future Volume (vph)	10	10	220	330	10	10	20	10	420	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.857			0.925			0.874			0.955	
Flt Protected	0.950			0.950				0.998			0.984	
Satd. Flow (prot)	1770	1596	0	1770	1723	0	0	1625	0	0	1750	0
Flt Permitted	0.950			0.950				0.998			0.984	
Satd. Flow (perm)	1770	1596	0	1770	1723	0	0	1625	0	0	1750	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		298			3919			2619			300	
Travel Time (s)		6.8			89.1			59.5			6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	11	239	359	11	11	22	11	457	11	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	250	0	359	22	0	0	490	0	0	33	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	70.6%						ICU Level of Service C					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	11.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Traffic Vol, veh/h	10	10	220	330	10	10	20	10	420	10	10	10
Future Vol, veh/h	10	10	220	330	10	10	20	10	420	10	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	239	359	11	11	22	11	457	11	11	11

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	22	0	0	250	0	0	899	893	131	1122	1007	17
Stage 1	-	-	-	-	-	-	153	153	-	735	735	-
Stage 2	-	-	-	-	-	-	746	740	-	387	272	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1593	-	-	1316	-	-	260	281	919	183	241	1062
Stage 1	-	-	-	-	-	-	849	771	-	411	425	-
Stage 2	-	-	-	-	-	-	405	423	-	637	685	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1593	-	-	1316	-	-	193	203	919	70	174	1062
Mov Cap-2 Maneuver	-	-	-	-	-	-	193	203	-	70	174	-
Stage 1	-	-	-	-	-	-	843	766	-	408	309	-
Stage 2	-	-	-	-	-	-	281	308	-	314	680	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	8.3	18.9	37.5
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	738	1593	-	-	1316	-	-	143
HCM Lane V/C Ratio	0.663	0.007	-	-	0.273	-	-	0.228
HCM Control Delay (s)	18.9	7.3	-	-	8.8	-	-	37.5
HCM Lane LOS	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	5.1	0	-	-	1.1	-	-	0.8

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	120	20	120	2060	540	350
Future Volume (vph)	120	20	120	2060	540	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.998	0.850				0.850
Flt Protected	0.953		0.950			
Satd. Flow (prot)	3437	1441	1770	3539	3539	1583
Flt Permitted	0.953		0.950			
Satd. Flow (perm)	3437	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	1	20				380
Link Speed (mph)	30			50	50	
Link Distance (ft)	3919			2905	621	
Travel Time (s)	89.1			39.6	8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	22	130	2239	587	380
Shared Lane Traffic (%)		10%				
Lane Group Flow (vph)	132	20	130	2239	587	380
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	15.0	21.0	30.0	30.0
Total Split (s)	35.0	35.0	22.0	97.0	75.0	75.0
Total Split (%)	26.5%	26.5%	16.7%	73.5%	56.8%	56.8%
Maximum Green (s)	30.0	30.0	17.0	92.0	70.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	11.1	11.1	15.0	110.9	90.9	90.9
Actuated g/C Ratio	0.08	0.08	0.11	0.84	0.69	0.69
v/c Ratio	0.46	0.14	0.65	0.75	0.24	0.31
Control Delay	62.2	23.1	48.4	17.0	11.7	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	23.1	48.4	17.0	11.7	5.2
LOS	E	C	D	B	B	A
Approach Delay	57.1			18.7	9.1	
Approach LOS	E			B	A	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 17.7
 Intersection LOS: B
 Intersection Capacity Utilization 73.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	132	20	130	2239	587	380
v/c Ratio	0.46	0.14	0.65	0.75	0.24	0.31
Control Delay	62.2	23.1	48.4	17.0	11.7	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	23.1	48.4	17.0	11.7	5.2
Queue Length 50th (ft)	56	0	112	455	75	0
Queue Length 95th (ft)	88	28	m93	m316	244	191
Internal Link Dist (ft)	3839			2825	541	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	781	342	237	2974	2437	1208
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.06	0.55	0.75	0.24	0.31

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	50	10	80	30	650	10	2200	400	290	790	20
Future Volume (vph)	30	50	10	80	30	650	10	2200	400	290	790	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.734			0.720			0.950			0.950		
Satd. Flow (perm)	1367	3539	1583	1341	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			225			118			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		816			677			2247			787	
Travel Time (s)		12.4			10.3			30.6			10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	54	11	87	33	707	11	2391	435	315	859	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	54	11	87	33	707	11	2391	435	315	859	22
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8		6		6		2

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

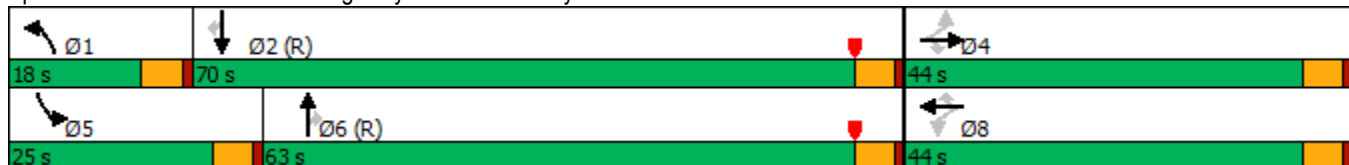


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	20.0	20.0	20.0	37.0	37.0	37.0	15.0	20.0	20.0	15.0	39.0	39.0
Total Split (s)	44.0	44.0	44.0	44.0	44.0	44.0	18.0	63.0	63.0	25.0	70.0	70.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	13.6%	47.7%	47.7%	18.9%	53.0%	53.0%
Maximum Green (s)	39.0	39.0	39.0	39.0	39.0	39.0	13.0	58.0	58.0	20.0	65.0	65.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	39.0	39.0	39.0	39.0	39.0	39.0	10.0	58.0	58.0	20.0	80.0	80.0
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30	0.30	0.08	0.44	0.44	0.15	0.61	0.61
v/c Ratio	0.08	0.05	0.02	0.22	0.03	1.13	0.08	1.54	0.57	1.18	0.40	0.02
Control Delay	34.4	33.5	0.1	36.9	33.3	106.6	61.0	277.1	26.2	157.4	14.8	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.2	0.0	0.0	0.0	0.0
Total Delay	34.4	33.5	0.1	36.9	33.3	106.9	61.0	278.2	26.2	157.4	14.8	1.6
LOS	C	C	A	D	C	F	E	F	C	F	B	A
Approach Delay		30.1			96.6			238.8			52.1	
Approach LOS		C			F			F			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.54
 Intersection Signal Delay: 165.9
 Intersection LOS: F
 Intersection Capacity Utilization 121.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023














Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	33	54	11	87	33	707	11	2391	435	315	859	22
v/c Ratio	0.08	0.05	0.02	0.22	0.03	1.13	0.08	1.54	0.57	1.18	0.40	0.02
Control Delay	34.4	33.5	0.1	36.9	33.3	106.6	61.0	277.1	26.2	157.4	14.8	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.2	0.0	0.0	0.0	0.0
Total Delay	34.4	33.5	0.1	36.9	33.3	106.9	61.0	278.2	26.2	157.4	14.8	1.6
Queue Length 50th (ft)	21	17	0	56	10	~557	10	~1548	254	~324	189	0
Queue Length 95th (ft)	47	34	0	102	24	#801	m17	#1682	288	#511	304	3
Internal Link Dist (ft)		736			597			2167				707
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	403	1045	537	396	1045	626	174	1555	761	268	2145	981
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	26	0	417	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.05	0.02	0.22	0.03	1.18	0.06	2.10	0.57	1.18	0.40	0.02

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	40	40	2940	60	800	900
Future Volume (vph)	40	40	2940	60	800	900
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		0	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Frt		0.850	0.997			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3529	0	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3529	0	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		43	3			
Link Speed (mph)	30		50			50
Link Distance (ft)	615		787			1009
Travel Time (s)	14.0		10.7			13.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	43	3196	65	870	978
Shared Lane Traffic (%)						
Lane Group Flow (vph)	43	43	3261	0	870	978
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				

Lanes, Volumes, Timings

22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023

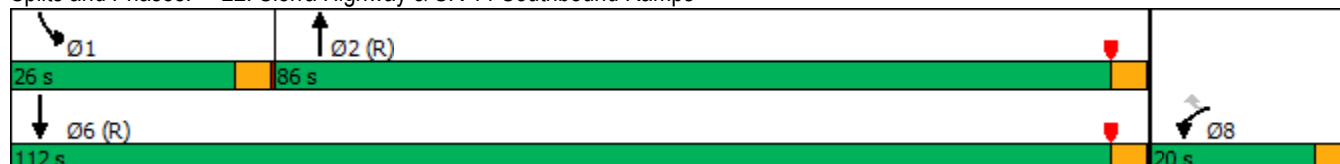


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		8.0	20.0
Total Split (s)	20.0	20.0	86.0		26.0	112.0
Total Split (%)	15.2%	15.2%	65.2%		19.7%	84.8%
Maximum Green (s)	16.0	16.0	82.0		22.0	108.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effect Green (s)	8.6	8.6	82.0		31.3	118.1
Actuated g/C Ratio	0.07	0.07	0.62		0.24	0.89
v/c Ratio	0.37	0.30	1.49		1.07	0.31
Control Delay	67.4	21.5	242.2		99.6	1.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	67.4	21.5	242.2		99.6	1.7
LOS	E	C	F		F	A
Approach Delay	44.5		242.2			47.8
Approach LOS	D		F			D

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.49
 Intersection Signal Delay: 169.7
 Intersection LOS: F
 Intersection Capacity Utilization 119.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR 14 Southbound Ramps



Queues

22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	43	43	3261	870	978
v/c Ratio	0.37	0.30	1.49	1.07	0.31
Control Delay	67.4	21.5	242.2	99.6	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	67.4	21.5	242.2	99.6	1.7
Queue Length 50th (ft)	36	0	~2005	~446	52
Queue Length 95th (ft)	74	38	m#1148	#614	82
Internal Link Dist (ft)	535		707		929
Turn Bay Length (ft)				160	
Base Capacity (vph)	214	229	2193	813	3165
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.19	1.49	1.07	0.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	290	0	0	330	230	190
Future Volume (vph)	290	0	0	330	230	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	677			645	774	
Travel Time (s)	10.3			9.8	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	0	0	359	250	207
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	359	250	207
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	28.5%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
 23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023

Intersection						
Int Delay, s/veh	6.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	290	0	0	330	230	190
Future Vol, veh/h	290	0	0	330	230	190
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	315	0	0	359	250	207

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	495 158
Stage 1	-	-	-	-	315 -
Stage 2	-	-	-	-	180 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	504 859
Stage 1	-	0	0	-	713 -
Stage 2	-	0	0	-	833 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	504 859
Mov Cap-2 Maneuver	-	-	-	-	504 -
Stage 1	-	-	-	-	713 -
Stage 2	-	-	-	-	833 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	504	859	-	-
HCM Lane V/C Ratio	0.496	0.24	-	-
HCM Control Delay (s)	19	10.5	-	-
HCM Lane LOS	C	B	-	-
HCM 95th %tile Q(veh)	2.7	0.9	-	-

***Future with Project
without DDEP Conditions***

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	880	250	670	1840	70	450	642	170	210	2569	450
Future Volume (vph)	140	880	250	670	1840	70	450	642	170	210	2569	450
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	0		230
Storage Lanes	3		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			136			186			112
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			2037			1105	
Travel Time (s)		13.2			11.3			30.9			16.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	21.0	36.0	22.0	21.0	36.0	36.0	22.0	45.0	45.0	30.0	53.0	21.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

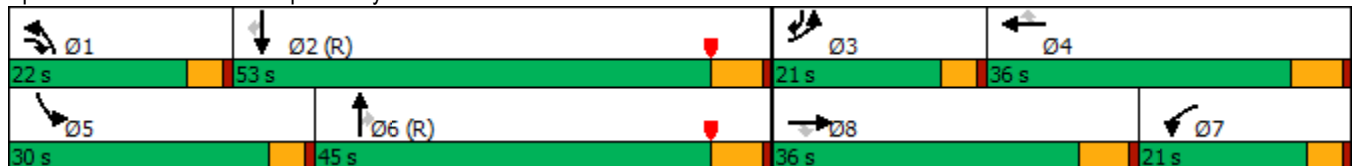


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	15.9%	27.3%	16.7%	15.9%	27.3%	27.3%	16.7%	34.1%	34.1%	22.7%	40.2%	15.9%
Maximum Green (s)	16.5	30.0	17.5	16.5	30.0	30.0	17.5	39.0	39.0	25.5	47.0	16.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	7.9	29.2	47.2	19.8	41.1	41.1	18.0	54.3	54.3	12.7	49.0	60.9
Actuated g/C Ratio	0.06	0.22	0.36	0.15	0.31	0.31	0.14	0.41	0.41	0.10	0.37	0.46
v/c Ratio	0.51	0.67	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.17	0.62
Control Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	40.6	17.4	68.7	120.8	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	40.6	17.4	68.7	120.8	23.8
LOS	E	D	B	F	E	A	F	D	B	E	F	C
Approach Delay		43.9			109.4			57.1			103.9	
Approach LOS		D			F			E			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 105 (80%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.42
 Intersection Signal Delay: 89.4
 Intersection LOS: F
 Intersection Capacity Utilization 95.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
v/c Ratio	0.51	0.67	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.17	0.62
Control Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	40.6	17.4	68.7	120.8	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	40.6	17.4	68.7	120.8	23.8
Queue Length 50th (ft)	45	218	63	~438	~500	0	~234	162	46	98	~828	240
Queue Length 95th (ft)	69	252	115	#589	#621	0	#332	195	119	139	#895	348
Internal Link Dist (ft)		790			665			1957			1025	
Turn Bay Length (ft)	270		265	280		340	300					230
Base Capacity (vph)	642	1553	638	513	1993	586	468	2636	760	676	2378	892
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.62	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.34	1.17	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔↔	↕↕↕	↔↔↔
Traffic Volume (vph)	350	910	40	589	1030	290	20	582	291	450	1829	1550
Future Volume (vph)	350	910	40	589	1030	290	20	582	291	450	1829	1550
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		225	450		400
Storage Lanes	3		0	3		1	1		1	1		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5055	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5055	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				99			112			476
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			888			2037	
Travel Time (s)		32.4			35.4			13.5			30.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	380	989	43	640	1120	315	22	633	316	489	1988	1685
Shared Lane Traffic (%)												
Lane Group Flow (vph)	380	1032	0	640	1120	315	22	633	316	489	1988	1685
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	26.0	39.0		31.0	44.0	20.0	19.0	42.0	31.0	20.0	43.0	26.0

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

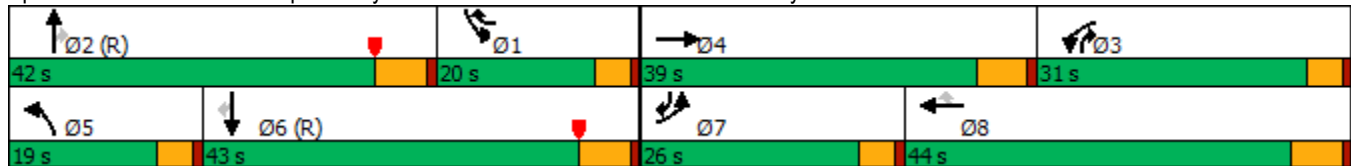


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	19.7%	29.5%		23.5%	33.3%	15.2%	14.4%	31.8%	23.5%	15.2%	32.6%	19.7%
Maximum Green (s)	21.5	33.0		26.5	38.0	15.5	14.5	36.0	26.5	15.5	37.0	21.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	22.0	33.5		25.5	37.0	53.0	7.7	41.0	70.5	16.0	53.4	79.4
Actuated g/C Ratio	0.17	0.25		0.19	0.28	0.40	0.06	0.31	0.53	0.12	0.40	0.60
v/c Ratio	0.46	0.80		0.66	0.79	0.45	0.21	0.40	0.35	1.18	0.97	0.90
Control Delay	51.6	51.3		52.9	48.1	12.1	52.8	31.0	5.8	115.5	22.9	17.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.6	51.3		52.9	48.1	12.1	52.8	31.0	5.8	115.5	22.9	17.1
LOS	D	D		D	D	B	D	C	A	F	C	B
Approach Delay		51.4			44.1			23.3			31.5	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	140
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.18
Intersection Signal Delay:	36.8
Intersection LOS:	D
Intersection Capacity Utilization:	87.5%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	380	1032	640	1120	315	22	633	316	489	1988	1685
v/c Ratio	0.46	0.80	0.66	0.79	0.45	0.21	0.40	0.35	1.18	0.97	0.90
Control Delay	51.6	51.3	52.9	48.1	12.1	52.8	31.0	5.8	115.5	22.9	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.6	51.3	52.9	48.1	12.1	52.8	31.0	5.8	115.5	22.9	17.1
Queue Length 50th (ft)	105	298	181	320	73	18	186	48	~255	~686	769
Queue Length 95th (ft)	139	353	222	369	116	m33	166	78	m#203	m#475	m628
Internal Link Dist (ft)		2060		2257			808			1957	
Turn Bay Length (ft)						250		225	450		400
Base Capacity (vph)	831	1344	1020	1540	695	201	1577	887	416	2056	1865
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.77	0.63	0.73	0.45	0.11	0.40	0.36	1.18	0.97	0.90

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	367	525	1263	1928	540
Future Volume (vph)	140	367	525	1263	1928	540
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		5				463
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4834	2595	
Travel Time (s)	44.4			65.9	39.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	399	571	1373	2096	587
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	399	571	1373	2096	587
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

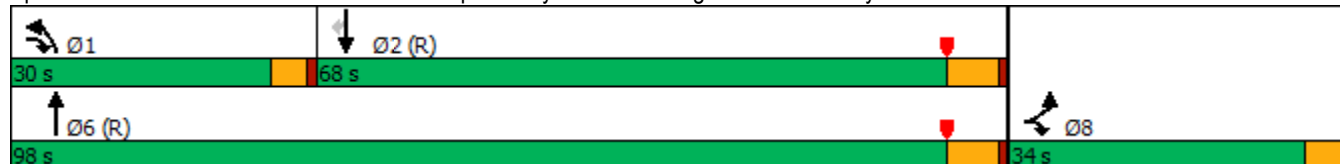


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effct Green (s)	30.0	59.4	25.4	94.0	64.6	64.6
Actuated g/C Ratio	0.23	0.45	0.19	0.71	0.49	0.49
v/c Ratio	0.38	0.32	0.87	0.54	1.21	0.58
Control Delay	46.4	23.7	62.3	10.3	124.9	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	23.7	62.3	10.3	124.9	5.3
LOS	D	C	E	B	F	A
Approach Delay	30.0			25.6	98.7	
Approach LOS	C			C	F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 77 (58%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.21
 Intersection Signal Delay: 63.9
 Intersection LOS: E
 Intersection Capacity Utilization 86.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	152	399	571	1373	2096	587
v/c Ratio	0.38	0.32	0.87	0.54	1.21	0.58
Control Delay	46.4	23.7	62.3	10.3	124.9	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	23.7	62.3	10.3	124.9	5.3
Queue Length 50th (ft)	111	119	207	466	~1191	69
Queue Length 95th (ft)	178	162	#329	102	m#1280	m67
Internal Link Dist (ft)	2848		4754		2515	
Turn Bay Length (ft)	290		290		386	
Base Capacity (vph)	402	1269	676	2520	1732	1011
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.31	0.84	0.54	1.21	0.58

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	94	690	1198	62	510	1325
Future Volume (vph)	94	690	1198	62	510	1325
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.882	0.850		0.850		
Flt Protected	0.989				0.950	
Satd. Flow (prot)	3152	1441	3539	1583	3433	3539
Flt Permitted	0.989				0.950	
Satd. Flow (perm)	3152	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	351	351		48		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4834
Travel Time (s)	10.9		27.3			65.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	102	750	1302	67	554	1440
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	477	375	1302	67	554	1440
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	15.1	15.1	77.8	77.8	27.1	108.9
Actuated g/C Ratio	0.11	0.11	0.59	0.59	0.21	0.82
v/c Ratio	0.71	0.79	0.62	0.07	0.79	0.49
Control Delay	20.2	19.4	22.7	6.8	45.9	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	19.4	22.7	6.8	45.9	6.2
LOS	C	B	C	A	D	A
Approach Delay	19.9		21.9			17.2
Approach LOS	B		C			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 19.3
 Intersection LOS: B
 Intersection Capacity Utilization 68.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023























Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	477	375	1302	67	554	1440
v/c Ratio	0.71	0.79	0.62	0.07	0.79	0.49
Control Delay	20.2	19.4	22.7	6.8	45.9	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	19.4	22.7	6.8	45.9	6.2
Queue Length 50th (ft)	53	20	537	3	245	275
Queue Length 95th (ft)	98	130	677	m46	m227	m158
Internal Link Dist (ft)	558		1922			4754
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1093	640	2086	953	736	2920
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.59	0.62	0.07	0.75	0.49

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	308	0	200	10	1120	559	249	1550	0
Future Volume (vph)	0	0	0	308	0	200	10	1120	559	249	1550	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	100		0
Storage Lanes	0		0	2		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor				0.99		0.95	1.00		0.96	0.99		
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	0	0	3433	0	1583	1770	3539	1583	1770	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	0	0	3393	0	1509	1761	3539	1527	1757	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						217			242			
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		183			612			1314			3196	
Travel Time (s)		5.0			11.9			19.9			48.4	
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	335	0	217	11	1217	608	271	1685	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	335	0	217	11	1217	608	271	1685	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)				50		50	50	50	50	50	50	
Trailing Detector (ft)				0		0	0	0	0	0	0	
Detector 1 Position(ft)				0		0	0	0	0	0	0	
Detector 1 Size(ft)				50		50	50	50	50	50	50	
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type				Prot		Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases				7			1	6	7	5	2	
Permitted Phases				7		7			6			
Detector Phase				7		7	1	6	7	5	2	
Switch Phase												
Minimum Initial (s)				4.0		4.0	4.0	4.0	4.0	4.0	4.0	

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/24/2023

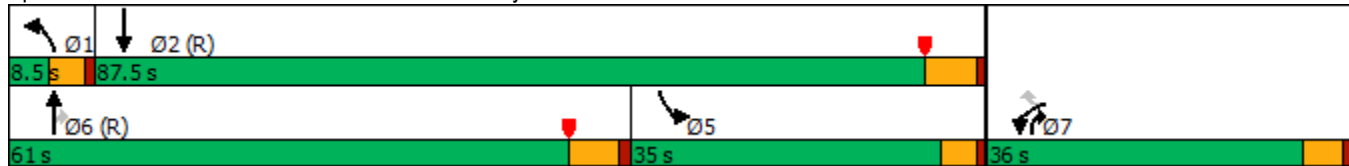


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				36.0		36.0	8.5	25.0	36.0	8.5	25.0	
Total Split (s)				36.0		36.0	8.5	61.0	36.0	35.0	87.5	
Total Split (%)				27.3%		27.3%	6.4%	46.2%	27.3%	26.5%	66.3%	
Maximum Green (s)				31.0		31.0	4.0	55.0	31.0	30.5	81.5	
Yellow Time (s)				4.0		4.0	3.5	5.0	4.0	3.5	5.0	
All-Red Time (s)				1.0		1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				-1.0		-1.0	-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)				4.0		4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None		None	None	C-Max	None	None	C-Max	
Walk Time (s)				7.0		7.0		7.0	7.0		7.0	
Flash Dont Walk (s)				21.0		21.0		11.0	21.0		11.0	
Pedestrian Calls (#/hr)				30		30		17	30		14	
Act Effect Green (s)				25.0		25.0	6.2	64.0	89.0	31.0	95.0	
Actuated g/C Ratio				0.19		0.19	0.05	0.48	0.67	0.23	0.72	
v/c Ratio				0.52		0.47	0.13	0.71	0.54	0.65	0.66	
Control Delay				38.0		10.9	62.1	33.1	8.4	64.3	18.9	
Queue Delay				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay				38.0		10.9	62.1	33.1	8.4	64.3	18.9	
LOS				D		B	E	C	A	E	B	
Approach Delay					27.3			25.1			25.2	
Approach LOS					C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 25.4
 Intersection LOS: C
 Intersection Capacity Utilization 65.0%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Queues

5: Railroad Avenue & Driveway/13th Street

01/24/2023



Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	335	217	11	1217	608	271	1685
v/c Ratio	0.52	0.47	0.13	0.71	0.54	0.65	0.66
Control Delay	38.0	10.9	62.1	33.1	8.4	64.3	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	10.9	62.1	33.1	8.4	64.3	18.9
Queue Length 50th (ft)	135	86	8	439	135	236	408
Queue Length 95th (ft)	184	138	m18	533	167	331	622
Internal Link Dist (ft)				1234			3116
Turn Bay Length (ft)	110		100		570	100	
Base Capacity (vph)	832	530	82	1715	1148	415	2547
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.41	0.13	0.71	0.53	0.65	0.66

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	353	140	300	1136	1235	392			
Future Volume (vph)	353	140	300	1136	1235	392			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		152				288			
Link Speed (mph)	35			35	45				
Link Distance (ft)	374			1566	1314				
Travel Time (s)	7.3			30.5	19.9				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	384	152	326	1235	1342	426			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	384	152	326	1235	1342	426			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	24			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	52.0	30.0	20.0	30.0	30.0

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023

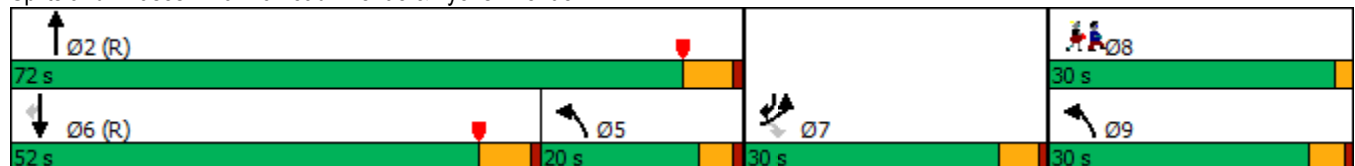


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	39.4%	22.7%	15%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	46.0	25.0	15.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effect Green (s)	22.0	22.0	23.5	88.8	70.5	92.5			
Actuated g/C Ratio	0.17	0.17	0.18	0.67	0.53	0.70			
v/c Ratio	0.67	0.39	0.53	0.52	0.71	0.36			
Control Delay	89.5	45.9	19.9	17.0	39.0	4.5			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	89.5	45.9	19.9	17.0	39.0	4.5			
LOS	F	D	B	B	D	A			
Approach Delay	77.1			17.6	30.7				
Approach LOS	E			B	C				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 103 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 31.9 Intersection LOS: C
 Intersection Capacity Utilization 62.8% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023

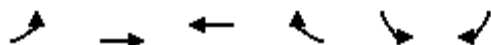


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	384	152	326	1235	1342	426
v/c Ratio	0.67	0.39	0.53	0.52	0.71	0.36
Control Delay	89.5	45.9	19.9	17.0	39.0	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.5	45.9	19.9	17.0	39.0	4.5
Queue Length 50th (ft)	179	95	58	280	513	77
Queue Length 95th (ft)	233	153	78	363	719	110
Internal Link Dist (ft)	294			1486	1234	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	676	433	1092	2379	1891	1235
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.35	0.30	0.52	0.71	0.34

Intersection Summary

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

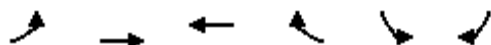
01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1030	610	1356	1365	0	
Future Volume (vph)	0	1030	610	1356	1365	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.97			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1474			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1645		1196		
Travel Time (s)		6.2	28.0		23.3		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1120	663	1474	1484	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1120	663	1474	1484	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		62.0	15.0	70.0	70.0	47.0	
Total Split (%)		47.0%	11.4%	53.0%	53.0%	36%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023

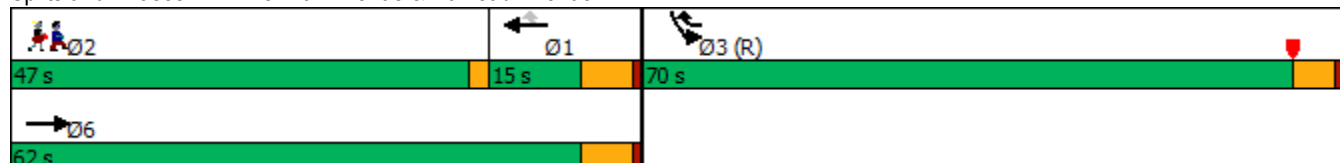


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		56.0	9.0	64.0	64.0		45.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		58.0	58.0	124.0	66.0		
Actuated g/C Ratio		0.44	0.44	0.94	0.50		
v/c Ratio		0.72	0.81	0.55	0.86		
Control Delay		33.6	20.0	6.2	13.5		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		33.6	20.0	6.2	13.5		
LOS		C	C	A	B		
Approach Delay		33.6	10.5		13.5		
Approach LOS		C	B		B		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	20 (15%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	16.9
Intersection LOS:	B
Intersection Capacity Utilization	77.7%
ICU Level of Service	D
Analysis Period (min)	15

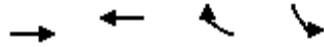
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1120	663	1474	1484
v/c Ratio	0.72	0.81	0.55	0.86
Control Delay	33.6	20.0	6.2	13.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	33.6	20.0	6.2	13.5
Queue Length 50th (ft)	407	132	463	631
Queue Length 95th (ft)	490	199	597	65
Internal Link Dist (ft)	282	1565		1116
Turn Bay Length (ft)				
Base Capacity (vph)	1555	818	2676	1716
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.72	0.81	0.55	0.86
Intersection Summary				

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑		↘	↙
Traffic Volume (vph)	170	1665	1487	30	330	160
Future Volume (vph)	170	1665	1487	30	330	160
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.997			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5070	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5070	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			3			174
Link Speed (mph)		40	40		30	
Link Distance (ft)		1545	3086		2703	
Travel Time (s)		26.3	52.6		61.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	1810	1616	33	359	174
Shared Lane Traffic (%)						
Lane Group Flow (vph)	185	1810	1649	0	359	174
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	25.0	98.0	73.0		34.0	34.0

Lanes, Volumes, Timings
 8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	18.9%	74.2%	55.3%		25.8%	25.8%
Maximum Green (s)	20.5	92.0	67.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	21.0	94.8	69.8		29.2	29.2
Actuated g/C Ratio	0.16	0.72	0.53		0.22	0.22
v/c Ratio	0.66	0.50	0.61		0.92	0.36
Control Delay	59.6	9.6	9.8		79.1	6.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	59.6	9.6	9.8		79.1	6.6
LOS	E	A	A		E	A
Approach Delay		14.2	9.8		55.5	
Approach LOS		B	A		E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 50 (38%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 17.7
 Intersection LOS: B
 Intersection Capacity Utilization 67.1%
 ICU Level of Service C
 Analysis Period (min) 15

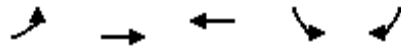
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	185	1810	1649	359	174
v/c Ratio	0.66	0.50	0.61	0.92	0.36
Control Delay	59.6	9.6	9.8	79.1	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	59.6	9.6	9.8	79.1	6.6
Queue Length 50th (ft)	161	240	163	314	11
Queue Length 95th (ft)	m194	263	164	#486	21
Internal Link Dist (ft)		1465	3006	2623	
Turn Bay Length (ft)	150				
Base Capacity (vph)	281	3653	2683	402	494
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.66	0.50	0.61	0.89	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	1395	10	710	937	48	10	110	110	394	970	320
Future Volume (vph)	220	1395	10	710	937	48	10	110	110	394	970	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		350
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4897	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4897	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			124			161		63	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3086			633			398			2854	
Travel Time (s)		52.6			10.8			9.0			64.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	1516	11	772	1018	52	11	120	120	428	1054	348
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	1516	11	772	1018	52	11	120	120	428	1402	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	45.0	45.0	25.0	45.0	45.0	20.0	20.0	20.0	42.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

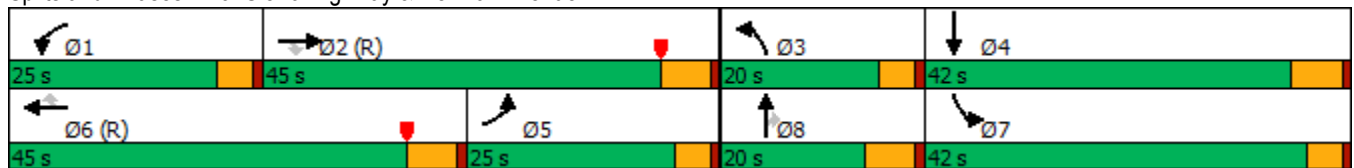


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	34.1%	34.1%	18.9%	34.1%	34.1%	15.2%	15.2%	15.2%	31.8%	31.8%	
Maximum Green (s)	20.5	39.0	39.0	20.5	39.0	39.0	15.5	14.0	14.0	37.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	41.0	41.0	27.0	47.0	47.0	6.5	11.8	9.8	36.2	47.6	
Actuated g/C Ratio	0.16	0.31	0.31	0.20	0.36	0.36	0.05	0.09	0.07	0.27	0.36	
v/c Ratio	0.44	0.96	0.02	1.10	0.56	0.08	0.07	0.38	0.45	0.88	0.78	
Control Delay	59.1	64.1	0.1	112.1	36.7	0.2	60.5	59.7	8.4	27.4	15.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.1	64.1	0.1	112.1	36.7	0.2	60.5	59.7	8.4	27.4	15.2	
LOS	E	E	A	F	D	A	E	E	A	C	B	
Approach Delay		63.1			67.3			35.2			18.1	
Approach LOS		E			E			D			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 121 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.10
 Intersection Signal Delay: 48.7
 Intersection LOS: D
 Intersection Capacity Utilization 85.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023





















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	239	1516	11	772	1018	52	11	120	120	428	1402
v/c Ratio	0.44	0.96	0.02	1.10	0.56	0.08	0.07	0.38	0.45	0.88	0.78
Control Delay	59.1	64.1	0.1	112.1	36.7	0.2	60.5	59.7	8.4	27.4	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	64.1	0.1	112.1	36.7	0.2	60.5	59.7	8.4	27.4	15.2
Queue Length 50th (ft)	103	477	0	~409	262	0	4	52	0	355	262
Queue Length 95th (ft)	m140	#575	m0	#584	326	0	14	83	26	m341	m359
Internal Link Dist (ft)		3006			553			318			2774
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1579	568	703	1811	643	416	428	311	522	1806
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.96	0.02	1.10	0.56	0.08	0.03	0.28	0.39	0.82	0.78

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	421	1608	10	815	0	0	0	0	10	10	799
Future Volume (vph)	0	421	1608	10	815	0	0	0	0	10	10	799
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.902	0.850									0.850
Fl _t Protected				0.950							0.976	
Satd. Flow (prot)	0	3058	1441	1770	3539	0	0	0	0	0	1818	1583
Fl _t Permitted				0.950							0.976	
Satd. Flow (perm)	0	3058	1441	1770	3539	0	0	0	0	0	1818	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		633			469			446			465	
Travel Time (s)		10.8			8.0			10.1			10.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	458	1748	11	886	0	0	0	0	11	11	868
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1332	874	11	886	0	0	0	0	0	22	868
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	83.0%
Analysis Period (min)	15
	ICU Level of Service E

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	421	1608	10	815	0	0	0	0	10	10	799
Future Vol, veh/h	0	421	1608	10	815	0	0	0	0	10	10	799
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082378240	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	458	1748	11	886	0	0	0	0	11	11	868

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	458	0	0		1137	1366	-
Stage 1	-	-	-	-	-	-		908	908	-
Stage 2	-	-	-	-	-	-		229	458	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	1099	-	0		195	146	0
Stage 1	0	-	-	-	-	0		354	352	0
Stage 2	0	-	-	-	-	0		787	565	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1099	-	-		193	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		193	0	-
Stage 1	-	-	-	-	-	-		354	0	-
Stage 2	-	-	-	-	-	-		779	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	26
HCM LOS			D

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1099	-	193	-
HCM Lane V/C Ratio	-	-	0.01	-	0.113	-
HCM Control Delay (s)	-	-	8.3	-	26	0
HCM Lane LOS	-	-	A	-	D	A
HCM 95th %tile Q(veh)	-	-	0	-	0.4	-

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	0	0	0	60	0	10
Future Volume (vph)	0	0	0	60	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr _t						0.865
Fl _t Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Fl _t Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	469			639	290	
Travel Time (s)	8.0			10.9	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	65	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	65	0	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	83.0%
Analysis Period (min)	15
	ICU Level of Service E

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	0	0	0	60	0	10
Future Vol, veh/h	0	0	0	60	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	65	0	11






















Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	-	-	-	1
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	0	0	-	1083
Stage 1	-	0	0	-	0
Stage 2	-	0	0	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	1083
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	1083	-	-
HCM Lane V/C Ratio	0.01	-	-
HCM Control Delay (s)	8.4	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			  							
Traffic Volume (vph)	180	1159	0	0	811	592	110	10	159	0	0	0
Future Volume (vph)	180	1159	0	0	811	592	110	10	159	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.937				0.850			
Flt Protected	0.950						0.950	0.960				
Satd. Flow (prot)	1770	3539	0	0	4765	0	1681	1699	1583	0	0	0
Flt Permitted	0.950						0.950	0.960				
Satd. Flow (perm)	1770	3539	0	0	4765	0	1681	1699	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					216				85			
Link Speed (mph)		40			40			30				30
Link Distance (ft)		722			1900			440				464
Travel Time (s)		12.3			32.4			10.0				10.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	1260	0	0	882	643	120	11	173	0	0	0
Shared Lane Traffic (%)							46%					
Lane Group Flow (vph)	196	1260	0	0	1525	0	65	66	173	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

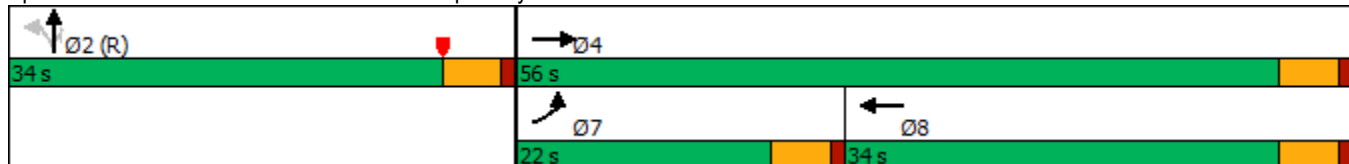


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			5.0		10.0	10.0	10.0			
Minimum Split (s)	15.0	23.0			23.0		33.0	33.0	33.0			
Total Split (s)	22.0	56.0			34.0		34.0	34.0	34.0			
Total Split (%)	24.4%	62.2%			37.8%		37.8%	37.8%	37.8%			
Maximum Green (s)	17.0	51.0			29.0		29.0	29.0	29.0			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.4	49.6			30.2		30.4	30.4	30.4			
Actuated g/C Ratio	0.16	0.55			0.34		0.34	0.34	0.34			
v/c Ratio	0.69	0.65			0.94dr		0.11	0.12	0.29			
Control Delay	48.6	15.7			31.1		22.3	22.3	13.4			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	48.6	15.7			31.1		22.3	22.3	13.4			
LOS	D	B			C		C	C	B			
Approach Delay		20.2			31.1			17.2				
Approach LOS		C			C			B				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 25.0
 Intersection LOS: C
 Intersection Capacity Utilization 59.7%
 ICU Level of Service B
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

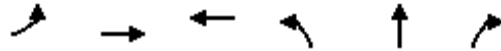
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	196	1260	1525	65	66	173
v/c Ratio	0.69	0.65	0.94dr	0.11	0.12	0.29
Control Delay	48.6	15.7	31.1	22.3	22.3	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	15.7	31.1	22.3	22.3	13.4
Queue Length 50th (ft)	106	235	255	27	27	36
Queue Length 95th (ft)	174	302	#359	58	60	86
Internal Link Dist (ft)		642	1820		360	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	334	2005	1744	566	573	590
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.63	0.87	0.11	0.12	0.29

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	838	130	240	803	127	200	240	200	142	410	270
Future Volume (vph)	140	838	130	240	803	127	200	240	200	142	410	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.980				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123		25				217			112
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1900			5304			887				1679
Travel Time (s)		32.4			90.4			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	911	141	261	873	138	217	261	217	154	446	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	911	141	261	1011	0	217	261	217	154	446	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/24/2023

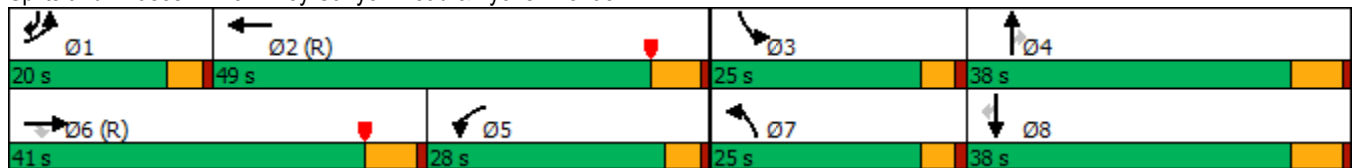


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	41.0	41.0	28.0	49.0		25.0	38.0	38.0	25.0	38.0	20.0
Total Split (%)	15.2%	31.1%	31.1%	21.2%	37.1%		18.9%	28.8%	28.8%	18.9%	28.8%	15.2%
Maximum Green (s)	15.5	35.0	35.0	23.5	43.0		20.5	32.0	32.0	20.5	32.0	15.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	12.3	47.4	47.4	24.0	59.2		20.1	27.3	27.3	17.3	24.5	40.7
Actuated g/C Ratio	0.09	0.36	0.36	0.18	0.45		0.15	0.21	0.21	0.13	0.19	0.31
v/c Ratio	0.51	0.77	0.23	0.87	0.45		0.86	0.38	0.45	0.71	0.70	0.52
Control Delay	62.7	43.6	8.4	60.0	10.3		85.3	46.6	8.6	72.7	56.4	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	43.6	8.4	60.0	10.3		85.3	46.6	8.6	72.7	56.4	24.9
LOS	E	D	A	E	B		F	D	A	E	E	C
Approach Delay		41.9			20.5			46.8			48.9	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 37.6
 Intersection LOS: D
 Intersection Capacity Utilization 72.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	911	141	261	1011	217	261	217	154	446	293
v/c Ratio	0.51	0.77	0.23	0.87	0.45	0.86	0.38	0.45	0.71	0.70	0.52
Control Delay	62.7	43.6	8.4	60.0	10.3	85.3	46.6	8.6	72.7	56.4	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	43.6	8.4	60.0	10.3	85.3	46.6	8.6	72.7	56.4	24.9
Queue Length 50th (ft)	64	365	10	221	161	182	102	0	127	190	126
Queue Length 95th (ft)	98	#503	61	m#376	180	#318	142	67	200	237	193
Internal Link Dist (ft)		1820			5224		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	389	1186	609	300	2247	262	850	541	262	881	608
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.77	0.23	0.87	0.45	0.83	0.31	0.40	0.59	0.51	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.































Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 		 	 	
Traffic Volume (vph)	200	1020	60	117	1209	397	120	120	102	482	100	240
Future Volume (vph)	200	1020	60	117	1209	397	120	120	102	482	100	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			210			112			261
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5304			2371			465				790
Travel Time (s)		103.3			46.2			9.1				12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1109	65	127	1314	432	130	130	111	524	109	261
Shared Lane Traffic (%)												
Lane Group Flow (vph)	217	1109	65	127	1314	432	130	130	111	524	109	261
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

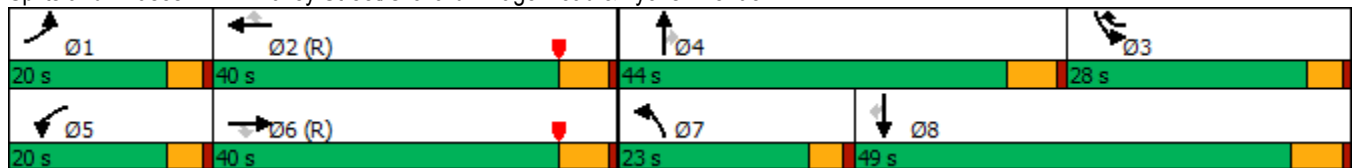


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	14.7	60.1	60.1	15.9	61.3	88.9	15.5	12.4	12.4	27.7	24.6	24.6
Actuated g/C Ratio	0.11	0.46	0.46	0.12	0.46	0.67	0.12	0.09	0.09	0.21	0.19	0.19
v/c Ratio	0.61	0.74	0.08	0.64	0.73	0.35	0.67	0.40	0.48	0.73	0.33	0.53
Control Delay	56.8	55.6	7.0	66.0	39.1	4.5	72.4	59.7	16.7	54.6	48.4	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.8	55.6	7.0	66.0	39.1	4.5	72.4	59.7	16.7	54.6	48.4	9.0
LOS	E	E	A	E	D	A	E	E	B	D	D	A
Approach Delay		53.5			32.9			51.3			40.5	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 42.2
 Intersection LOS: D
 Intersection Capacity Utilization 69.5%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	217	1109	65	127	1314	432	130	130	111	524	109	261
v/c Ratio	0.61	0.74	0.08	0.64	0.73	0.35	0.67	0.40	0.48	0.73	0.33	0.53
Control Delay	56.8	55.6	7.0	66.0	39.1	4.5	72.4	59.7	16.7	54.6	48.4	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.8	55.6	7.0	66.0	39.1	4.5	72.4	59.7	16.7	54.6	48.4	9.0
Queue Length 50th (ft)	100	511	4	98	604	53	108	56	0	217	82	0
Queue Length 95th (ft)	m134	#664	m17	m112	m#694	m144	174	88	57	263	132	72
Internal Link Dist (ft)		5224			2291			385			710	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	402	1503	778	220	1806	1248	237	1036	493	733	613	693
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.74	0.08	0.58	0.73	0.35	0.55	0.13	0.23	0.71	0.18	0.38

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	583	850	60	682	30	600	120	50	40	180	190
Future Volume (vph)	130	583	850	60	682	30	600	120	50	40	180	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1614	3539	1468	1637	3539	1356	3135	1863	1471	1671	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			371			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2371			962			528				401
Travel Time (s)		46.2			18.7			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	634	924	65	741	33	652	130	54	43	196	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	634	924	65	741	33	652	130	54	43	196	207
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
 15: Newhall Avenue & Lyons Avenue

01/24/2023

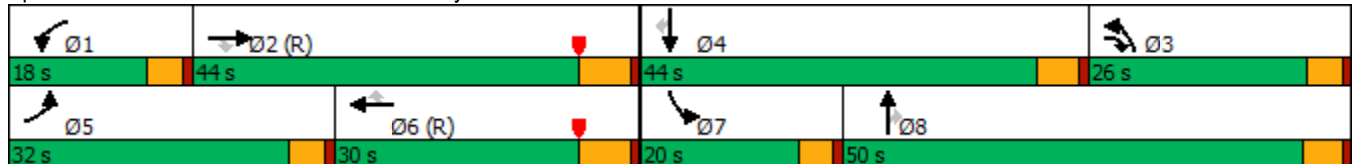


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	32.0	44.0	26.0	18.0	30.0	30.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	24.2%	33.3%	19.7%	13.6%	22.7%	22.7%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	27.5	38.0	21.5	13.5	24.0	24.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		32.0	32.0		32.0	32.0
Pedestrian Calls (#/hr)		27			27	27		43	43		43	43
Act Effct Green (s)	17.1	45.4	72.6	10.8	36.9	36.9	27.2	54.8	54.8	9.2	34.8	34.8
Actuated g/C Ratio	0.13	0.34	0.55	0.08	0.28	0.28	0.21	0.42	0.42	0.07	0.26	0.26
v/c Ratio	0.66	0.52	0.94	0.49	0.75	0.07	0.95	0.17	0.08	0.36	0.41	0.44
Control Delay	67.0	29.9	32.5	85.7	40.8	0.6	77.0	26.5	0.2	66.1	41.4	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	29.9	32.5	85.7	40.8	0.6	77.0	26.5	0.2	66.1	41.4	15.4
LOS	E	C	C	F	D	A	E	C	A	E	D	B
Approach Delay		34.4			42.7			64.2			31.7	
Approach LOS		C			D			E			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 49 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 42.4 Intersection LOS: D
 Intersection Capacity Utilization 94.0% ICU Level of Service F
 Analysis Period (min) 15

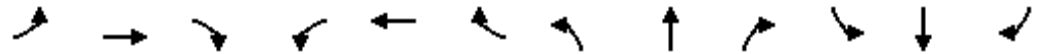
Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	141	634	924	65	741	33	652	130	54	43	196	207
v/c Ratio	0.66	0.52	0.94	0.49	0.75	0.07	0.95	0.17	0.08	0.36	0.41	0.44
Control Delay	67.0	29.9	32.5	85.7	40.8	0.6	77.0	26.5	0.2	66.1	41.4	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	29.9	32.5	85.7	40.8	0.6	77.0	26.5	0.2	66.1	41.4	15.4
Queue Length 50th (ft)	102	253	~510	54	267	0	~344	71	0	36	131	42
Queue Length 95th (ft)	m145	236	#706	99	#441	1	#464	123	0	74	201	113
Internal Link Dist (ft)		2291			882			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	350	1217	987	175	990	501	684	773	690	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.52	0.94	0.37	0.75	0.07	0.95	0.17	0.08	0.21	0.36	0.40




























Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 		 		 	 			 	
Traffic Volume (vph)	163	135	480	4	76	0	320	39	12	0	22	92
Future Volume (vph)	163	135	480	4	76	0	320	39	12	0	22	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.965				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3415	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	3433	3415	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			522					13				132
Link Speed (mph)		45			30			45				30
Link Distance (ft)		612			484			505				482
Travel Time (s)		9.3			11.0			7.7				11.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	147	522	4	83	0	348	42	13	0	24	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	147	522	4	83	0	348	55	0	0	24	100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Over	Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	15.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	23.0	42.0	47.0	10.0	29.0		47.0	80.0			33.0	23.0
Total Split (%)	17.4%	31.8%	35.6%	7.6%	22.0%		35.6%	60.6%			25.0%	17.4%
Maximum Green (s)	19.0	37.0	42.0	6.0	24.0		42.0	75.0			28.0	19.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	12.1	26.1	42.0	5.7	11.9		42.0	93.9			46.9	12.1
Actuated g/C Ratio	0.09	0.20	0.32	0.04	0.09		0.32	0.71			0.36	0.09
v/c Ratio	0.56	0.40	0.42	0.05	0.49		0.32	0.02			0.02	0.38
Control Delay	53.8	39.9	3.1	62.0	66.9		35.2	5.3			30.0	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	53.8	39.9	3.1	62.0	66.9		35.2	5.3			30.0	7.8
LOS	D	D	A	E	E		D	A			C	A
Approach Delay		20.1			66.6			31.1			12.1	
Approach LOS		C			E			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 10 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.56
 Intersection Signal Delay: 25.2 Intersection LOS: C
 Intersection Capacity Utilization 40.1% ICU Level of Service A
 Analysis Period (min) 15

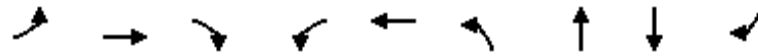
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023




















Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	177	147	522	4	83	348	55	24	100
v/c Ratio	0.56	0.40	0.42	0.05	0.49	0.32	0.02	0.02	0.38
Control Delay	53.8	39.9	3.1	62.0	66.9	35.2	5.3	30.0	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	39.9	3.1	62.0	66.9	35.2	5.3	30.0	7.8
Queue Length 50th (ft)	75	102	9	3	69	116	4	6	0
Queue Length 95th (ft)	108	m178	28	16	121	158	13	18	27
Internal Link Dist (ft)		532			404		425	402	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	494	522	1242	80	338	1092	2434	1258	340
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.28	0.42	0.05	0.25	0.32	0.02	0.02	0.29

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Placerita Canyon Road/Arch Street & 12th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	10	32	10	164	10	196	49	220	266	20
Future Volume (vph)	10	10	10	32	10	164	10	196	49	220	266	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	250		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.955			0.893			0.974			0.989	
Flt Protected		0.984			0.992			0.998		0.950		
Satd. Flow (prot)	0	1750	0	0	1650	0	0	1811	0	1770	3500	0
Flt Permitted		0.984			0.992			0.998		0.950		
Satd. Flow (perm)	0	1750	0	0	1650	0	0	1811	0	1770	3500	0
Link Speed (mph)		25			25			35			25	
Link Distance (ft)		391			842			1231			505	
Travel Time (s)		10.7			23.0			24.0			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	11	11	35	11	178	11	213	53	239	289	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	224	0	0	277	0	239	311	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	49.7%						ICU Level of Service A					
Analysis Period (min)	15											

HCM 6th TWSC
 17: Placerita Canyon Road/Arch Street & 12th Street

01/24/2023

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕	
Traffic Vol, veh/h	10	10	10	32	10	164	10	196	49	220	266	20
Future Vol, veh/h	10	10	10	32	10	164	10	196	49	220	266	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	11	35	11	178	11	213	53	239	289	22

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1134	1066	156	890	1051	240	311	0	0	266	0	0
Stage 1	778	778	-	262	262	-	-	-	-	-	-	-
Stage 2	356	288	-	628	789	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	168	222	862	250	226	798	1248	-	-	1296	-	-
Stage 1	356	406	-	742	691	-	-	-	-	-	-	-
Stage 2	661	673	-	438	401	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	106	179	862	201	183	798	1248	-	-	1296	-	-
Mov Cap-2 Maneuver	106	179	-	201	183	-	-	-	-	-	-	-
Stage 1	352	331	-	735	684	-	-	-	-	-	-	-
Stage 2	500	666	-	341	327	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28.6	12.5	0.3	3.7
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1248	-	-	185	669	1296	-	-
HCM Lane V/C Ratio	0.009	-	-	0.176	0.283	0.185	-	-
HCM Control Delay (s)	7.9	0	-	28.6	12.5	8.4	-	-
HCM Lane LOS	A	A	-	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.6	1.2	0.7	-	-

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	20	10	390	1	10	10	10	270	10	10	10
Future Volume (vph)	10	20	10	390	1	10	10	10	270	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.950			0.862			0.874			0.955	
Flt Protected	0.950			0.950				0.998			0.984	
Satd. Flow (prot)	1770	1770	0	1770	1606	0	0	1625	0	0	1750	0
Flt Permitted	0.950			0.950				0.998			0.984	
Satd. Flow (perm)	1770	1770	0	1770	1606	0	0	1625	0	0	1750	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		671			3882			2703			372	
Travel Time (s)		15.3			88.2			61.4			8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	22	11	424	1	11	11	11	293	11	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	33	0	424	12	0	0	315	0	0	33	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	53.0%
ICU Level of Service	A
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	10											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Traffic Vol, veh/h	10	20	10	390	1	10	10	10	270	10	10	10
Future Vol, veh/h	10	20	10	390	1	10	10	10	270	10	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	22	11	424	1	11	11	11	293	11	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	12	0	0	33	0	0	916	910	28	1057	910	7
Stage 1	-	-	-	-	-	-	50	50	-	855	855	-
Stage 2	-	-	-	-	-	-	866	860	-	202	55	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1607	-	-	1579	-	-	253	275	1047	203	275	1075
Stage 1	-	-	-	-	-	-	963	853	-	353	375	-
Stage 2	-	-	-	-	-	-	348	373	-	800	849	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1607	-	-	1579	-	-	190	200	1047	111	200	1075
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	200	-	111	200	-
Stage 1	-	-	-	-	-	-	956	847	-	351	274	-
Stage 2	-	-	-	-	-	-	242	273	-	564	843	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.8			7.9			12.3			26.3		
HCM LOS							B			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	804	1607	-	-	1579	-	-	201
HCM Lane V/C Ratio	0.392	0.007	-	-	0.268	-	-	0.162
HCM Control Delay (s)	12.3	7.3	-	-	8.1	-	-	26.3
HCM Lane LOS	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	1.9	0	-	-	1.1	-	-	0.6

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	100	80	40	398	1864	260
Future Volume (vph)	100	80	40	398	1864	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.972	0.850				0.850
Flt Protected	0.961		0.950			
Satd. Flow (prot)	3376	1441	1770	3539	3539	1583
Flt Permitted	0.961		0.950			
Satd. Flow (perm)	3376	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	20	62				110
Link Speed (mph)	30			50	50	
Link Distance (ft)	3882			2854	2872	
Travel Time (s)	88.2			38.9	39.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	87	43	433	2026	283
Shared Lane Traffic (%)		29%				
Lane Group Flow (vph)	134	62	43	433	2026	283
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	21.0	21.0	30.0	30.0
Total Split (s)	35.0	35.0	21.0	97.0	76.0	76.0
Total Split (%)	26.5%	26.5%	15.9%	73.5%	57.6%	57.6%
Maximum Green (s)	30.0	30.0	16.0	92.0	71.0	71.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	10.8	10.8	35.2	111.2	71.0	71.0
Actuated g/C Ratio	0.08	0.08	0.27	0.84	0.54	0.54
v/c Ratio	0.46	0.36	0.09	0.15	1.06	0.31
Control Delay	54.0	19.1	33.0	0.6	64.8	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	19.1	33.0	0.6	64.8	12.7
LOS	D	B	C	A	E	B
Approach Delay	43.0			3.5	58.4	
Approach LOS	D			A	E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 48.6
 Intersection LOS: D
 Intersection Capacity Utilization 68.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	134	62	43	433	2026	283
v/c Ratio	0.46	0.36	0.09	0.15	1.06	0.31
Control Delay	54.0	19.1	33.0	0.6	64.8	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	19.1	33.0	0.6	64.8	12.7
Queue Length 50th (ft)	48	0	17	5	~988	40
Queue Length 95th (ft)	81	49	35	8	#1129	m147
Internal Link Dist (ft)	3802			2774	2792	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	782	375	471	2981	1903	902
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.17	0.09	0.15	1.06	0.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	51	14	360	49	680	18	380	130	550	1440	90
Future Volume (vph)	38	51	14	360	49	680	18	380	130	550	1440	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.721			0.719			0.950			0.950		
Satd. Flow (perm)	1343	3539	1583	1339	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			739			141			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		715			720			2872			794	
Travel Time (s)		10.8			10.9			39.2			10.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	55	15	391	53	739	20	413	141	598	1565	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	55	15	391	53	739	20	413	141	598	1565	98
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8		6				2

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

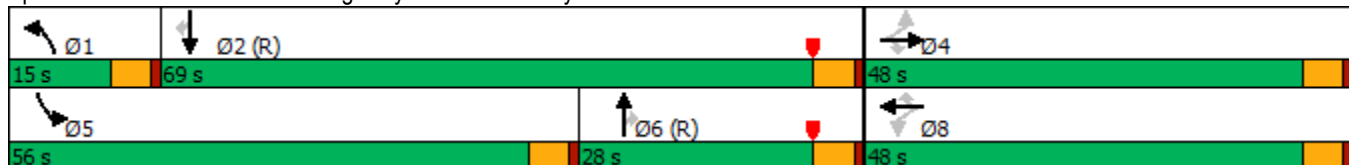


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.0	21.0	21.0	37.0	37.0	37.0	15.0	21.0	21.0	15.0	39.0	39.0
Total Split (s)	48.0	48.0	48.0	48.0	48.0	48.0	15.0	28.0	28.0	56.0	69.0	69.0
Total Split (%)	36.4%	36.4%	36.4%	36.4%	36.4%	36.4%	11.4%	21.2%	21.2%	42.4%	52.3%	52.3%
Maximum Green (s)	43.0	43.0	43.0	43.0	43.0	43.0	10.0	23.0	23.0	51.0	64.0	64.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	41.5	41.5	41.5	41.5	41.5	41.5	10.0	27.6	27.6	47.9	74.5	74.5
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31	0.31	0.08	0.21	0.21	0.36	0.56	0.56
v/c Ratio	0.10	0.05	0.03	0.93	0.05	0.74	0.15	0.56	0.32	0.93	0.78	0.11
Control Delay	31.9	30.8	0.1	73.1	30.8	7.4	76.9	42.4	16.4	54.7	24.6	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
Total Delay	31.9	30.8	0.1	73.1	30.8	7.4	76.9	42.4	16.4	54.7	25.2	5.5
LOS	C	C	A	E	C	A	E	D	B	D	C	A
Approach Delay		27.1			30.1			37.2			32.2	
Approach LOS		C			C			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 32.2 Intersection LOS: C
 Intersection Capacity Utilization 87.2% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	41	55	15	391	53	739	20	413	141	598	1565	98
v/c Ratio	0.10	0.05	0.03	0.93	0.05	0.74	0.15	0.56	0.32	0.93	0.78	0.11
Control Delay	31.9	30.8	0.1	73.1	30.8	7.4	76.9	42.4	16.4	54.7	24.6	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
Total Delay	31.9	30.8	0.1	73.1	30.8	7.4	76.9	42.4	16.4	54.7	25.2	5.5
Queue Length 50th (ft)	24	16	0	318	16	0	18	193	20	474	489	14
Queue Length 95th (ft)	53	33	0	#510	32	108	45	250	116	#686	756	m30
Internal Link Dist (ft)		635			640			2792			714	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	437	1152	582	436	1152	1013	134	740	442	683	1996	918
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	150	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.05	0.03	0.90	0.05	0.73	0.15	0.56	0.32	0.88	0.85	0.11

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	30	907	291	1250	2131
Future Volume (vph)	29	30	907	291	1250	2131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		0	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Frt		0.850	0.964			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3412	0	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3412	0	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		33	38			
Link Speed (mph)	30		50			50
Link Distance (ft)	717		794			675
Travel Time (s)	16.3		10.8			9.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	33	986	316	1359	2316
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	33	1302	0	1359	2316
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				

Lanes, Volumes, Timings

22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

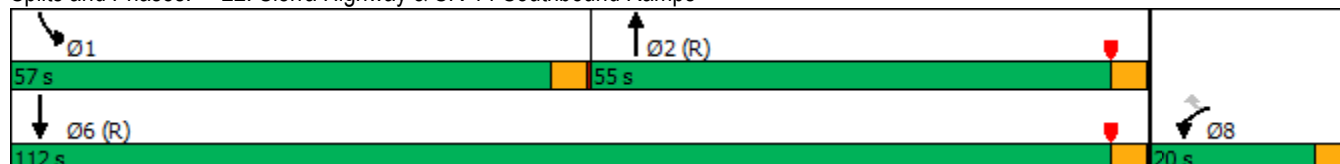


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		8.0	20.0
Total Split (s)	20.0	20.0	55.0		57.0	112.0
Total Split (%)	15.2%	15.2%	41.7%		43.2%	84.8%
Maximum Green (s)	16.0	16.0	51.0		53.0	108.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	7.9	7.9	55.6		58.4	118.8
Actuated g/C Ratio	0.06	0.06	0.42		0.44	0.90
v/c Ratio	0.30	0.26	0.89		0.89	0.73
Control Delay	66.1	23.3	41.3		42.7	4.4
Queue Delay	0.0	0.0	0.0		0.0	0.1
Total Delay	66.1	23.3	41.3		42.7	4.5
LOS	E	C	D		D	A
Approach Delay	44.4		41.3			18.6
Approach LOS	D		D			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 24.8
 Intersection LOS: C
 Intersection Capacity Utilization 83.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR-14 Southbound Ramps



Queues

22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	32	33	1302	1359	2316
v/c Ratio	0.30	0.26	0.89	0.89	0.73
Control Delay	66.1	23.3	41.3	42.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.1
Total Delay	66.1	23.3	41.3	42.7	4.5
Queue Length 50th (ft)	27	0	431	521	241
Queue Length 95th (ft)	61	34	#688	650	371
Internal Link Dist (ft)	637		714		595
Turn Bay Length (ft)				160	
Base Capacity (vph)	214	220	1458	1519	3185
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	135
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.15	0.89	0.89	0.76

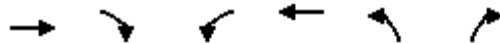
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	220	0	0	790	459	100
Future Volume (vph)	220	0	0	790	459	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Flt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	720			392	651	
Travel Time (s)	10.9			5.9	14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	0	0	859	499	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	0	0	859	499	109
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	53.9%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	50.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	220	0	0	790	459	100
Future Vol, veh/h	220	0	0	790	459	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	239	0	0	859	499	109

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	669 120
Stage 1	-	-	-	-	239 -
Stage 2	-	-	-	-	430 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	~ 391 909
Stage 1	-	0	0	-	778 -
Stage 2	-	0	0	-	624 -
Platoon blocked, %	-				-
Mov Cap-1 Maneuver	-	-	-	-	~ 391 909
Mov Cap-2 Maneuver	-	-	-	-	~ 391 -
Stage 1	-	-	-	-	778 -
Stage 2	-	-	-	-	624 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	142.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	391	909	-	-
HCM Lane V/C Ratio	1.276	0.12	-	-
HCM Control Delay (s)	171.9	9.5	-	-
HCM Lane LOS	F	A	-	-
HCM 95th %tile Q(veh)	22	0.4	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	820	1800	360	390	1320	430	450	1969	650	410	1530	230
Future Volume (vph)	820	1800	360	390	1320	430	450	1969	650	410	1530	230
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	300		230
Storage Lanes	3		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62			295			299			99
Link Speed (mph)		45		45			45			45		45
Link Distance (ft)		870		745			1975			1020		
Travel Time (s)		13.2		11.3			29.9			15.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36		36			24			24		
Link Offset(ft)		0		0			0			0		
Crosswalk Width(ft)		16		16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	25.0	39.0	26.0	22.0	36.0	36.0	26.0	45.0	45.0	26.0	45.0	25.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

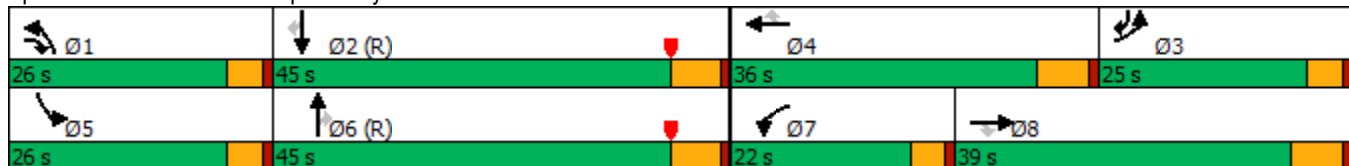


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	29.5%	19.7%	16.7%	27.3%	27.3%	19.7%	34.1%	34.1%	19.7%	34.1%	18.9%
Maximum Green (s)	20.5	33.0	21.5	17.5	30.0	30.0	21.5	39.0	39.0	21.5	39.0	20.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	21.0	35.4	60.3	17.6	32.0	32.0	20.9	43.0	43.0	20.0	42.1	63.1
Actuated g/C Ratio	0.16	0.27	0.46	0.13	0.24	0.24	0.16	0.33	0.33	0.15	0.32	0.48
v/c Ratio	1.12	1.14	0.52	0.92	0.92	0.77	0.90	1.02	0.99	0.86	0.81	0.31
Control Delay	121.3	114.3	23.8	83.3	59.6	26.1	73.8	40.1	25.4	71.2	45.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	23.8	83.3	59.6	26.1	73.8	40.1	25.4	71.2	45.5	7.5
LOS	F	F	C	F	E	C	E	D	C	E	D	A
Approach Delay		105.3			57.2			41.9			46.3	
Approach LOS		F			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 55 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 64.2
 Intersection LOS: E
 Intersection Capacity Utilization 90.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
v/c Ratio	1.12	1.14	0.52	0.92	0.92	0.77	0.90	1.02	0.99	0.86	0.81	0.31
Control Delay	121.3	114.3	23.8	83.3	59.6	26.1	73.8	40.1	25.4	71.2	45.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	23.8	83.3	59.6	26.1	73.8	40.1	25.4	71.2	45.5	7.5
Queue Length 50th (ft)	~311	~572	194	187	350	142	230	~591	~514	192	385	40
Queue Length 95th (ft)	#400	#647	290	#281	#417	285	m198	m345	m134	251	433	70
Internal Link Dist (ft)		790			665			1895			940	
Turn Bay Length (ft)	270		265	280		340	300			300		230
Base Capacity (vph)	793	1716	768	468	1553	607	572	2088	717	572	2043	808
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	1.14	0.51	0.91	0.92	0.77	0.85	1.02	0.99	0.78	0.81	0.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

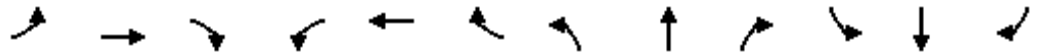


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔	↕↕↕	↔↔
Traffic Volume (vph)	1120	1620	10	435	1000	170	20	2049	619	200	1490	610
Future Volume (vph)	1120	1620	10	435	1000	170	20	2049	619	200	1490	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Fr _t		0.999				0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5080	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5080	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				124			112			562
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			3555			1975	
Travel Time (s)		32.4			35.4			53.9			29.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1217	1761	11	473	1087	185	22	2227	673	217	1620	663
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1217	1772	0	473	1087	185	22	2227	673	217	1620	663
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			48			48	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	40.0	48.0		22.0	30.0	20.0	18.0	42.0	22.0	20.0	44.0	40.0
Total Split (%)	30.3%	36.4%		16.7%	22.7%	15.2%	13.6%	31.8%	16.7%	15.2%	33.3%	30.3%
Maximum Green (s)	35.5	42.0		17.5	24.0	15.5	13.5	36.0	17.5	15.5	38.0	35.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

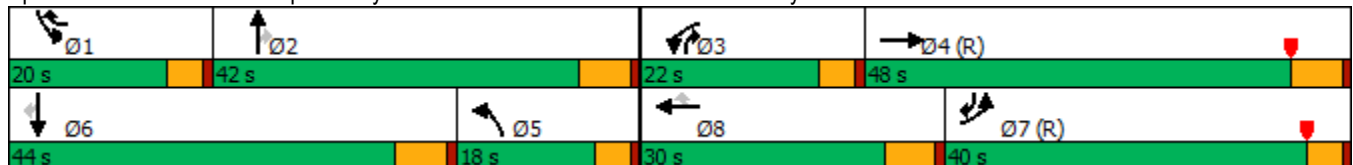


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	None	None	None	Max	None	None	None	C-Max
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	36.0	44.5		17.5	26.0	39.7	10.9	40.3	61.7	13.7	47.2	87.2
Actuated g/C Ratio	0.27	0.34		0.13	0.20	0.30	0.08	0.31	0.47	0.10	0.36	0.66
v/c Ratio	0.89	1.03		0.72	1.09	0.33	0.15	1.44	0.84	0.61	0.89	0.33
Control Delay	55.8	73.7		61.5	103.9	7.7	53.5	230.8	29.0	46.6	49.2	2.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	73.7		61.5	103.9	7.7	53.5	230.8	29.0	46.6	49.2	2.6
LOS	E	E		E	F	A	D	F	C	D	D	A
Approach Delay		66.4			82.2			183.0			36.6	
Approach LOS		E			F			F			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 92 (70%), Referenced to phase 4:EBT and 7:EBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.44
 Intersection Signal Delay: 95.3
 Intersection LOS: F
 Intersection Capacity Utilization 99.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1217	1772	473	1087	185	22	2227	673	217	1620	663
v/c Ratio	0.89	1.03	0.72	1.09	0.33	0.15	1.44	0.84	0.61	0.89	0.33
Control Delay	55.8	73.7	61.5	103.9	7.7	53.5	230.8	29.0	46.6	49.2	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	73.7	61.5	103.9	7.7	53.5	230.8	29.0	46.6	49.2	2.6
Queue Length 50th (ft)	356	~603	139	~382	18	18	~957	455	94	~568	48
Queue Length 95th (ft)	#418	#701	179	#476	45	m17	m#831	m455	m117	#663	m50
Internal Link Dist (ft)		2060		2257			3475			1895	
Turn Bay Length (ft)											
Base Capacity (vph)	1360	1714	680	1001	588	187	1550	805	416	1818	2031
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	1.03	0.70	1.09	0.31	0.12	1.44	0.84	0.52	0.89	0.33

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	770	811	807	1948	1795	460
Future Volume (vph)	770	811	807	1948	1795	460
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		7				424
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4671	3555	
Travel Time (s)	44.4			63.7	53.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	837	882	877	2117	1951	500
Shared Lane Traffic (%)						
Lane Group Flow (vph)	837	882	877	2117	1951	500
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

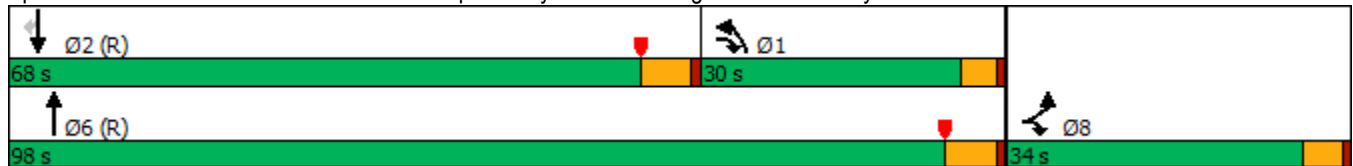


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	30.0	60.0	26.0	94.0	64.0	64.0
Actuated g/C Ratio	0.23	0.45	0.20	0.71	0.48	0.48
v/c Ratio	2.08	0.69	1.30	0.84	1.14	0.51
Control Delay	522.1	32.0	178.1	9.8	93.7	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	522.1	32.0	178.1	9.8	93.7	3.7
LOS	F	C	F	A	F	A
Approach Delay	270.7			59.1	75.3	
Approach LOS	F			E	E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.08
 Intersection Signal Delay: 115.4
 Intersection LOS: F
 Intersection Capacity Utilization 125.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	837	882	877	2117	1951	500
v/c Ratio	2.08	0.69	1.30	0.84	1.14	0.51
Control Delay	522.1	32.0	178.1	9.8	93.7	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	522.1	32.0	178.1	9.8	93.7	3.7
Queue Length 50th (ft)	~1131	333	~503	252	~1052	48
Queue Length 95th (ft)	#1380	418	m#608	320	#1191	m62
Internal Link Dist (ft)	2848			4591	3475	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	402	1270	676	2520	1715	985
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.08	0.69	1.30	0.84	1.14	0.51

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	103	790	1335	94	910	1745
Future Volume (vph)	103	790	1335	94	910	1745
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.881	0.850		0.850		
Flt Protected	0.990				0.950	
Satd. Flow (prot)	3152	1441	3539	1583	3433	3539
Flt Permitted	0.990				0.950	
Satd. Flow (perm)	3152	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	346	346		65		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4671
Travel Time (s)	10.9		27.3			63.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	859	1451	102	989	1897
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	542	429	1451	102	989	1897
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	20.4	20.4	58.3	58.3	41.3	103.6
Actuated g/C Ratio	0.15	0.15	0.44	0.44	0.31	0.78
v/c Ratio	0.70	0.83	0.93	0.14	0.92	0.68
Control Delay	22.3	25.2	56.4	23.7	51.2	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	25.2	56.4	23.7	51.2	5.5
LOS	C	C	E	C	D	A
Approach Delay	23.6		54.3			21.2
Approach LOS	C		D			C

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 37 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 31.1
 Intersection LOS: C
 Intersection Capacity Utilization 84.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	542	429	1451	102	989	1897
v/c Ratio	0.70	0.83	0.93	0.14	0.92	0.68
Control Delay	22.3	25.2	56.4	23.7	51.2	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	25.2	56.4	23.7	51.2	5.5
Queue Length 50th (ft)	82	74	587	43	376	92
Queue Length 95th (ft)	123	197	m590	m51	m#564	m446
Internal Link Dist (ft)	558		1922			4591
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1090	636	1581	743	1075	2778
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.67	0.92	0.14	0.92	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	559	0	319	10	1570	470	348	1690	0
Future Volume (vph)	0	0	0	559	0	319	10	1570	470	348	1690	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	140		0
Storage Lanes	0		0	2		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	0	0	3433	0	1583	1770	3539	1583	1770	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	0	0	3433	0	1583	1770	3539	1583	1770	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						347			94			
Link Speed (mph)		25			25			45				45
Link Distance (ft)		337			628			1217				3340
Travel Time (s)		9.2			17.1			18.4				50.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	608	0	347	11	1707	511	378	1837	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	608	0	347	11	1707	511	378	1837	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	2	1	1		2
Detector Template				Left		Right	Left	Thru	Right	Left		Thru
Leading Detector (ft)				20		20	20	100	20	20		100
Trailing Detector (ft)				0		0	0	0	0	0		0
Detector 1 Position(ft)				0		0	0	0	0	0		0
Detector 1 Size(ft)				20		20	20	6	20	20		6
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)								94				94
Detector 2 Size(ft)								6				6
Detector 2 Type								Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)								0.0				0.0
Turn Type				Prot		Perm	Prot	NA	pm+ov	Prot		NA
Protected Phases				7			1	6	7	5		2
Permitted Phases						7			6			

Lanes, Volumes, Timings

5: Railroad Avenue & Driveway/13th Street

01/24/2023

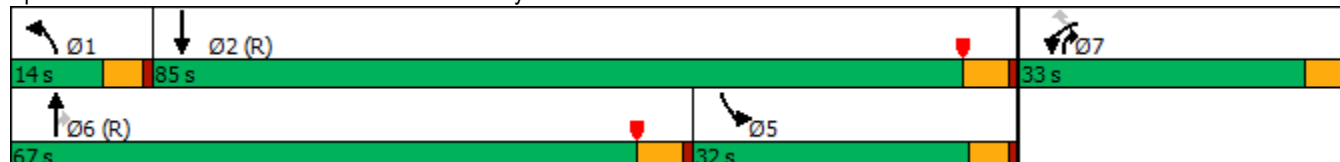


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				7		7	1	6	7	5	2	
Switch Phase												
Minimum Initial (s)				10.0		10.0	9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				33.0		33.0	14.0	23.5	33.0	14.0	23.5	
Total Split (s)				33.0		33.0	14.0	67.0	33.0	32.0	85.0	
Total Split (%)				25.0%		25.0%	10.6%	50.8%	25.0%	24.2%	64.4%	
Maximum Green (s)				28.0		28.0	9.0	61.5	28.0	27.0	79.5	
Yellow Time (s)				4.0		4.0	4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0		1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0		5.0	5.0	5.5	5.0	5.0	5.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None		None	None	C-Max	None	None	C-Max	
Walk Time (s)				7.0		7.0		7.0	7.0		7.0	
Flash Dont Walk (s)				21.0		21.0		11.0	21.0		11.0	
Pedestrian Calls (#/hr)				0		0		0	0		0	
Act Effect Green (s)				27.3		27.3	9.0	62.2	95.0	27.0	91.4	
Actuated g/C Ratio				0.21		0.21	0.07	0.47	0.72	0.20	0.69	
v/c Ratio				0.86		0.58	0.09	1.02	0.44	1.04	0.75	
Control Delay				53.9		10.6	71.4	56.5	4.9	113.7	23.8	
Queue Delay				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay				53.9		10.6	71.4	56.5	4.9	113.7	23.8	
LOS				D		B	E	E	A	F	C	
Approach Delay					38.2			44.7			39.1	
Approach LOS					D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 41.3 Intersection LOS: D
 Intersection Capacity Utilization 90.7% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Queues

5: Railroad Avenue & Driveway/13th Street

01/24/2023



Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	608	347	11	1707	511	378	1837
v/c Ratio	0.86	0.58	0.09	1.02	0.44	1.04	0.75
Control Delay	53.9	10.6	71.4	56.5	4.9	113.7	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	10.6	71.4	56.5	4.9	113.7	23.8
Queue Length 50th (ft)	270	125	0	~841	125	~342	710
Queue Length 95th (ft)	#352	185	m18	#955	155	#567	944
Internal Link Dist (ft)				1137			3260
Turn Bay Length (ft)	110		100		570	140	
Base Capacity (vph)	728	609	120	1667	1162	362	2450
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.57	0.09	1.02	0.44	1.04	0.75

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	551	160	330	1159	1376	553			
Future Volume (vph)	551	160	330	1159	1376	553			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		174				335			
Link Speed (mph)	35			35	45				
Link Distance (ft)	1347			1246	1217				
Travel Time (s)	26.2			24.3	18.4				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	599	174	359	1260	1496	601			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	599	174	359	1260	1496	601			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	34			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	42.0	30.0	30.0	30.0	30.0

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023

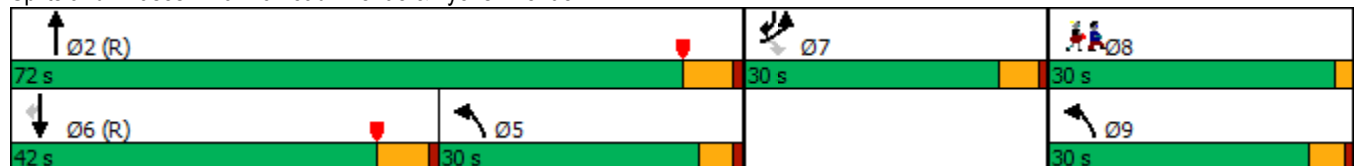


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	31.8%	22.7%	23%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	36.0	25.0	25.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effct Green (s)	32.4	32.4	24.7	76.8	59.0	91.3			
Actuated g/C Ratio	0.25	0.25	0.19	0.58	0.45	0.69			
v/c Ratio	0.71	0.34	0.56	0.61	0.95	0.50			
Control Delay	61.5	22.9	25.6	27.3	44.1	3.9			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	61.5	22.9	25.6	27.3	44.1	3.9			
LOS	E	C	C	C	D	A			
Approach Delay	52.9			26.9	32.6				
Approach LOS	D			C	C				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 34.0
 Intersection LOS: C
 Intersection Capacity Utilization 73.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	599	174	359	1260	1496	601
v/c Ratio	0.71	0.34	0.56	0.61	0.95	0.50
Control Delay	61.5	22.9	25.6	27.3	44.1	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	22.9	25.6	27.3	44.1	3.9
Queue Length 50th (ft)	191	59	82	383	561	100
Queue Length 95th (ft)	232	112	103	430	#900	m136
Internal Link Dist (ft)	1267			1166	1137	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	844	520	1352	2059	1581	1199
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.33	0.27	0.61	0.95	0.50

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

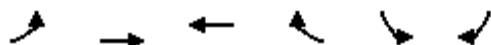
01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1470	930	1569	1156	0	
Future Volume (vph)	0	1470	930	1569	1156	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.98			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1284			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1913		1540		
Travel Time (s)		6.2	32.6		30.0		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1598	1011	1705	1257	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1598	1011	1705	1257	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		82.0	38.0	50.0	50.0	44.0	
Total Split (%)		62.1%	28.8%	37.9%	37.9%	33%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		76.0	32.0	44.0	44.0		42.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		78.0	78.0	124.0	46.0		
Actuated g/C Ratio		0.59	0.59	0.94	0.35		
v/c Ratio		0.76	0.92	0.64	1.05		
Control Delay		23.3	24.7	5.3	56.3		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		23.3	24.7	5.3	56.3		
LOS		C	C	A	E		
Approach Delay		23.3	12.5		56.3		
Approach LOS		C	B		E		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	32 (24%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.05
Intersection Signal Delay:	25.5
Intersection LOS:	C
Intersection Capacity Utilization	88.6%
ICU Level of Service	E
Analysis Period (min)	15

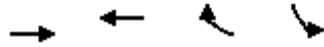
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



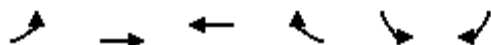
Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1598	1011	1705	1257
v/c Ratio	0.76	0.92	0.64	1.05
Control Delay	23.3	24.7	5.3	56.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.3	24.7	5.3	56.3
Queue Length 50th (ft)	511	339	156	~583
Queue Length 95th (ft)	605	#1099	123	m#654
Internal Link Dist (ft)	282	1833		1460
Turn Bay Length (ft)				
Base Capacity (vph)	2091	1100	2654	1196
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.76	0.92	0.64	1.05

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑↔		↙	↘
Traffic Volume (vph)	280	2197	1544	90	70	170
Future Volume (vph)	280	2197	1544	90	70	170
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	3			2	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.992			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5045	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5045	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			9			185
Link Speed (mph)		40	40		30	
Link Distance (ft)		1403	3070		2619	
Travel Time (s)		23.9	52.3		59.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	2388	1678	98	76	185
Shared Lane Traffic (%)						
Lane Group Flow (vph)	304	2388	1776	0	76	185
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	35.0	98.0	63.0		34.0	34.0

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023

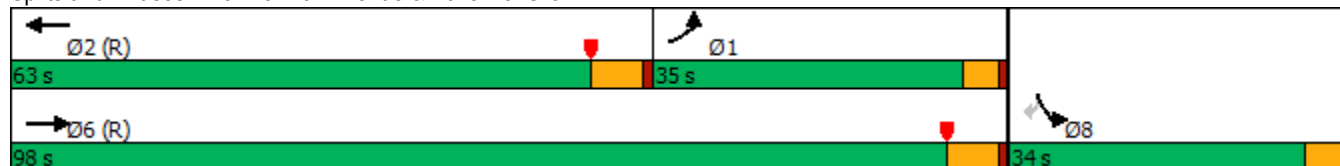


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	26.5%	74.2%	47.7%		25.8%	25.8%
Maximum Green (s)	30.5	92.0	57.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	31.0	112.0	77.0		12.0	12.0
Actuated g/C Ratio	0.23	0.85	0.58		0.09	0.09
v/c Ratio	0.73	0.55	0.60		0.47	0.59
Control Delay	50.1	3.2	7.8		65.5	21.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	50.1	3.2	7.8		65.5	21.3
LOS	D	A	A		E	C
Approach Delay		8.5	7.8		34.2	
Approach LOS		A	A		C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 53 (40%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 9.6
 Intersection Capacity Utilization 61.2%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

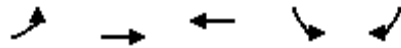
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023






































Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	304	2388	1776	76	185
v/c Ratio	0.73	0.55	0.60	0.47	0.59
Control Delay	50.1	3.2	7.8	65.5	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	3.2	7.8	65.5	21.3
Queue Length 50th (ft)	230	181	121	67	21
Queue Length 95th (ft)	m276	m190	168	120	104
Internal Link Dist (ft)		1323	2990	2539	
Turn Bay Length (ft)	150				
Base Capacity (vph)	415	4313	2944	402	502
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.73	0.55	0.60	0.19	0.37

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
9: Sierra Highway & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 	 			  	
Traffic Volume (vph)	100	1847	10	240	1204	666	50	1450	140	88	260	250
Future Volume (vph)	100	1847	10	240	1204	666	50	1450	140	88	260	250
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		300
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.926	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4709	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4709	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			395			149		186	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3070			687			398			2905	
Travel Time (s)		52.3			11.7			9.0			66.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	2008	11	261	1309	724	54	1576	152	96	283	272
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	2008	11	261	1309	724	54	1576	152	96	555	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	50.0	50.0	20.0	45.0	45.0	20.0	42.0	42.0	20.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

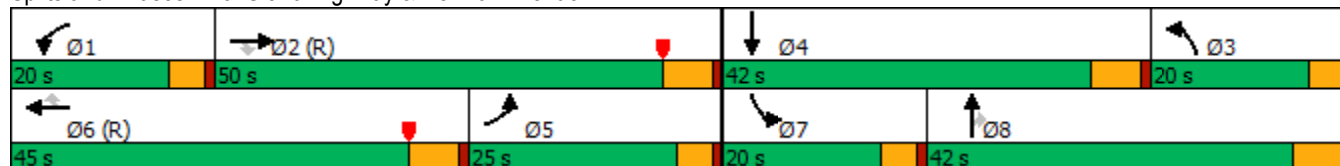


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	37.9%	37.9%	15.2%	34.1%	34.1%	15.2%	31.8%	31.8%	15.2%	31.8%	
Maximum Green (s)	20.5	44.0	44.0	15.5	39.0	39.0	15.5	36.0	36.0	15.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	47.3	47.3	14.7	41.0	41.0	28.7	41.4	39.4	12.6	27.4	
Actuated g/C Ratio	0.16	0.36	0.36	0.11	0.31	0.31	0.22	0.31	0.30	0.10	0.21	
v/c Ratio	0.20	1.10	0.02	0.68	0.83	0.95	0.07	1.42	0.26	0.57	0.49	
Control Delay	59.8	101.6	0.0	65.8	47.7	42.4	38.4	229.5	7.2	77.6	38.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.8	101.6	0.0	65.8	47.7	42.4	38.4	229.5	7.2	77.6	38.0	
LOS	E	F	A	E	D	D	D	F	A	E	D	
Approach Delay		99.0			48.1			204.7			43.8	
Approach LOS		F			D			F			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.42
 Intersection Signal Delay: 104.2
 Intersection LOS: F
 Intersection Capacity Utilization 100.8%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023
























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	109	2008	11	261	1309	724	54	1576	152	96	555
v/c Ratio	0.20	1.10	0.02	0.68	0.83	0.95	0.07	1.42	0.26	0.57	0.49
Control Delay	59.8	101.6	0.0	65.8	47.7	42.4	38.4	229.5	7.2	77.6	38.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	101.6	0.0	65.8	47.7	42.4	38.4	229.5	7.2	77.6	38.0
Queue Length 50th (ft)	47	~733	0	111	380	328	17	~960	2	73	82
Queue Length 95th (ft)	81	#851	m0	158	441	#603	37	#1137	55	148	171
Internal Link Dist (ft)		2990			607			318			2825
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1821	662	416	1579	764	796	1109	577	214	1625
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	1.10	0.02	0.63	0.83	0.95	0.07	1.42	0.26	0.45	0.34

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	0	999	1235	20	1935	0	0	0	0	10	0	475
Future Volume (vph)	0	999	1235	20	1935	0	0	0	0	10	0	475
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.947	0.850									0.850
Fl _t Protected				0.950							0.950	
Satd. Flow (prot)	0	3211	1441	1770	3539	0	0	0	0	0	1770	1583
Fl _t Permitted				0.950							0.950	
Satd. Flow (perm)	0	3211	1441	1770	3539	0	0	0	0	0	1770	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		687			492			504			602	
Travel Time (s)		11.7			8.4			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1086	1342	22	2103	0	0	0	0	11	0	516
Shared Lane Traffic (%)			44%									
Lane Group Flow (vph)	0	1676	752	22	2103	0	0	0	0	0	11	516
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	89.6%
Analysis Period (min)	15
	ICU Level of Service E

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	999	1235	20	1935	0	0	0	0	10	0	475
Future Vol, veh/h	0	999	1235	20	1935	0	0	0	0	10	0	475
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082488832	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1086	1342	22	2103	0	0	0	0	11	0	516

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	1086	0	0		2690	3233	-
Stage 1	-	-	-	-	-	-		2147	2147	-
Stage 2	-	-	-	-	-	-		543	1086	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	638	-	0		17	9	0
Stage 1	0	-	-	-	-	0		75	87	0
Stage 2	0	-	-	-	-	0		546	291	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	638	-	-		16	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		16	0	-
Stage 1	-	-	-	-	-	-		75	0	-
Stage 2	-	-	-	-	-	-		527	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	\$ 429.9
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	638	-	16	-
HCM Lane V/C Ratio	-	-	0.034	-	0.679	-
HCM Control Delay (s)	-	-	10.8	-	\$ 429.9	0
HCM Lane LOS	-	-	B	-	F	A
HCM 95th %tile Q(veh)	-	-	0.1	-	1.7	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	0	0	0	110	0	620
Future Volume (vph)	0	0	0	110	0	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr _t						0.865
Fl _t Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Fl _t Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	492			551	676	
Travel Time (s)	8.4			9.4	15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	120	0	674
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	120	0	674
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	89.6%
Analysis Period (min)	15
	ICU Level of Service E

Intersection						
Int Delay, s/veh	11.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	0	0	0	110	0	620
Future Vol, veh/h	0	0	0	110	0	620
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	120	0	674

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	-	-	-	1
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	0	0	-	1083
Stage 1	-	0	0	-	0
Stage 2	-	0	0	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	1083
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	1083	-	-
HCM Lane V/C Ratio	0.622	-	-
HCM Control Delay (s)	13.6	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	4.5	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	1160	0	0	859	729	370	0	345	0	0	0
Future Volume (vph)	220	1160	0	0	859	729	370	0	345	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.931				0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1770	3539	0	0	4734	0	1681	1681	1583	0	0	0
Flt Permitted	0.950						0.950	0.950				
Satd. Flow (perm)	1770	3539	0	0	4734	0	1681	1681	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					262				73			
Link Speed (mph)		40			40			30				30
Link Distance (ft)		1093			1835			601				382
Travel Time (s)		18.6			31.3			13.7				8.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	1261	0	0	934	792	402	0	375	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	239	1261	0	0	1726	0	201	201	375	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

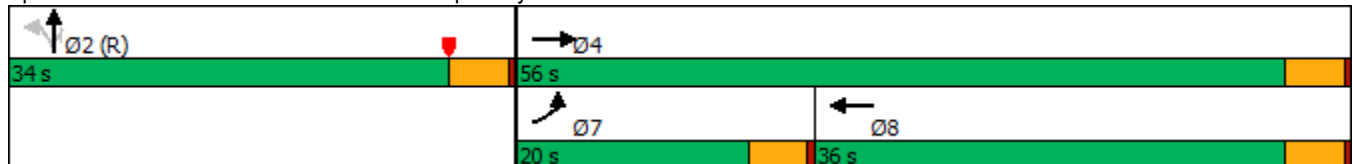


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			10.0		10.0	10.0	10.0			
Minimum Split (s)	14.5	22.5			22.5		32.5	32.5	32.5			
Total Split (s)	20.0	56.0			36.0		34.0	34.0	34.0			
Total Split (%)	22.2%	62.2%			40.0%		37.8%	37.8%	37.8%			
Maximum Green (s)	15.5	51.5			31.5		29.5	29.5	29.5			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	0.5	0.5			0.5		0.5	0.5	0.5			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	4.5			4.5		4.5	4.5	4.5			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.8	51.3			32.0		29.7	29.7	29.7			
Actuated g/C Ratio	0.16	0.57			0.36		0.33	0.33	0.33			
v/c Ratio	0.82	0.63			1.07dr		0.36	0.36	0.66			
Control Delay	60.0	14.6			34.5		25.4	25.4	27.1			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	60.0	14.6			34.5		25.4	25.4	27.1			
LOS	E	B			C		C	C	C			
Approach Delay		21.9			34.5			26.2				
Approach LOS		C			C			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 28.1
 Intersection LOS: C
 Intersection Capacity Utilization 66.6%
 ICU Level of Service C
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

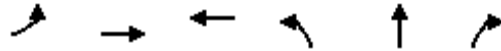
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	239	1261	1726	201	201	375
v/c Ratio	0.82	0.63	1.07dr	0.36	0.36	0.66
Control Delay	60.0	14.6	34.5	25.4	25.4	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	14.6	34.5	25.4	25.4	27.1
Queue Length 50th (ft)	132	233	301	91	91	146
Queue Length 95th (ft)	#248	297	#412	153	153	246
Internal Link Dist (ft)		1013	1755		521	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	304	2025	1853	554	554	570
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.62	0.93	0.36	0.36	0.66

Intersection Summary































95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			  			 		 	 	
Traffic Volume (vph)	400	1255	130	180	1208	172	160	490	280	279	390	270
Future Volume (vph)	400	1255	130	180	1208	172	160	490	280	279	390	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.981				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4989	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4989	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99		20				304			93
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1835			5346			887				1679
Travel Time (s)		31.3			91.1			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	435	1364	141	196	1313	187	174	533	304	303	424	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	435	1364	141	196	1500	0	174	533	304	303	424	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

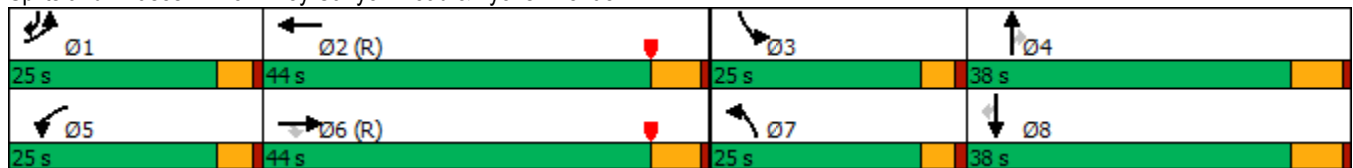


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	25.0	44.0	44.0	25.0	44.0		25.0	38.0	38.0	25.0	38.0	25.0
Total Split (%)	18.9%	33.3%	33.3%	18.9%	33.3%		18.9%	28.8%	28.8%	18.9%	28.8%	18.9%
Maximum Green (s)	20.5	38.0	38.0	20.5	38.0		20.5	32.0	32.0	20.5	32.0	20.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	21.7	46.2	46.2	19.7	44.2		18.2	29.0	29.0	21.0	31.8	57.5
Actuated g/C Ratio	0.16	0.35	0.35	0.15	0.33		0.14	0.22	0.22	0.16	0.24	0.44
v/c Ratio	0.83	1.18	0.24	0.80	0.89		0.77	0.73	0.54	1.16	0.51	0.39
Control Delay	67.0	128.3	12.8	91.8	20.5		76.1	54.0	8.1	152.9	45.8	18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	128.3	12.8	91.8	20.5		76.1	54.0	8.1	152.9	45.8	18.2
LOS	E	F	B	F	C		E	D	A	F	D	B
Approach Delay		106.2			28.8			44.0			69.7	
Approach LOS		F			C			D			E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.18
 Intersection Signal Delay: 65.3
 Intersection LOS: E
 Intersection Capacity Utilization 87.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	435	1364	141	196	1500	174	533	304	303	424	293
v/c Ratio	0.83	1.18	0.24	0.80	0.89	0.77	0.73	0.54	1.16	0.51	0.39
Control Delay	67.0	128.3	12.8	91.8	20.5	76.1	54.0	8.1	152.9	45.8	18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	128.3	12.8	91.8	20.5	76.1	54.0	8.1	152.9	45.8	18.2
Queue Length 50th (ft)	182	~762	25	156	397	144	224	0	~305	168	108
Queue Length 95th (ft)	#273	#947	79	m188	m206	223	276	75	#492	216	183
Internal Link Dist (ft)		1755			5266		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	539	1156	581	268	1685	262	850	606	262	881	747
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	1.18	0.24	0.73	0.89	0.66	0.63	0.50	1.16	0.48	0.39

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.


































95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 	 	 	 	 	 	 	 	 		
Traffic Volume (vph)	280	1313	120	132	1440	652	80	130	19	549	160	220
Future Volume (vph)	280	1313	120	132	1440	652	80	130	19	549	160	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			289			112			239
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5346			2329			465				345
Travel Time (s)		104.1			45.4			9.1				5.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	1427	130	143	1565	709	87	141	21	597	174	239
Shared Lane Traffic (%)												
Lane Group Flow (vph)	304	1427	130	143	1565	709	87	141	21	597	174	239
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	18.5	52.5	52.5	17.5	51.5	84.7	12.8	12.8	12.8	33.1	33.2	33.2
Actuated g/C Ratio	0.14	0.40	0.40	0.13	0.39	0.64	0.10	0.10	0.10	0.25	0.25	0.25
v/c Ratio	0.68	1.09	0.19	0.65	1.03	0.58	0.55	0.42	0.09	0.69	0.38	0.42
Control Delay	35.1	88.4	16.8	46.6	72.3	12.8	68.9	59.6	0.7	49.0	43.1	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.1	88.4	16.8	46.6	72.3	12.8	68.9	59.6	0.7	49.0	43.1	6.9
LOS	D	F	B	D	E	B	E	E	A	D	D	A
Approach Delay		74.7			53.3			57.9			38.0	
Approach LOS		E			D			E			D	

Intersection Summary

Area Type: Other

Cycle Length: 132

Actuated Cycle Length: 132

Offset: 2 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 57.9

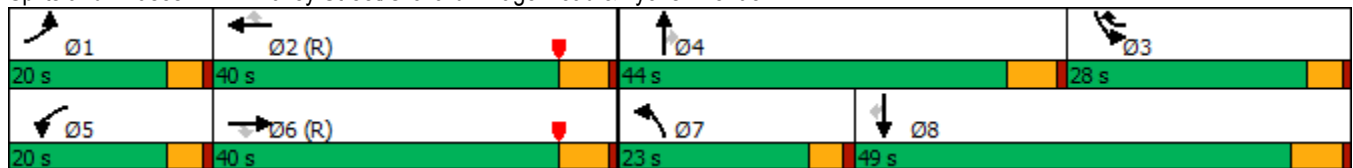
Intersection LOS: E

Intersection Capacity Utilization 80.4%

ICU Level of Service D

Analysis Period (min) 15

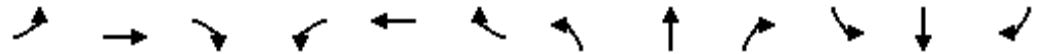
Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	304	1427	130	143	1565	709	87	141	21	597	174	239
v/c Ratio	0.68	1.09	0.19	0.65	1.03	0.58	0.55	0.42	0.09	0.69	0.38	0.42
Control Delay	35.1	88.4	16.8	46.6	72.3	12.8	68.9	59.6	0.7	49.0	43.1	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.1	88.4	16.8	46.6	72.3	12.8	68.9	59.6	0.7	49.0	43.1	6.9
Queue Length 50th (ft)	127	~745	41	108	~777	272	72	61	0	239	124	0
Queue Length 95th (ft)	m112	m#770	m40	m94	m#848	m247	124	94	0	287	186	63
Internal Link Dist (ft)		5266			2249			385			265	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	459	1313	698	233	1519	1221	237	1036	493	861	613	679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	1.09	0.19	0.61	1.03	0.58	0.37	0.14	0.04	0.69	0.28	0.35

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	681	1510	70	873	30	930	110	60	10	140	110
Future Volume (vph)	110	681	1510	70	873	30	930	110	60	10	140	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1623	3539	1468	1639	3539	1356	3123	1863	1471	1671	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			403			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2329			1347			528				401
Travel Time (s)		45.4			26.2			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	740	1641	76	949	33	1011	120	65	11	152	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	120	740	1641	76	949	33	1011	120	65	11	152	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
 15: Newhall Avenue & Lyons Avenue

01/24/2023

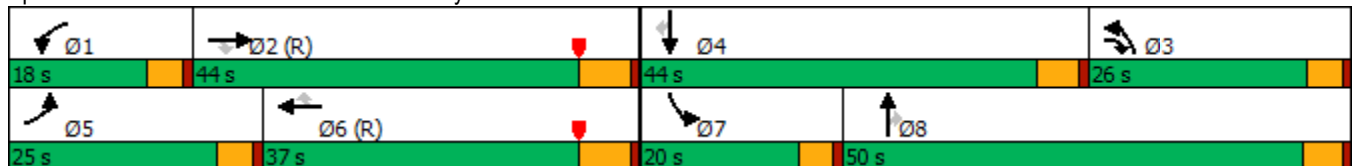


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	25.0	44.0	26.0	18.0	37.0	37.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	18.9%	33.3%	19.7%	13.6%	28.0%	28.0%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	20.5	38.0	21.5	13.5	31.0	31.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		32.0	32.0		32.0	32.0
Pedestrian Calls (#/hr)		27			27	27		43	43		43	43
Act Effct Green (s)	15.3	44.9	72.6	11.4	38.7	38.7	27.7	61.2	61.2	7.0	34.3	34.3
Actuated g/C Ratio	0.12	0.34	0.55	0.09	0.29	0.29	0.21	0.46	0.46	0.05	0.26	0.26
v/c Ratio	0.63	0.62	1.64	0.54	0.92	0.06	1.45	0.14	0.09	0.12	0.33	0.26
Control Delay	79.8	25.2	310.4	77.6	55.0	0.3	247.8	22.3	0.2	62.0	39.5	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.8	25.2	310.4	77.6	55.0	0.3	247.8	22.3	0.2	62.0	39.5	4.8
LOS	E	C	F	E	E	A	F	C	A	E	D	A
Approach Delay		214.9			54.9			211.7			25.7	
Approach LOS		F			D			F			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 47 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.64
 Intersection Signal Delay: 169.9
 Intersection LOS: F
 Intersection Capacity Utilization 134.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	120	740	1641	76	949	33	1011	120	65	11	152	120
v/c Ratio	0.63	0.62	1.64	0.54	0.92	0.06	1.45	0.14	0.09	0.12	0.33	0.26
Control Delay	79.8	25.2	310.4	77.6	55.0	0.3	247.8	22.3	0.2	62.0	39.5	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.8	25.2	310.4	77.6	55.0	0.3	247.8	22.3	0.2	62.0	39.5	4.8
Queue Length 50th (ft)	97	218	~2081	64	384	0	~673	53	0	9	99	0
Queue Length 95th (ft)	m126	m165	m#2053	119	#608	m0	#806	108	0	29	159	33
Internal Link Dist (ft)		2249			1267			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	262	1202	1001	175	1036	516	697	864	755	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.62	1.64	0.43	0.92	0.06	1.45	0.14	0.09	0.05	0.28	0.23




























Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 		 		 	 			 	
Traffic Volume (vph)	125	104	470	8	135	0	470	30	9	0	39	163
Future Volume (vph)	125	104	470	8	135	0	470	30	9	0	39	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.965				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3415	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	3433	3415	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			511					10				177
Link Speed (mph)		45			30			45				30
Link Distance (ft)		628			467			423				391
Travel Time (s)		9.5			10.6			6.4				8.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	113	511	9	147	0	511	33	10	0	42	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	113	511	9	147	0	511	43	0	0	42	177
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Over	Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023

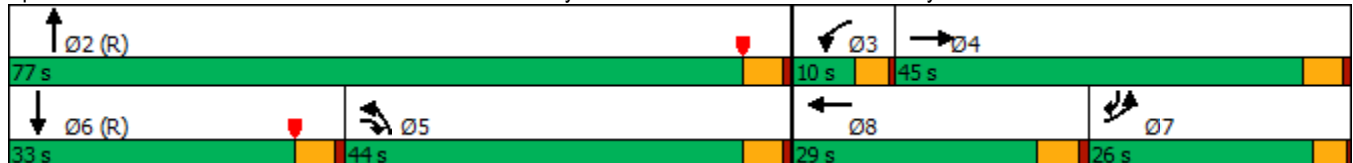


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	15.0	14.0	8.0	23.0		14.0	21.0			30.0	8.0
Total Split (s)	26.0	45.0	44.0	10.0	29.0		44.0	77.0			33.0	26.0
Total Split (%)	19.7%	34.1%	33.3%	7.6%	22.0%		33.3%	58.3%			25.0%	19.7%
Maximum Green (s)	22.0	40.0	39.0	6.0	24.0		39.0	72.0			28.0	22.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			5.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	10.6	28.3	39.0	5.8	15.7		39.0	91.7			47.7	10.6
Actuated g/C Ratio	0.08	0.21	0.30	0.04	0.12		0.30	0.69			0.36	0.08
v/c Ratio	0.49	0.28	0.43	0.12	0.67		0.50	0.02			0.03	0.61
Control Delay	56.0	36.2	3.0	63.9	69.6		40.6	6.4			30.3	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	56.0	36.2	3.0	63.9	69.6		40.6	6.4			30.3	17.3
LOS	E	D	A	E	E		D	A			C	B
Approach Delay		17.4			69.3			37.9			19.8	
Approach LOS		B			E			D			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 29.2 Intersection LOS: C
 Intersection Capacity Utilization 43.6% ICU Level of Service A
 Analysis Period (min) 15

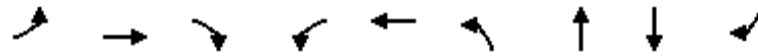
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023




















Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	136	113	511	9	147	511	43	42	177
v/c Ratio	0.49	0.28	0.43	0.12	0.67	0.50	0.02	0.03	0.61
Control Delay	56.0	36.2	3.0	63.9	69.6	40.6	6.4	30.3	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	36.2	3.0	63.9	69.6	40.6	6.4	30.3	17.3
Queue Length 50th (ft)	63	79	18	8	122	187	4	12	0
Queue Length 95th (ft)	m82	m124	m20	27	187	242	12	28	71
Internal Link Dist (ft)		548			387		343	311	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	572	564	1183	80	338	1014	2375	1278	411
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.20	0.43	0.11	0.43	0.50	0.02	0.03	0.43

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Placerita Canyon Road/Arch Street & 12th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	10	50	49	20	163	20	316	40	240	266	10
Future Volume (vph)	30	10	50	49	20	163	20	316	40	240	266	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	250		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.926			0.905			0.986			0.994	
Flt Protected		0.983			0.990			0.997		0.950		
Satd. Flow (prot)	0	1696	0	0	1669	0	0	1831	0	1770	3518	0
Flt Permitted		0.983			0.990			0.997		0.950		
Satd. Flow (perm)	0	1696	0	0	1669	0	0	1831	0	1770	3518	0
Link Speed (mph)		25			25			35			25	
Link Distance (ft)		391			842			1231			423	
Travel Time (s)		10.7			23.0			24.0			11.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	11	54	53	22	177	22	343	43	261	289	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	98	0	0	252	0	0	408	0	261	300	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	59.5%						ICU Level of Service B					
Analysis Period (min)	15											

HCM 6th TWSC
 17: Placerita Canyon Road/Arch Street & 12th Street

01/24/2023

Intersection												
Int Delay, s/veh	10.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↗			↕		↖	↕	
Traffic Vol, veh/h	30	10	50	49	20	163	20	316	40	240	266	10
Future Vol, veh/h	30	10	50	49	20	163	20	316	40	240	266	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	11	54	53	22	177	22	343	43	261	289	11




















Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1325	1247	150	1081	1231	365	300	0	0	386	0	0
Stage 1	817	817	-	409	409	-	-	-	-	-	-	-
Stage 2	508	430	-	672	822	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	123	173	870	183	177	679	1260	-	-	1171	-	-
Stage 1	337	389	-	619	595	-	-	-	-	-	-	-
Stage 2	546	583	-	412	387	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	65	131	870	131	135	679	1260	-	-	1171	-	-
Mov Cap-2 Maneuver	65	131	-	131	135	-	-	-	-	-	-	-
Stage 1	330	302	-	605	582	-	-	-	-	-	-	-
Stage 2	380	570	-	289	301	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	64.6	18.1	0.4	4.2
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1260	-	-	151	471	1171	-
HCM Lane V/C Ratio	0.017	-	-	0.648	0.422	0.223	-
HCM Control Delay (s)	7.9	0	-	64.6	18.1	9	-
HCM Lane LOS	A	A	-	F	C	A	-
HCM 95th %tile Q(veh)	0.1	-	-	3.6	2.1	0.9	-

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	220	330	10	10	20	10	420	10	10	10
Future Volume (vph)	10	10	220	330	10	10	20	10	420	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.857			0.925			0.874			0.955	
Flt Protected	0.950			0.950				0.998			0.984	
Satd. Flow (prot)	1770	1596	0	1770	1723	0	0	1625	0	0	1750	0
Flt Permitted	0.950			0.950				0.998			0.984	
Satd. Flow (perm)	1770	1596	0	1770	1723	0	0	1625	0	0	1750	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		298			3919			2619			300	
Travel Time (s)		6.8			89.1			59.5			6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	11	239	359	11	11	22	11	457	11	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	250	0	359	22	0	0	490	0	0	33	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	70.6%
ICU Level of Service	C
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	11.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	10	10	220	330	10	10	20	10	420	10	10	10
Future Vol, veh/h	10	10	220	330	10	10	20	10	420	10	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	239	359	11	11	22	11	457	11	11	11

Major/Minor	Major1		Major2		Minor1			Minor2				
Conflicting Flow All	22	0	0	250	0	0	899	893	131	1122	1007	17
Stage 1	-	-	-	-	-	-	153	153	-	735	735	-
Stage 2	-	-	-	-	-	-	746	740	-	387	272	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1593	-	-	1316	-	-	260	281	919	183	241	1062
Stage 1	-	-	-	-	-	-	849	771	-	411	425	-
Stage 2	-	-	-	-	-	-	405	423	-	637	685	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1593	-	-	1316	-	-	193	203	919	70	174	1062
Mov Cap-2 Maneuver	-	-	-	-	-	-	193	203	-	70	174	-
Stage 1	-	-	-	-	-	-	843	766	-	408	309	-
Stage 2	-	-	-	-	-	-	281	308	-	314	680	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	8.3	18.9	37.5
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	738	1593	-	-	1316	-	-	143
HCM Lane V/C Ratio	0.663	0.007	-	-	0.273	-	-	0.228
HCM Control Delay (s)	18.9	7.3	-	-	8.8	-	-	37.5
HCM Lane LOS	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	5.1	0	-	-	1.1	-	-	0.8

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	120	20	120	2066	548	350
Future Volume (vph)	120	20	120	2066	548	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.998	0.850				0.850
Flt Protected	0.953		0.950			
Satd. Flow (prot)	3437	1441	1770	3539	3539	1583
Flt Permitted	0.953		0.950			
Satd. Flow (perm)	3437	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	1	20				380
Link Speed (mph)	30			50	50	
Link Distance (ft)	3919			2905	621	
Travel Time (s)	89.1			39.6	8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	22	130	2246	596	380
Shared Lane Traffic (%)		10%				
Lane Group Flow (vph)	132	20	130	2246	596	380
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	15.0	21.0	30.0	30.0
Total Split (s)	35.0	35.0	22.0	97.0	75.0	75.0
Total Split (%)	26.5%	26.5%	16.7%	73.5%	56.8%	56.8%
Maximum Green (s)	30.0	30.0	17.0	92.0	70.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	11.1	11.1	15.0	110.9	90.9	90.9
Actuated g/C Ratio	0.08	0.08	0.11	0.84	0.69	0.69
v/c Ratio	0.46	0.14	0.65	0.76	0.24	0.31
Control Delay	62.2	23.1	48.3	17.4	14.7	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	23.1	48.3	17.4	14.7	8.0
LOS	E	C	D	B	B	A
Approach Delay	57.1			19.1	12.1	
Approach LOS	E			B	B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 18.8
 Intersection LOS: B
 Intersection Capacity Utilization 73.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	132	20	130	2246	596	380
v/c Ratio	0.46	0.14	0.65	0.76	0.24	0.31
Control Delay	62.2	23.1	48.3	17.4	14.7	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	23.1	48.3	17.4	14.7	8.0
Queue Length 50th (ft)	56	0	112	521	76	0
Queue Length 95th (ft)	88	28	m92	m310	247	190
Internal Link Dist (ft)	3839			2825	541	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	781	342	237	2974	2437	1208
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.06	0.55	0.76	0.24	0.31

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	69	18	80	45	650	16	2200	400	290	790	59
Future Volume (vph)	80	69	18	80	45	650	16	2200	400	290	790	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.723			0.706			0.950			0.950		
Satd. Flow (perm)	1347	3539	1583	1315	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			225			118			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		816			677			2247			787	
Travel Time (s)		12.4			10.3			30.6			10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	75	20	87	49	707	17	2391	435	315	859	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	75	20	87	49	707	17	2391	435	315	859	64
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8		6		6		2

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	20.0	20.0	20.0	37.0	37.0	37.0	15.0	20.0	20.0	15.0	39.0	39.0
Total Split (s)	44.0	44.0	44.0	44.0	44.0	44.0	18.0	63.0	63.0	25.0	70.0	70.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	13.6%	47.7%	47.7%	18.9%	53.0%	53.0%
Maximum Green (s)	39.0	39.0	39.0	39.0	39.0	39.0	13.0	58.0	58.0	20.0	65.0	65.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	39.0	39.0	39.0	39.0	39.0	39.0	10.0	58.0	58.0	20.0	77.0	77.0
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30	0.30	0.08	0.44	0.44	0.15	0.58	0.58
v/c Ratio	0.22	0.07	0.04	0.22	0.05	1.13	0.13	1.54	0.57	1.18	0.42	0.07
Control Delay	36.9	33.8	0.1	37.0	33.5	106.6	60.2	276.8	25.7	157.0	17.3	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.2	0.0	0.0	0.0	0.0
Total Delay	36.9	33.8	0.1	37.0	33.5	106.9	60.2	278.1	25.7	157.0	17.3	4.9
LOS	D	C	A	D	C	F	E	F	C	F	B	A
Approach Delay		31.6			95.4			238.1			52.2	
Approach LOS		C			F			F			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.54
 Intersection Signal Delay: 162.1
 Intersection LOS: F
 Intersection Capacity Utilization 121.9%
 ICU Level of Service H
 Analysis Period (min) 15

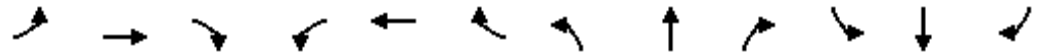
Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	87	75	20	87	49	707	17	2391	435	315	859	64
v/c Ratio	0.22	0.07	0.04	0.22	0.05	1.13	0.13	1.54	0.57	1.18	0.42	0.07
Control Delay	36.9	33.8	0.1	37.0	33.5	106.6	60.2	276.8	25.7	157.0	17.3	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.2	0.0	0.0	0.0	0.0
Total Delay	36.9	33.8	0.1	37.0	33.5	106.9	60.2	278.1	25.7	157.0	17.3	4.9
Queue Length 50th (ft)	56	24	0	56	15	~557	15	~1547	249	~324	193	7
Queue Length 95th (ft)	102	44	0	102	32	#801	m25	#1683	289	#514	308	29
Internal Link Dist (ft)		736			597			2167			707	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	397	1045	537	388	1045	626	174	1555	761	268	2064	947
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	27	0	425	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.07	0.04	0.22	0.05	1.18	0.10	2.12	0.57	1.18	0.42	0.07

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	55	40	2971	79	800	924
Future Volume (vph)	55	40	2971	79	800	924
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		0	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Frt		0.850	0.996			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3525	0	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3525	0	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		43	4			
Link Speed (mph)	30		50			50
Link Distance (ft)	615		787			1009
Travel Time (s)	14.0		10.7			13.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	43	3229	86	870	1004
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	43	3315	0	870	1004
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023

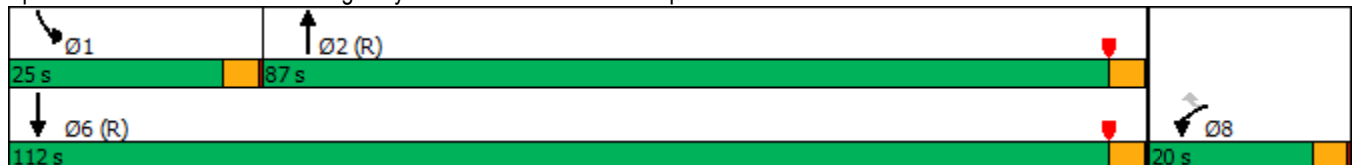


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		8.0	20.0
Total Split (s)	20.0	20.0	87.0		25.0	112.0
Total Split (%)	15.2%	15.2%	65.9%		18.9%	84.8%
Maximum Green (s)	16.0	16.0	83.0		21.0	108.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	9.8	9.8	83.0		29.2	117.0
Actuated g/C Ratio	0.07	0.07	0.63		0.22	0.89
v/c Ratio	0.46	0.27	1.50		1.15	0.32
Control Delay	68.8	20.0	245.8		126.8	2.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	68.8	20.0	245.8		126.8	2.0
LOS	E	C	F		F	A
Approach Delay	48.4		245.8			59.9
Approach LOS	D		F			E

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.50
 Intersection Signal Delay: 176.1
 Intersection LOS: F
 Intersection Capacity Utilization 120.8%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR 14 Southbound Ramps



Queues

22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	60	43	3315	870	1004
v/c Ratio	0.46	0.27	1.50	1.15	0.32
Control Delay	68.8	20.0	245.8	126.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	68.8	20.0	245.8	126.8	2.0
Queue Length 50th (ft)	50	0	~2045	~473	60
Queue Length 95th (ft)	95	37	m#1188	#647	97
Internal Link Dist (ft)	535		707		929
Turn Bay Length (ft)				160	
Base Capacity (vph)	214	229	2217	758	3136
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.28	0.19	1.50	1.15	0.32

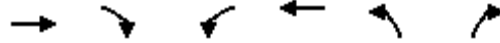
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	290	0	0	330	245	190
Future Volume (vph)	290	0	0	330	245	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	677			645	774	
Travel Time (s)	10.3			9.8	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	0	0	359	266	207
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	359	266	207
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	29.4%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
 23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023

Intersection						
Int Delay, s/veh	6.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	290	0	0	330	245	190
Future Vol, veh/h	290	0	0	330	245	190
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	315	0	0	359	266	207

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	495 158
Stage 1	-	-	-	-	315 -
Stage 2	-	-	-	-	180 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	504 859
Stage 1	-	0	0	-	713 -
Stage 2	-	0	0	-	833 -
Platoon blocked, %	-			-	
Mov Cap-1 Maneuver	-	-	-	-	504 859
Mov Cap-2 Maneuver	-	-	-	-	504 -
Stage 1	-	-	-	-	713 -
Stage 2	-	-	-	-	833 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	504	859	-	-
HCM Lane V/C Ratio	0.528	0.24	-	-
HCM Control Delay (s)	19.9	10.5	-	-
HCM Lane LOS	C	B	-	-
HCM 95th %tile Q(veh)	3	0.9	-	-

***Future with Project
without DDEP Conditions
with Mitigation***

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	880	250	670	1840	70	450	642	170	210	2569	450
Future Volume (vph)	140	880	250	670	1840	70	450	642	170	210	2569	450
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	0		230
Storage Lanes	3		2	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	0.88	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	2787	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	2787	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			136			186			112
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			2037			1105	
Travel Time (s)		13.2			11.3			30.9			16.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	21.0	36.0	22.0	21.0	36.0	36.0	22.0	45.0	45.0	30.0	53.0	21.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

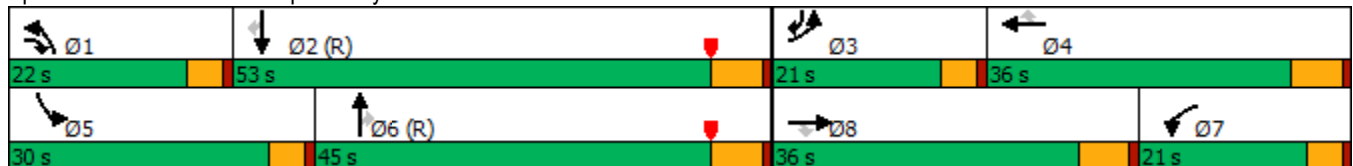


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	15.9%	27.3%	16.7%	15.9%	27.3%	27.3%	16.7%	34.1%	34.1%	22.7%	40.2%	15.9%
Maximum Green (s)	16.5	30.0	17.5	16.5	30.0	30.0	17.5	39.0	39.0	25.5	47.0	16.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	7.9	29.2	47.2	19.8	41.1	41.1	18.0	54.3	54.3	12.7	49.0	60.9
Actuated g/C Ratio	0.06	0.22	0.36	0.15	0.31	0.31	0.14	0.41	0.41	0.10	0.37	0.46
v/c Ratio	0.51	0.67	0.25	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.17	0.62
Control Delay	65.9	49.4	10.1	239.5	66.2	0.5	105.9	19.7	5.3	68.7	120.8	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	10.1	239.5	66.2	0.5	105.9	19.7	5.3	68.7	120.8	23.8
LOS	E	D	B	F	E	A	F	B	A	E	F	C
Approach Delay		43.5			109.4			48.5			103.9	
Approach LOS		D			F			D			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 127 (96%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.42
 Intersection Signal Delay: 88.0
 Intersection LOS: F
 Intersection Capacity Utilization 95.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
v/c Ratio	0.51	0.67	0.25	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.17	0.62
Control Delay	65.9	49.4	10.1	239.5	66.2	0.5	105.9	19.7	5.3	68.7	120.8	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	10.1	239.5	66.2	0.5	105.9	19.7	5.3	68.7	120.8	23.8
Queue Length 50th (ft)	45	218	34	~438	~500	0	~238	94	16	98	~828	240
Queue Length 95th (ft)	69	252	57	#589	#621	0	#349	129	41	139	#895	348
Internal Link Dist (ft)		790			665			1957			1025	
Turn Bay Length (ft)	270		265	280		340	300					230
Base Capacity (vph)	642	1553	1069	513	1993	586	468	2636	760	676	2378	892
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.62	0.25	1.42	1.00	0.13	1.04	0.26	0.24	0.34	1.17	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔	↕↕↕	↔↔
Traffic Volume (vph)	350	910	40	589	1030	290	20	582	291	450	1829	1550
Future Volume (vph)	350	910	40	589	1030	290	20	582	291	450	1829	1550
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		225	450		400
Storage Lanes	3		0	3		1	1		1	1		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.86	1.00	0.97	0.91	0.88
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5055	0	4990	5085	1583	1770	6408	1583	3433	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5055	0	4990	5085	1583	1770	6408	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				99			112			476
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			888			2037	
Travel Time (s)		32.4			35.4			13.5			30.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	380	989	43	640	1120	315	22	633	316	489	1988	1685
Shared Lane Traffic (%)												
Lane Group Flow (vph)	380	1032	0	640	1120	315	22	633	316	489	1988	1685
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	26.0	39.0		31.0	44.0	20.0	19.0	42.0	31.0	20.0	43.0	26.0

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

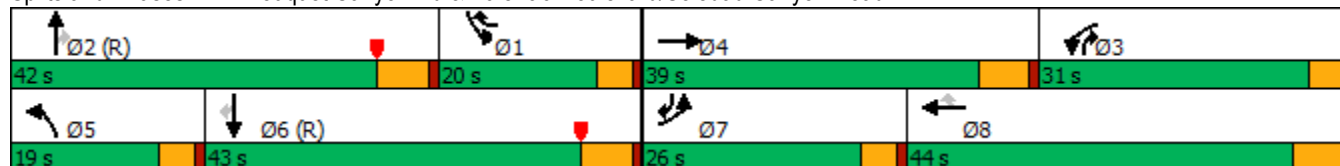


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	19.7%	29.5%		23.5%	33.3%	15.2%	14.4%	31.8%	23.5%	15.2%	32.6%	19.7%
Maximum Green (s)	21.5	33.0		26.5	38.0	15.5	14.5	36.0	26.5	15.5	37.0	21.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	22.0	33.5		25.5	37.0	53.0	7.7	41.0	70.5	16.0	53.4	79.4
Actuated g/C Ratio	0.17	0.25		0.19	0.28	0.40	0.06	0.31	0.53	0.12	0.40	0.60
v/c Ratio	0.46	0.80		0.66	0.79	0.45	0.21	0.32	0.35	1.18	0.97	0.90
Control Delay	51.6	51.3		52.9	48.1	12.1	52.8	29.1	5.7	128.3	39.0	9.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.6	51.3		52.9	48.1	12.1	52.8	29.1	5.7	128.3	39.0	9.7
LOS	D	D		D	D	B	D	C	A	F	D	A
Approach Delay		51.4			44.1			22.0			37.6	
Approach LOS		D			D			C			D	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	140
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.18
Intersection Signal Delay:	39.7
Intersection LOS:	D
Intersection Capacity Utilization:	87.5%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	380	1032	640	1120	315	22	633	316	489	1988	1685
v/c Ratio	0.46	0.80	0.66	0.79	0.45	0.21	0.32	0.35	1.18	0.97	0.90
Control Delay	51.6	51.3	52.9	48.1	12.1	52.8	29.1	5.7	128.3	39.0	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.6	51.3	52.9	48.1	12.1	52.8	29.1	5.7	128.3	39.0	9.7
Queue Length 50th (ft)	105	298	181	320	73	18	147	48	~252	~676	169
Queue Length 95th (ft)	139	353	222	369	116	m33	124	78	m#200	m#451	m115
Internal Link Dist (ft)		2060		2257			808			1957	
Turn Bay Length (ft)						250		225	450		400
Base Capacity (vph)	831	1344	1020	1540	695	201	1988	887	416	2056	1865
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.77	0.63	0.73	0.45	0.11	0.32	0.36	1.18	0.97	0.90

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	367	525	1263	1928	540
Future Volume (vph)	140	367	525	1263	1928	540
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.91	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		5				587
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4834	2595	
Travel Time (s)	44.4			65.9	39.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	399	571	1373	2096	587
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	399	571	1373	2096	587
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

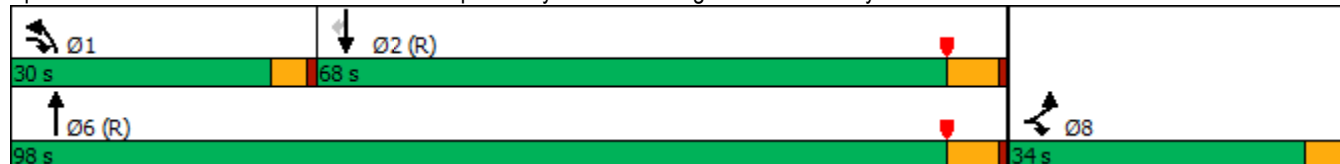


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effct Green (s)	30.8	60.2	25.4	93.2	63.8	63.8
Actuated g/C Ratio	0.23	0.46	0.19	0.71	0.48	0.48
v/c Ratio	0.37	0.31	0.87	0.55	0.85	0.55
Control Delay	46.0	23.4	62.3	10.9	24.7	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.0	23.4	62.3	10.9	24.7	3.5
LOS	D	C	E	B	C	A
Approach Delay	29.6			26.0	20.1	
Approach LOS	C			C	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 77 (58%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 23.3
 Intersection LOS: C
 Intersection Capacity Utilization 70.0%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	152	399	571	1373	2096	587
v/c Ratio	0.37	0.31	0.87	0.55	0.85	0.55
Control Delay	46.0	23.4	62.3	10.9	24.7	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.0	23.4	62.3	10.9	24.7	3.5
Queue Length 50th (ft)	111	119	207	466	697	51
Queue Length 95th (ft)	178	162	#329	102	m728	m45
Internal Link Dist (ft)	2848			4754	2515	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	412	1285	676	2520	2465	1069
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.31	0.84	0.54	0.85	0.55

Intersection Summary

















95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	94	690	1198	62	510	1325
Future Volume (vph)	94	690	1198	62	510	1325
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.882	0.850		0.850		
Flt Protected	0.989				0.950	
Satd. Flow (prot)	3152	1441	3539	1583	3433	3539
Flt Permitted	0.989				0.950	
Satd. Flow (perm)	3152	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	351	351		48		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4834
Travel Time (s)	10.9		27.3			65.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	102	750	1302	67	554	1440
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	477	375	1302	67	554	1440
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	15.1	15.1	77.8	77.8	27.1	108.9
Actuated g/C Ratio	0.11	0.11	0.59	0.59	0.21	0.82
v/c Ratio	0.71	0.79	0.62	0.07	0.79	0.49
Control Delay	20.2	19.4	22.7	6.8	53.0	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	19.4	22.7	6.8	53.0	5.8
LOS	C	B	C	A	D	A
Approach Delay	19.9		21.9			19.0
Approach LOS	B		C			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 20.1
 Intersection LOS: C
 Intersection Capacity Utilization 68.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023























Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	477	375	1302	67	554	1440
v/c Ratio	0.71	0.79	0.62	0.07	0.79	0.49
Control Delay	20.2	19.4	22.7	6.8	53.0	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	19.4	22.7	6.8	53.0	5.8
Queue Length 50th (ft)	53	20	537	3	245	174
Queue Length 95th (ft)	98	130	677	m46	m304	188
Internal Link Dist (ft)	558		1922			4754
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1093	640	2086	953	736	2920
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.59	0.62	0.07	0.75	0.49

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	308	0	200	10	1120	559	249	1550	0
Future Volume (vph)	0	0	0	308	0	200	10	1120	559	249	1550	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	100		0
Storage Lanes	0		0	2		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor				0.99		0.95	1.00		0.96	0.99		
Fr _t						0.850			0.850			
Fl _t Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	0	0	3433	0	1583	1770	3539	1583	1770	3539	0
Fl _t Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	0	0	3393	0	1509	1761	3539	1527	1757	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						217			242			
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		183			612			1314			3196	
Travel Time (s)		5.0			11.9			19.9			48.4	
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	335	0	217	11	1217	608	271	1685	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	335	0	217	11	1217	608	271	1685	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)				50		50	50	50	50	50	50	
Trailing Detector (ft)				0		0	0	0	0	0	0	
Detector 1 Position(ft)				0		0	0	0	0	0	0	
Detector 1 Size(ft)				50		50	50	50	50	50	50	
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type				Prot		Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases				7			1	6	7	5	2	
Permitted Phases				7		7			6			
Detector Phase				7		7	1	6	7	5	2	
Switch Phase												
Minimum Initial (s)				4.0		4.0	4.0	4.0	4.0	4.0	4.0	

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/24/2023

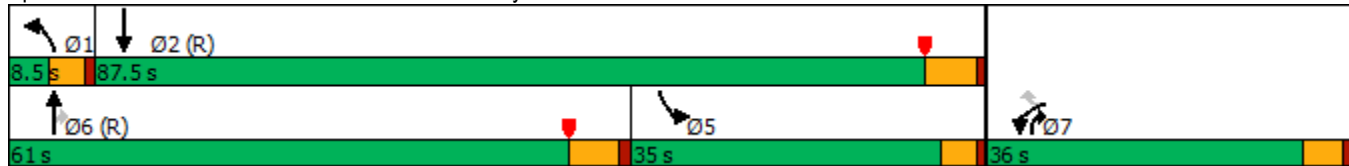


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				36.0		36.0	8.5	25.0	36.0	8.5	25.0	
Total Split (s)				36.0		36.0	8.5	61.0	36.0	35.0	87.5	
Total Split (%)				27.3%		27.3%	6.4%	46.2%	27.3%	26.5%	66.3%	
Maximum Green (s)				31.0		31.0	4.0	55.0	31.0	30.5	81.5	
Yellow Time (s)				4.0		4.0	3.5	5.0	4.0	3.5	5.0	
All-Red Time (s)				1.0		1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				-1.0		-1.0	-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)				4.0		4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None		None	None	C-Max	None	None	C-Max	
Walk Time (s)				7.0		7.0		7.0	7.0		7.0	
Flash Dont Walk (s)				21.0		21.0		11.0	21.0		11.0	
Pedestrian Calls (#/hr)				30		30		17	30		14	
Act Effct Green (s)				25.0		25.0	6.2	64.0	89.0	31.0	95.0	
Actuated g/C Ratio				0.19		0.19	0.05	0.48	0.67	0.23	0.72	
v/c Ratio				0.52		0.47	0.13	0.71	0.54	0.65	0.66	
Control Delay				38.0		10.9	62.1	33.1	8.4	67.5	21.9	
Queue Delay				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay				38.0		10.9	62.1	33.1	8.4	67.5	21.9	
LOS				D		B	E	C	A	E	C	
Approach Delay					27.3			25.1			28.2	
Approach LOS					C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 26.8 Intersection LOS: C
 Intersection Capacity Utilization 65.0% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Queues

5: Railroad Avenue & Driveway/13th Street

01/24/2023



Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	335	217	11	1217	608	271	1685
v/c Ratio	0.52	0.47	0.13	0.71	0.54	0.65	0.66
Control Delay	38.0	10.9	62.1	33.1	8.4	67.5	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	10.9	62.1	33.1	8.4	67.5	21.9
Queue Length 50th (ft)	135	86	8	439	135	236	708
Queue Length 95th (ft)	184	138	m18	533	167	331	635
Internal Link Dist (ft)				1234			3116
Turn Bay Length (ft)	110		100		570	100	
Base Capacity (vph)	832	530	82	1715	1148	415	2547
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.41	0.13	0.71	0.53	0.65	0.66

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	353	140	300	1136	1235	392			
Future Volume (vph)	353	140	300	1136	1235	392			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		152				288			
Link Speed (mph)	35			35	45				
Link Distance (ft)	374			1566	1314				
Travel Time (s)	7.3			30.5	19.9				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	384	152	326	1235	1342	426			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	384	152	326	1235	1342	426			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	24			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	52.0	30.0	20.0	30.0	30.0

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023

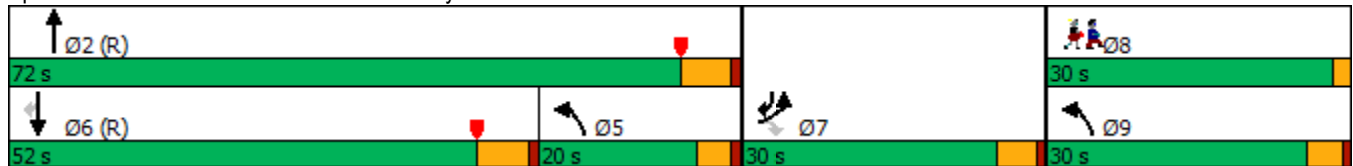


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	39.4%	22.7%	15%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	46.0	25.0	15.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effct Green (s)	22.0	22.0	23.5	88.8	70.5	92.5			
Actuated g/C Ratio	0.17	0.17	0.18	0.67	0.53	0.70			
v/c Ratio	0.67	0.39	0.53	0.52	0.71	0.36			
Control Delay	89.7	46.1	19.9	17.0	39.0	4.6			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	89.7	46.1	19.9	17.0	39.0	4.6			
LOS	F	D	B	B	D	A			
Approach Delay	77.3			17.6	30.7				
Approach LOS	E			B	C				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 103 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 31.9
 Intersection Capacity Utilization 62.8%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	384	152	326	1235	1342	426
v/c Ratio	0.67	0.39	0.53	0.52	0.71	0.36
Control Delay	89.7	46.1	19.9	17.0	39.0	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.7	46.1	19.9	17.0	39.0	4.6
Queue Length 50th (ft)	179	95	58	280	513	77
Queue Length 95th (ft)	233	158	78	363	719	110
Internal Link Dist (ft)	294			1486	1234	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	676	433	1092	2379	1891	1235
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.35	0.30	0.52	0.71	0.34

Intersection Summary

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

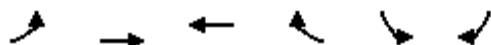
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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1030	610	1356	1365	0	
Future Volume (vph)	0	1030	610	1356	1365	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.97			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1474			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1645		1196		
Travel Time (s)		6.2	28.0		23.3		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1120	663	1474	1484	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1120	663	1474	1484	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		62.0	15.0	70.0	70.0	47.0	
Total Split (%)		47.0%	11.4%	53.0%	53.0%	36%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023

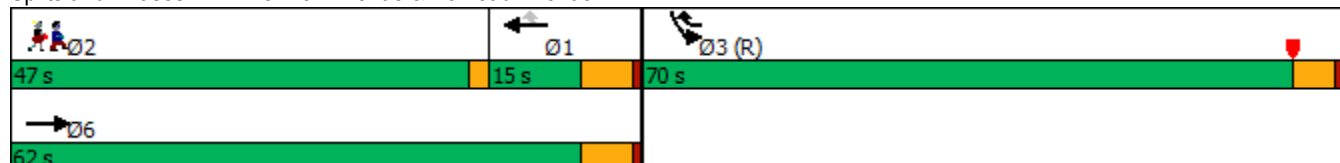


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		56.0	9.0	64.0	64.0		45.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		58.0	58.0	124.0	66.0		
Actuated g/C Ratio		0.44	0.44	0.94	0.50		
v/c Ratio		0.72	0.81	0.55	0.86		
Control Delay		33.6	20.0	6.3	13.5		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		33.6	20.0	6.3	13.5		
LOS		C	C	A	B		
Approach Delay		33.6	10.6		13.5		
Approach LOS		C	B		B		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	20 (15%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	16.9
Intersection LOS:	B
Intersection Capacity Utilization	77.7%
ICU Level of Service	D
Analysis Period (min)	15

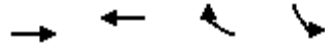
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1120	663	1474	1484
v/c Ratio	0.72	0.81	0.55	0.86
Control Delay	33.6	20.0	6.3	13.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	33.6	20.0	6.3	13.5
Queue Length 50th (ft)	407	132	463	631
Queue Length 95th (ft)	490	199	597	65
Internal Link Dist (ft)	282	1565		1116
Turn Bay Length (ft)				
Base Capacity (vph)	1555	818	2676	1716
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.72	0.81	0.55	0.86

Intersection Summary

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	170	1665	1487	30	330	160
Future Volume (vph)	170	1665	1487	30	330	160
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.997			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5070	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5070	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			3			174
Link Speed (mph)		40	40		30	
Link Distance (ft)		1545	3086		2703	
Travel Time (s)		26.3	52.6		61.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	1810	1616	33	359	174
Shared Lane Traffic (%)						
Lane Group Flow (vph)	185	1810	1649	0	359	174
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	25.0	98.0	73.0		34.0	34.0

Lanes, Volumes, Timings
 8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	18.9%	74.2%	55.3%		25.8%	25.8%
Maximum Green (s)	20.5	92.0	67.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	21.0	94.8	69.8		29.2	29.2
Actuated g/C Ratio	0.16	0.72	0.53		0.22	0.22
v/c Ratio	0.66	0.50	0.61		0.92	0.36
Control Delay	59.6	9.6	9.9		79.2	6.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	59.6	9.6	9.9		79.2	6.6
LOS	E	A	A		E	A
Approach Delay		14.2	9.9		55.5	
Approach LOS		B	A		E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 50 (38%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 17.8
 Intersection LOS: B
 Intersection Capacity Utilization 67.1%
 ICU Level of Service C
 Analysis Period (min) 15

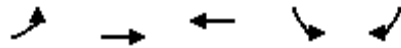
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	185	1810	1649	359	174
v/c Ratio	0.66	0.50	0.61	0.92	0.36
Control Delay	59.6	9.6	9.9	79.2	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	59.6	9.6	9.9	79.2	6.6
Queue Length 50th (ft)	161	240	163	314	11
Queue Length 95th (ft)	m194	263	164	#486	21
Internal Link Dist (ft)		1465	3006	2623	
Turn Bay Length (ft)	150				
Base Capacity (vph)	281	3653	2683	402	494
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.66	0.50	0.61	0.89	0.35

Intersection Summary






































95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 	  		 	  	
Traffic Volume (vph)	220	1395	10	710	937	48	10	110	110	394	970	320
Future Volume (vph)	220	1395	10	710	937	48	10	110	110	394	970	320
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		350
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	1770	4897	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	1770	4897	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			124			161		63	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3086			633			398			2854	
Travel Time (s)		52.6			10.8			9.0			64.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	1516	11	772	1018	52	11	120	120	428	1054	348
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	1516	11	772	1018	52	11	120	120	428	1402	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	45.0	45.0	25.0	45.0	45.0	20.0	20.0	20.0	42.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

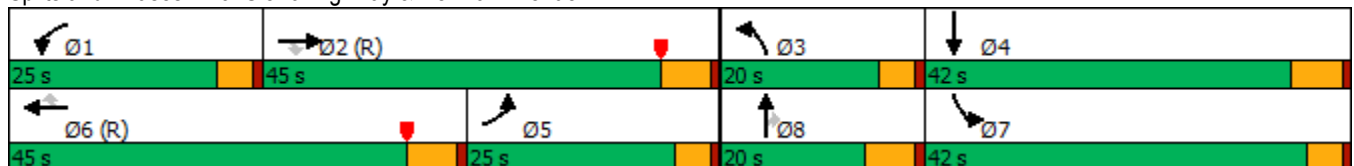


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	34.1%	34.1%	18.9%	34.1%	34.1%	15.2%	15.2%	15.2%	31.8%	31.8%	
Maximum Green (s)	20.5	39.0	39.0	20.5	39.0	39.0	15.5	14.0	14.0	37.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	41.0	41.0	27.6	47.6	47.6	6.5	10.5	8.5	36.9	47.1	
Actuated g/C Ratio	0.16	0.31	0.31	0.21	0.36	0.36	0.05	0.08	0.06	0.28	0.36	
v/c Ratio	0.44	0.96	0.02	1.08	0.56	0.08	0.07	0.30	0.48	0.86	0.78	
Control Delay	59.1	64.1	0.1	104.9	36.3	0.2	60.5	58.9	9.4	25.6	15.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.1	64.1	0.1	104.9	36.3	0.2	60.5	58.9	9.4	25.6	15.3	
LOS	E	E	A	F	D	A	E	E	A	C	B	
Approach Delay		63.1			64.0			35.3			17.7	
Approach LOS		E			E			D			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 121 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 47.6
 Intersection LOS: D
 Intersection Capacity Utilization 85.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023





















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	239	1516	11	772	1018	52	11	120	120	428	1402
v/c Ratio	0.44	0.96	0.02	1.08	0.56	0.08	0.07	0.30	0.48	0.86	0.78
Control Delay	59.1	64.1	0.1	104.9	36.3	0.2	60.5	58.9	9.4	25.6	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	64.1	0.1	104.9	36.3	0.2	60.5	58.9	9.4	25.6	15.3
Queue Length 50th (ft)	103	477	0	~391	257	0	4	36	0	345	262
Queue Length 95th (ft)	m140	#575	m0	#584	326	0	14	57	26	m323	m359
Internal Link Dist (ft)		3006			553			318			2774
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1579	568	717	1832	649	416	616	311	531	1786
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.96	0.02	1.08	0.56	0.08	0.03	0.19	0.39	0.81	0.78

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	421	1608	10	815	0	0	0	0	10	10	799
Future Volume (vph)	0	421	1608	10	815	0	0	0	0	10	10	799
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.902	0.850									0.850
Fl _t Protected				0.950							0.976	
Satd. Flow (prot)	0	3058	1441	1770	3539	0	0	0	0	0	1818	1583
Fl _t Permitted				0.950							0.976	
Satd. Flow (perm)	0	3058	1441	1770	3539	0	0	0	0	0	1818	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		633			469			446			465	
Travel Time (s)		10.8			8.0			10.1			10.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	458	1748	11	886	0	0	0	0	11	11	868
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1332	874	11	886	0	0	0	0	0	22	868
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary
 Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 83.0% ICU Level of Service E
 Analysis Period (min) 15

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	421	1608	10	815	0	0	0	0	10	10	799
Future Vol, veh/h	0	421	1608	10	815	0	0	0	0	10	10	799
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082378240	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	458	1748	11	886	0	0	0	0	11	11	868

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	458	0	0		1137	1366	-
Stage 1	-	-	-	-	-	-		908	908	-
Stage 2	-	-	-	-	-	-		229	458	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	1099	-	0		195	146	0
Stage 1	0	-	-	-	-	0		354	352	0
Stage 2	0	-	-	-	-	0		787	565	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1099	-	-		193	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		193	0	-
Stage 1	-	-	-	-	-	-		354	0	-
Stage 2	-	-	-	-	-	-		779	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	26
HCM LOS			D

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1099	-	193	-
HCM Lane V/C Ratio	-	-	0.01	-	0.113	-
HCM Control Delay (s)	-	-	8.3	-	26	0
HCM Lane LOS	-	-	A	-	D	A
HCM 95th %tile Q(veh)	-	-	0	-	0.4	-

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	0	0	0	60	0	10
Future Volume (vph)	0	0	0	60	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr _t						0.865
Fl _t Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Fl _t Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	469			639	290	
Travel Time (s)	8.0			10.9	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	65	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	65	0	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	83.0%
Analysis Period (min)	15
	ICU Level of Service E

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	0	0	0	60	0	10
Future Vol, veh/h	0	0	0	60	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	65	0	11

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	6.93
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.319
Pot Cap-1 Maneuver	-	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1083
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	1083	-	-
HCM Lane V/C Ratio	0.01	-	-
HCM Control Delay (s)	8.4	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	1159	0	0	811	592	110	10	159	0	0	0
Future Volume (vph)	180	1159	0	0	811	592	110	10	159	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.937				0.850			
Flt Protected	0.950						0.950	0.960				
Satd. Flow (prot)	1770	3539	0	0	4765	0	1681	1699	1583	0	0	0
Flt Permitted	0.950						0.950	0.960				
Satd. Flow (perm)	1770	3539	0	0	4765	0	1681	1699	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					216				85			
Link Speed (mph)		40			40			30				30
Link Distance (ft)		722			1900			440				464
Travel Time (s)		12.3			32.4			10.0				10.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	1260	0	0	882	643	120	11	173	0	0	0
Shared Lane Traffic (%)							46%					
Lane Group Flow (vph)	196	1260	0	0	1525	0	65	66	173	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

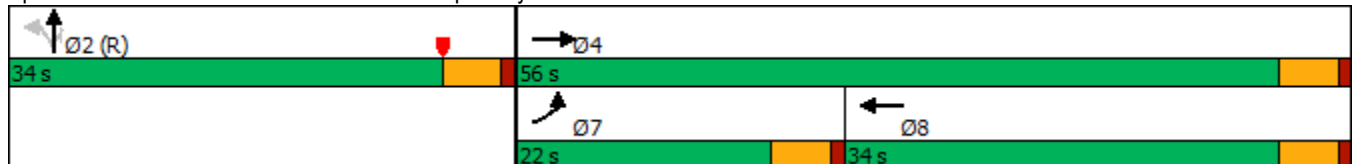


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			5.0		10.0	10.0	10.0			
Minimum Split (s)	15.0	23.0			23.0		33.0	33.0	33.0			
Total Split (s)	22.0	56.0			34.0		34.0	34.0	34.0			
Total Split (%)	24.4%	62.2%			37.8%		37.8%	37.8%	37.8%			
Maximum Green (s)	17.0	51.0			29.0		29.0	29.0	29.0			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.4	49.6			30.2		30.4	30.4	30.4			
Actuated g/C Ratio	0.16	0.55			0.34		0.34	0.34	0.34			
v/c Ratio	0.69	0.65			0.94dr		0.11	0.12	0.29			
Control Delay	48.6	15.7			31.1		22.3	22.3	13.4			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	48.6	15.7			31.1		22.3	22.3	13.4			
LOS	D	B			C		C	C	B			
Approach Delay		20.2			31.1			17.2				
Approach LOS		C			C			B				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 25.0 Intersection LOS: C
 Intersection Capacity Utilization 59.7% ICU Level of Service B
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

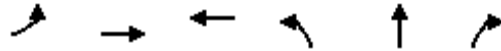
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	196	1260	1525	65	66	173
v/c Ratio	0.69	0.65	0.94dr	0.11	0.12	0.29
Control Delay	48.6	15.7	31.1	22.3	22.3	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	15.7	31.1	22.3	22.3	13.4
Queue Length 50th (ft)	106	235	255	27	27	36
Queue Length 95th (ft)	174	302	#359	58	60	86
Internal Link Dist (ft)		642	1820		360	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	334	2005	1744	566	573	590
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.63	0.87	0.11	0.12	0.29

Intersection Summary































95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			  			 		 	 	
Traffic Volume (vph)	140	838	130	240	803	127	200	240	200	142	410	270
Future Volume (vph)	140	838	130	240	803	127	200	240	200	142	410	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	2		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	0.97	0.95	1.00
Fr _t			0.850		0.980				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4984	0	1652	3303	1478	3204	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4984	0	1652	3303	1478	3204	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123		25				217			112
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1900			5304			887				1679
Travel Time (s)		32.4			90.4			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	911	141	261	873	138	217	261	217	154	446	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	911	141	261	1011	0	217	261	217	154	446	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			20				20
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	41.0	41.0	28.0	49.0		25.0	38.0	38.0	25.0	38.0	20.0
Total Split (%)	15.2%	31.1%	31.1%	21.2%	37.1%		18.9%	28.8%	28.8%	18.9%	28.8%	15.2%
Maximum Green (s)	15.5	35.0	35.0	23.5	43.0		20.5	32.0	32.0	20.5	32.0	15.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	12.3	47.4	47.4	24.0	59.2		20.1	32.4	32.4	12.2	24.5	40.7
Actuated g/C Ratio	0.09	0.36	0.36	0.18	0.45		0.15	0.25	0.25	0.09	0.19	0.31
v/c Ratio	0.51	0.77	0.23	0.87	0.45		0.86	0.32	0.41	0.52	0.70	0.52
Control Delay	62.7	43.6	8.4	60.0	10.3		85.3	41.5	7.3	63.2	56.4	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	43.6	8.4	60.0	10.3		85.3	41.5	7.3	63.2	56.4	24.9
LOS	E	D	A	E	B		F	D	A	E	E	C
Approach Delay		41.9			20.5			44.5			47.2	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 132

Actuated Cycle Length: 132

Offset: 75 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 36.8

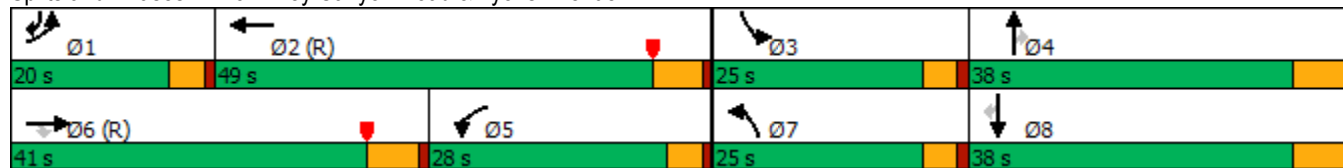
Intersection LOS: D

Intersection Capacity Utilization 72.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	911	141	261	1011	217	261	217	154	446	293
v/c Ratio	0.51	0.77	0.23	0.87	0.45	0.86	0.32	0.41	0.52	0.70	0.52
Control Delay	62.7	43.6	8.4	60.0	10.3	85.3	41.5	7.3	63.2	56.4	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	43.6	8.4	60.0	10.3	85.3	41.5	7.3	63.2	56.4	24.9
Queue Length 50th (ft)	64	365	10	221	161	182	95	0	65	190	126
Queue Length 95th (ft)	98	#503	61	m#376	180	#318	134	63	100	237	193
Internal Link Dist (ft)		1820			5224		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	389	1186	609	300	2247	262	858	544	509	881	608
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.77	0.23	0.87	0.45	0.83	0.30	0.40	0.30	0.51	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.































Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			 			 		 		
Traffic Volume (vph)	200	1020	60	117	1209	397	120	120	102	482	100	240
Future Volume (vph)	200	1020	60	117	1209	397	120	120	102	482	100	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	4746	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	4746	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			210			112			261
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5304			2371			465				790
Travel Time (s)		103.3			46.2			9.1				12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1109	65	127	1314	432	130	130	111	524	109	261
Shared Lane Traffic (%)												
Lane Group Flow (vph)	217	1109	65	127	1314	432	130	130	111	524	109	261
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

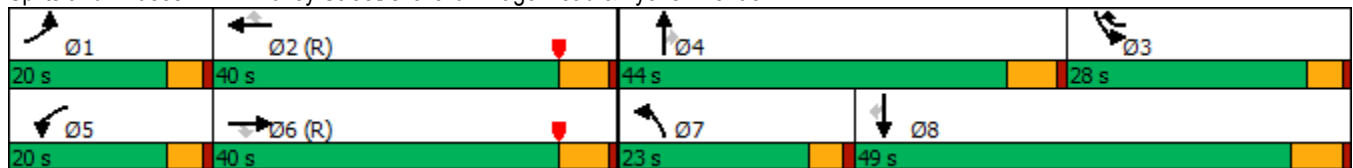


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	14.7	60.1	60.1	15.9	61.3	88.9	15.5	12.4	12.4	27.7	24.6	24.6
Actuated g/C Ratio	0.11	0.46	0.46	0.12	0.46	0.67	0.12	0.09	0.09	0.21	0.19	0.19
v/c Ratio	0.61	0.51	0.08	0.64	0.73	0.35	0.67	0.40	0.48	0.73	0.33	0.53
Control Delay	57.2	49.5	7.0	66.0	39.1	4.5	72.4	59.7	16.7	54.6	48.4	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	49.5	7.0	66.0	39.1	4.5	72.4	59.7	16.7	54.6	48.4	9.0
LOS	E	D	A	E	D	A	E	E	B	D	D	A
Approach Delay		48.7			32.9			51.3			40.5	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 40.8
 Intersection LOS: D
 Intersection Capacity Utilization 69.5%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	217	1109	65	127	1314	432	130	130	111	524	109	261
v/c Ratio	0.61	0.51	0.08	0.64	0.73	0.35	0.67	0.40	0.48	0.73	0.33	0.53
Control Delay	57.2	49.5	7.0	66.0	39.1	4.5	72.4	59.7	16.7	54.6	48.4	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	49.5	7.0	66.0	39.1	4.5	72.4	59.7	16.7	54.6	48.4	9.0
Queue Length 50th (ft)	100	346	4	98	604	53	108	56	0	217	82	0
Queue Length 95th (ft)	m132	409	m18	m112	m#694	m144	174	88	57	263	132	72
Internal Link Dist (ft)		5224			2291			385			710	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	402	2159	778	220	1806	1248	237	1036	493	733	613	693
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.51	0.08	0.58	0.73	0.35	0.55	0.13	0.23	0.71	0.18	0.38

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	583	850	60	682	30	600	120	50	40	180	190
Future Volume (vph)	130	583	850	60	682	30	600	120	50	40	180	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1614	3539	1468	1637	3539	1356	3135	1863	1471	1671	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			371			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2371			962			528				401
Travel Time (s)		46.2			18.7			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	634	924	65	741	33	652	130	54	43	196	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	634	924	65	741	33	652	130	54	43	196	207
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

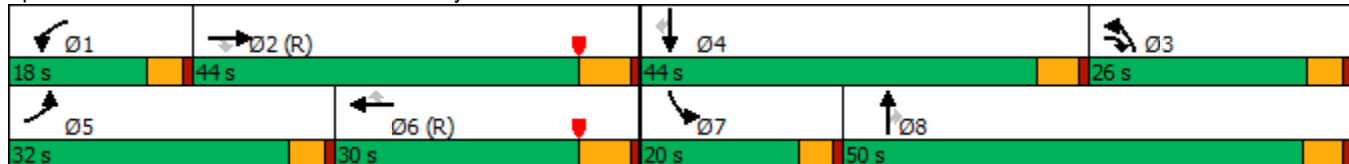


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	32.0	44.0	26.0	18.0	30.0	30.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	24.2%	33.3%	19.7%	13.6%	22.7%	22.7%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	27.5	38.0	21.5	13.5	24.0	24.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	24.0		24.0		24.0		32.0		32.0		32.0	
Pedestrian Calls (#/hr)	27		27		27		43		43		43	
Act Effct Green (s)	17.1	45.4	72.6	10.8	36.9	36.9	27.2	54.8	54.8	9.2	34.8	34.8
Actuated g/C Ratio	0.13	0.34	0.55	0.08	0.28	0.28	0.21	0.42	0.42	0.07	0.26	0.26
v/c Ratio	0.66	0.52	0.94	0.49	0.75	0.07	0.95	0.17	0.08	0.36	0.41	0.44
Control Delay	60.4	33.0	37.2	85.6	40.9	0.6	77.0	26.5	0.2	66.1	41.4	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.4	33.0	37.2	85.6	40.9	0.6	77.0	26.5	0.2	66.1	41.4	15.4
LOS	E	C	D	F	D	A	E	C	A	E	D	B
Approach Delay	37.6		42.8		64.2		31.7					
Approach LOS	D		D		E		C					

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 49 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 43.9
 Intersection LOS: D
 Intersection Capacity Utilization 94.0%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	141	634	924	65	741	33	652	130	54	43	196	207
v/c Ratio	0.66	0.52	0.94	0.49	0.75	0.07	0.95	0.17	0.08	0.36	0.41	0.44
Control Delay	60.4	33.0	37.2	85.6	40.9	0.6	77.0	26.5	0.2	66.1	41.4	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.4	33.0	37.2	85.6	40.9	0.6	77.0	26.5	0.2	66.1	41.4	15.4
Queue Length 50th (ft)	87	293	~510	54	267	0	~344	71	0	36	131	42
Queue Length 95th (ft)	m150	282	#721	99	#441	1	#464	123	0	74	201	113
Internal Link Dist (ft)		2291			882			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	350	1217	987	175	990	501	684	773	690	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.52	0.94	0.37	0.75	0.07	0.95	0.17	0.08	0.21	0.36	0.40






















Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	135	480	4	76	0	320	39	12	0	22	92
Future Volume (vph)	163	135	480	4	76	0	320	39	12	0	22	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.965				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3415	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	3433	3415	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			522					13				132
Link Speed (mph)		45			30			45				30
Link Distance (ft)		612			484			505				482
Travel Time (s)		9.3			11.0			7.7				11.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	147	522	4	83	0	348	42	13	0	24	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	147	522	4	83	0	348	55	0	0	24	100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Over	Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

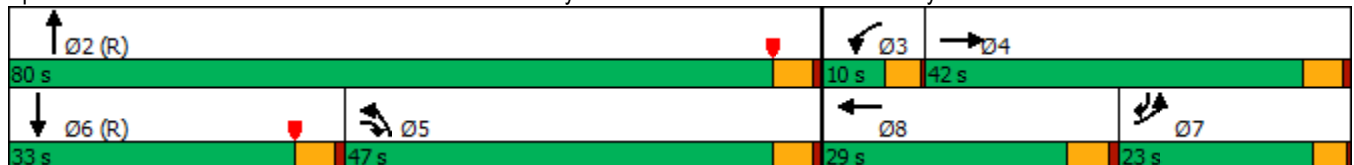
01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	15.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	23.0	42.0	47.0	10.0	29.0		47.0	80.0			33.0	23.0
Total Split (%)	17.4%	31.8%	35.6%	7.6%	22.0%		35.6%	60.6%			25.0%	17.4%
Maximum Green (s)	19.0	37.0	42.0	6.0	24.0		42.0	75.0			28.0	19.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	12.1	26.1	42.0	5.7	11.9		42.0	93.9			46.9	12.1
Actuated g/C Ratio	0.09	0.20	0.32	0.04	0.09		0.32	0.71			0.36	0.09
v/c Ratio	0.56	0.40	0.42	0.05	0.49		0.32	0.02			0.02	0.38
Control Delay	53.8	39.9	3.1	62.0	66.9		35.2	5.3			30.0	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	53.8	39.9	3.1	62.0	66.9		35.2	5.3			30.0	7.8
LOS	D	D	A	E	E		D	A			C	A
Approach Delay		20.1			66.6			31.1			12.1	
Approach LOS		C			E			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 10 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.56
 Intersection Signal Delay: 25.2 Intersection LOS: C
 Intersection Capacity Utilization 40.1% ICU Level of Service A
 Analysis Period (min) 15

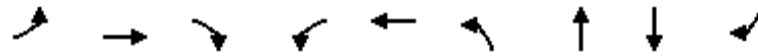
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

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















Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	177	147	522	4	83	348	55	24	100
v/c Ratio	0.56	0.40	0.42	0.05	0.49	0.32	0.02	0.02	0.38
Control Delay	53.8	39.9	3.1	62.0	66.9	35.2	5.3	30.0	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	39.9	3.1	62.0	66.9	35.2	5.3	30.0	7.8
Queue Length 50th (ft)	75	102	9	3	69	116	4	6	0
Queue Length 95th (ft)	108	m178	28	16	121	158	13	18	27
Internal Link Dist (ft)		532			404		425	402	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	494	522	1242	80	338	1092	2434	1258	340
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.28	0.42	0.05	0.25	0.32	0.02	0.02	0.29

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Placerita Canyon Road/Arch Street & 12th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	10	32	10	164	10	196	49	220	266	20
Future Volume (vph)	10	10	10	32	10	164	10	196	49	220	266	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	250		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.955			0.893			0.974			0.989	
Flt Protected		0.984			0.992			0.998		0.950		
Satd. Flow (prot)	0	1750	0	0	1650	0	0	1811	0	1770	3500	0
Flt Permitted		0.984			0.992			0.998		0.950		
Satd. Flow (perm)	0	1750	0	0	1650	0	0	1811	0	1770	3500	0
Link Speed (mph)		25			25			35			25	
Link Distance (ft)		391			842			1231			505	
Travel Time (s)		10.7			23.0			24.0			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	11	11	35	11	178	11	213	53	239	289	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	224	0	0	277	0	239	311	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	49.7%						ICU Level of Service A					
Analysis Period (min)	15											

HCM 6th TWSC
 17: Placerita Canyon Road/Arch Street & 12th Street

01/24/2023

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕	
Traffic Vol, veh/h	10	10	10	32	10	164	10	196	49	220	266	20
Future Vol, veh/h	10	10	10	32	10	164	10	196	49	220	266	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	11	35	11	178	11	213	53	239	289	22




















Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1134	1066	156	890	1051	240	311	0	0	266	0	0
Stage 1	778	778	-	262	262	-	-	-	-	-	-	-
Stage 2	356	288	-	628	789	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	168	222	862	250	226	798	1248	-	-	1296	-	-
Stage 1	356	406	-	742	691	-	-	-	-	-	-	-
Stage 2	661	673	-	438	401	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	106	179	862	201	183	798	1248	-	-	1296	-	-
Mov Cap-2 Maneuver	106	179	-	201	183	-	-	-	-	-	-	-
Stage 1	352	331	-	735	684	-	-	-	-	-	-	-
Stage 2	500	666	-	341	327	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	28.6		12.5		0.3		3.7	
HCM LOS	D		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1248	-	-	185	669	1296	-	-
HCM Lane V/C Ratio	0.009	-	-	0.176	0.283	0.185	-	-
HCM Control Delay (s)	7.9	0	-	28.6	12.5	8.4	-	-
HCM Lane LOS	A	A	-	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.6	1.2	0.7	-	-

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	20	10	390	1	10	10	10	270	10	10	10
Future Volume (vph)	10	20	10	390	1	10	10	10	270	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.950			0.862			0.874			0.955	
Flt Protected	0.950			0.950				0.998			0.984	
Satd. Flow (prot)	1770	1770	0	1770	1606	0	0	1625	0	0	1750	0
Flt Permitted	0.950			0.950				0.998			0.984	
Satd. Flow (perm)	1770	1770	0	1770	1606	0	0	1625	0	0	1750	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		671			3882			2703			372	
Travel Time (s)		15.3			88.2			61.4			8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	22	11	424	1	11	11	11	293	11	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	33	0	424	12	0	0	315	0	0	33	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	53.0%
ICU Level of Service	A
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	10											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↵		↵	↵			↕			↕	
Traffic Vol, veh/h	10	20	10	390	1	10	10	10	270	10	10	10
Future Vol, veh/h	10	20	10	390	1	10	10	10	270	10	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	22	11	424	1	11	11	11	293	11	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	12	0	0	33	0	0	916	910	28	1057	910	7
Stage 1	-	-	-	-	-	-	50	50	-	855	855	-
Stage 2	-	-	-	-	-	-	866	860	-	202	55	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1607	-	-	1579	-	-	253	275	1047	203	275	1075
Stage 1	-	-	-	-	-	-	963	853	-	353	375	-
Stage 2	-	-	-	-	-	-	348	373	-	800	849	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1607	-	-	1579	-	-	190	200	1047	111	200	1075
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	200	-	111	200	-
Stage 1	-	-	-	-	-	-	956	847	-	351	274	-
Stage 2	-	-	-	-	-	-	242	273	-	564	843	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.8			7.9			12.3			26.3		
HCM LOS							B			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	804	1607	-	-	1579	-	-	201
HCM Lane V/C Ratio	0.392	0.007	-	-	0.268	-	-	0.162
HCM Control Delay (s)	12.3	7.3	-	-	8.1	-	-	26.3
HCM Lane LOS	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	1.9	0	-	-	1.1	-	-	0.6

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	100	80	40	398	1864	260
Future Volume (vph)	100	80	40	398	1864	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.972	0.850				0.850
Flt Protected	0.961		0.950			
Satd. Flow (prot)	3376	1441	1770	3539	3539	1583
Flt Permitted	0.961		0.950			
Satd. Flow (perm)	3376	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	20	62				110
Link Speed (mph)	30			50	50	
Link Distance (ft)	3882			2854	2872	
Travel Time (s)	88.2			38.9	39.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	87	43	433	2026	283
Shared Lane Traffic (%)		29%				
Lane Group Flow (vph)	134	62	43	433	2026	283
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023

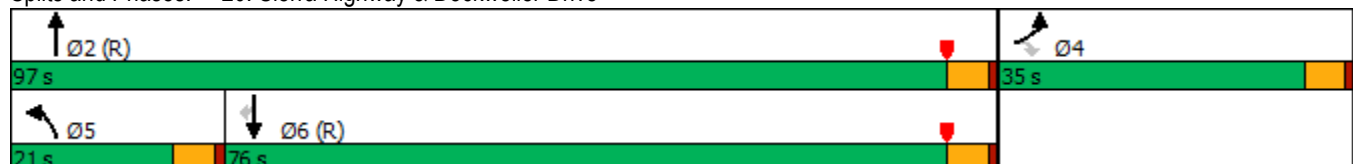


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	21.0	21.0	30.0	30.0
Total Split (s)	35.0	35.0	21.0	97.0	76.0	76.0
Total Split (%)	26.5%	26.5%	15.9%	73.5%	57.6%	57.6%
Maximum Green (s)	30.0	30.0	16.0	92.0	71.0	71.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	10.8	10.8	35.2	111.2	71.0	71.0
Actuated g/C Ratio	0.08	0.08	0.27	0.84	0.54	0.54
v/c Ratio	0.46	0.36	0.09	0.15	1.06	0.31
Control Delay	54.0	19.1	33.4	0.7	64.8	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	19.1	33.4	0.7	64.8	12.7
LOS	D	B	C	A	E	B
Approach Delay	43.0			3.6	58.4	
Approach LOS	D			A	E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 48.7
 Intersection LOS: D
 Intersection Capacity Utilization 68.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	134	62	43	433	2026	283
v/c Ratio	0.46	0.36	0.09	0.15	1.06	0.31
Control Delay	54.0	19.1	33.4	0.7	64.8	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	19.1	33.4	0.7	64.8	12.7
Queue Length 50th (ft)	48	0	17	5	~988	40
Queue Length 95th (ft)	81	49	35	8	#1129	m147
Internal Link Dist (ft)	3802			2774	2792	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	782	375	471	2981	1903	902
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.17	0.09	0.15	1.06	0.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	51	14	360	49	680	18	380	130	550	1440	90
Future Volume (vph)	38	51	14	360	49	680	18	380	130	550	1440	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.721			0.719			0.950			0.950		
Satd. Flow (perm)	1343	3539	1583	1339	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			739			141			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		715			720			2872			794	
Travel Time (s)		10.8			10.9			39.2			10.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	55	15	391	53	739	20	413	141	598	1565	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	55	15	391	53	739	20	413	141	598	1565	98
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8		6				2

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

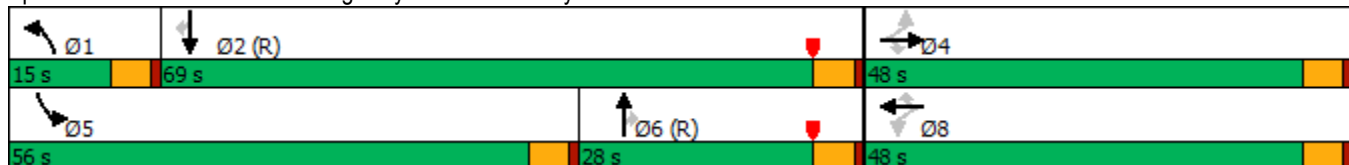


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.0	21.0	21.0	37.0	37.0	37.0	15.0	21.0	21.0	15.0	39.0	39.0
Total Split (s)	48.0	48.0	48.0	48.0	48.0	48.0	15.0	28.0	28.0	56.0	69.0	69.0
Total Split (%)	36.4%	36.4%	36.4%	36.4%	36.4%	36.4%	11.4%	21.2%	21.2%	42.4%	52.3%	52.3%
Maximum Green (s)	43.0	43.0	43.0	43.0	43.0	43.0	10.0	23.0	23.0	51.0	64.0	64.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	41.5	41.5	41.5	41.5	41.5	41.5	10.0	27.6	27.6	47.9	74.5	74.5
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31	0.31	0.08	0.21	0.21	0.36	0.56	0.56
v/c Ratio	0.10	0.05	0.03	0.93	0.05	0.74	0.15	0.56	0.32	0.93	0.78	0.11
Control Delay	31.9	30.8	0.1	73.1	30.8	7.4	77.1	42.5	16.4	54.7	24.6	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
Total Delay	31.9	30.8	0.1	73.1	30.8	7.4	77.1	42.5	16.4	54.7	25.2	5.5
LOS	C	C	A	E	C	A	E	D	B	D	C	A
Approach Delay		27.1			30.1			37.3			32.2	
Approach LOS		C			C			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 32.2
 Intersection LOS: C
 Intersection Capacity Utilization 87.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	41	55	15	391	53	739	20	413	141	598	1565	98
v/c Ratio	0.10	0.05	0.03	0.93	0.05	0.74	0.15	0.56	0.32	0.93	0.78	0.11
Control Delay	31.9	30.8	0.1	73.1	30.8	7.4	77.1	42.5	16.4	54.7	24.6	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
Total Delay	31.9	30.8	0.1	73.1	30.8	7.4	77.1	42.5	16.4	54.7	25.2	5.5
Queue Length 50th (ft)	24	16	0	318	16	0	18	193	20	474	489	14
Queue Length 95th (ft)	53	33	0	#510	32	108	45	250	117	#686	756	m30
Internal Link Dist (ft)		635			640			2792			714	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	437	1152	582	436	1152	1013	134	740	442	683	1996	918
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	150	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.05	0.03	0.90	0.05	0.73	0.15	0.56	0.32	0.88	0.85	0.11

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	30	907	291	1250	2131
Future Volume (vph)	29	30	907	291	1250	2131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		33		261		
Link Speed (mph)	30		50			50
Link Distance (ft)	717		794			675
Travel Time (s)	16.3		10.8			9.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	33	986	316	1359	2316
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	33	986	316	1359	2316
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

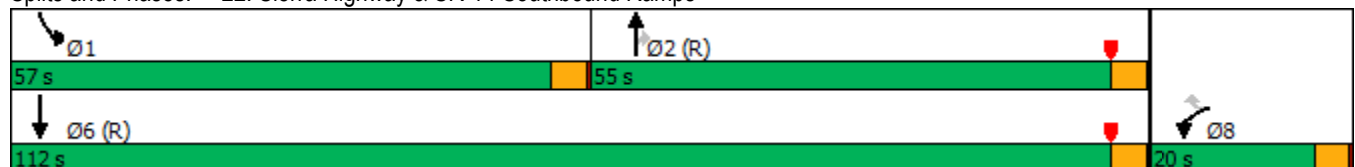


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	8.0	20.0
Total Split (s)	20.0	20.0	55.0	55.0	57.0	112.0
Total Split (%)	15.2%	15.2%	41.7%	41.7%	43.2%	84.8%
Maximum Green (s)	16.0	16.0	51.0	51.0	53.0	108.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effct Green (s)	7.9	7.9	55.6	55.6	58.4	118.8
Actuated g/C Ratio	0.06	0.06	0.42	0.42	0.44	0.90
v/c Ratio	0.30	0.26	0.66	0.39	0.89	0.73
Control Delay	66.1	23.3	30.5	8.5	42.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	66.1	23.3	30.5	8.5	42.7	4.5
LOS	E	C	C	A	D	A
Approach Delay	44.4		25.1			18.6
Approach LOS	D		C			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 20.6
 Intersection LOS: C
 Intersection Capacity Utilization 74.1%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR-14 Southbound Ramps



Queues

22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	32	33	986	316	1359	2316
v/c Ratio	0.30	0.26	0.66	0.39	0.89	0.73
Control Delay	66.1	23.3	30.5	8.5	42.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	66.1	23.3	30.5	8.5	42.7	4.5
Queue Length 50th (ft)	27	0	268	0	521	241
Queue Length 95th (ft)	61	34	381	96	650	371
Internal Link Dist (ft)	637		714			595
Turn Bay Length (ft)					160	
Base Capacity (vph)	214	220	1489	817	1519	3185
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	135
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.15	0.66	0.39	0.89	0.76
Intersection Summary						

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	↗
Traffic Volume (vph)	220	0	0	790	459	100
Future Volume (vph)	220	0	0	790	459	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	720			392	651	
Travel Time (s)	10.9			5.9	14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	0	0	859	499	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	0	0	859	499	109
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Stop			Stop	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	41.6% ICU Level of Service A
Analysis Period (min)	15

Intersection	
Intersection Delay, s/veh	23
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↗	↗
Traffic Vol, veh/h	220	0	0	790	459	100
Future Vol, veh/h	220	0	0	790	459	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	239	0	0	859	499	109
Number of Lanes	2	0	0	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	2
HCM Control Delay	13	29.7	17.4
HCM LOS	B	D	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	100%	0%	0%	0%	0%	0%
Vol Thru, %	0%	0%	0%	100%	100%	100%	100%
Vol Right, %	0%	0%	100%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	230	230	100	110	110	395	395
LT Vol	230	230	0	0	0	0	0
Through Vol	0	0	0	110	110	395	395
RT Vol	0	0	100	0	0	0	0
Lane Flow Rate	249	249	109	120	120	429	429
Geometry Grp	7	7	7	8	8	8	8
Degree of Util (X)	0.541	0.541	0.146	0.282	0.222	0.866	0.656
Departure Headway (Hd)	7.812	7.812	4.829	8.479	6.696	7.262	5.498
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	464	464	747	423	536	498	657
Service Time	5.512	5.512	2.529	6.233	4.449	4.999	3.234
HCM Lane V/C Ratio	0.537	0.537	0.146	0.284	0.224	0.861	0.653
HCM Control Delay	19.3	19.3	8.4	14.6	11.4	41.1	18.2
HCM Lane LOS	C	C	A	B	B	E	C
HCM 95th-tile Q	3.2	3.2	0.5	1.1	0.8	9.2	4.9

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	820	1800	360	390	1320	430	450	1969	650	410	1530	230
Future Volume (vph)	820	1800	360	390	1320	430	450	1969	650	410	1530	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	300		230
Storage Lanes	3		2	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	0.88	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	2787	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	2787	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62			295			299			99
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			1975			1020	
Travel Time (s)		13.2			11.3			29.9			15.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	25.0	39.0	26.0	22.0	36.0	36.0	26.0	45.0	45.0	26.0	45.0	25.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

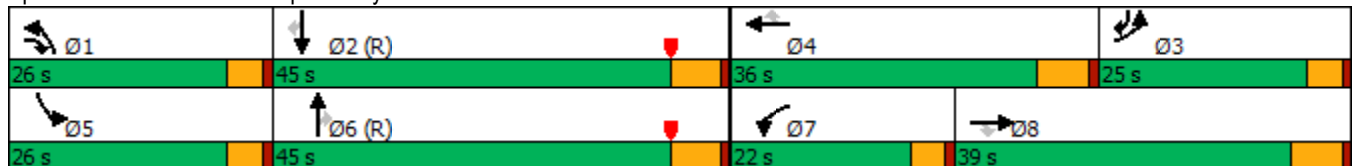


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	29.5%	19.7%	16.7%	27.3%	27.3%	19.7%	34.1%	34.1%	19.7%	34.1%	18.9%
Maximum Green (s)	20.5	33.0	21.5	17.5	30.0	30.0	21.5	39.0	39.0	21.5	39.0	20.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	21.0	35.4	60.3	17.6	32.0	32.0	20.9	43.0	43.0	20.0	42.1	63.1
Actuated g/C Ratio	0.16	0.27	0.46	0.13	0.24	0.24	0.16	0.33	0.33	0.15	0.32	0.48
v/c Ratio	1.12	1.14	0.30	0.92	0.92	0.77	0.90	1.02	0.99	0.86	0.81	0.31
Control Delay	121.3	114.3	19.3	83.3	59.6	26.1	73.9	40.2	25.4	71.2	45.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	19.3	83.3	59.6	26.1	73.9	40.2	25.4	71.2	45.5	7.5
LOS	F	F	B	F	E	C	E	D	C	E	D	A
Approach Delay		104.7			57.2			42.0			46.3	
Approach LOS		F			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 55 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 64.1
 Intersection LOS: E
 Intersection Capacity Utilization 90.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
v/c Ratio	1.12	1.14	0.30	0.92	0.92	0.77	0.90	1.02	0.99	0.86	0.81	0.31
Control Delay	121.3	114.3	19.3	83.3	59.6	26.1	73.9	40.2	25.4	71.2	45.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	19.3	83.3	59.6	26.1	73.9	40.2	25.4	71.2	45.5	7.5
Queue Length 50th (ft)	~311	~572	96	187	350	142	230	~591	~514	192	385	40
Queue Length 95th (ft)	#400	#647	136	#281	#417	285	m224	m#546	m494	251	433	70
Internal Link Dist (ft)		790			665			1895			940	
Turn Bay Length (ft)	270		265	280		340	300			300		230
Base Capacity (vph)	793	1716	1328	468	1553	607	572	2088	717	572	2043	808
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	1.14	0.29	0.91	0.92	0.77	0.85	1.02	0.99	0.78	0.81	0.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔↔	↕↕↕	↔↔↔
Traffic Volume (vph)	1120	1620	10	435	1000	170	20	2049	619	200	1490	610
Future Volume (vph)	1120	1620	10	435	1000	170	20	2049	619	200	1490	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.86	1.00	0.97	0.91	0.88
Fr _t		0.999				0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5080	0	4990	5085	1583	1770	6408	1583	3433	5085	2787
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5080	0	4990	5085	1583	1770	6408	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				124			112			562
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			3555			1975	
Travel Time (s)		32.4			35.4			53.9			29.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1217	1761	11	473	1087	185	22	2227	673	217	1620	663
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1217	1772	0	473	1087	185	22	2227	673	217	1620	663
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			48			48	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	40.0	48.0		22.0	30.0	20.0	18.0	42.0	22.0	20.0	44.0	40.0
Total Split (%)	30.3%	36.4%		16.7%	22.7%	15.2%	13.6%	31.8%	16.7%	15.2%	33.3%	30.3%
Maximum Green (s)	35.5	42.0		17.5	24.0	15.5	13.5	36.0	17.5	15.5	38.0	35.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

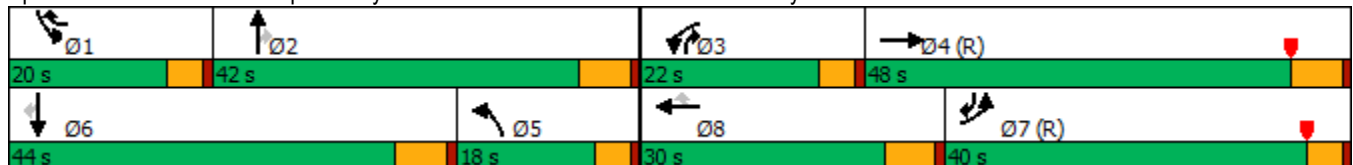


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	None	None	None	Max	None	None	None	C-Max
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	36.0	44.5		17.5	26.0	39.7	10.9	40.3	61.7	13.7	47.2	87.2
Actuated g/C Ratio	0.27	0.34		0.13	0.20	0.30	0.08	0.31	0.47	0.10	0.36	0.66
v/c Ratio	0.89	1.03		0.72	1.09	0.33	0.15	1.14	0.84	0.61	0.89	0.33
Control Delay	55.8	73.7		61.5	103.9	7.7	53.5	104.0	29.0	47.1	49.4	2.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	73.7		61.5	103.9	7.7	53.5	104.0	29.0	47.1	49.4	2.6
LOS	E	E		E	F	A	D	F	C	D	D	A
Approach Delay		66.4			82.2			86.3			36.8	
Approach LOS		E			F			F			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 92 (70%), Referenced to phase 4:EBT and 7:EBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 67.6 Intersection LOS: E
 Intersection Capacity Utilization 89.4% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1217	1772	473	1087	185	22	2227	673	217	1620	663
v/c Ratio	0.89	1.03	0.72	1.09	0.33	0.15	1.14	0.84	0.61	0.89	0.33
Control Delay	55.8	73.7	61.5	103.9	7.7	53.5	104.0	29.0	47.1	49.4	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	73.7	61.5	103.9	7.7	53.5	104.0	29.0	47.1	49.4	2.6
Queue Length 50th (ft)	356	~603	139	~382	18	18	~653	455	94	~568	48
Queue Length 95th (ft)	#418	#701	179	#476	45	m17	m#558	m455	m117	#669	m50
Internal Link Dist (ft)		2060		2257			3475			1895	
Turn Bay Length (ft)											
Base Capacity (vph)	1360	1714	680	1001	588	187	1954	805	416	1818	2031
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	1.03	0.70	1.09	0.31	0.12	1.14	0.84	0.52	0.89	0.33

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	770	811	807	1948	1795	460
Future Volume (vph)	770	811	807	1948	1795	460
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.91	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		7				500
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4671	3555	
Travel Time (s)	44.4			63.7	53.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	837	882	877	2117	1951	500
Shared Lane Traffic (%)						
Lane Group Flow (vph)	837	882	877	2117	1951	500
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	30.0	61.4	27.4	94.0	62.6	62.6
Actuated g/C Ratio	0.23	0.47	0.21	0.71	0.47	0.47
v/c Ratio	2.08	0.68	1.23	0.84	0.81	0.49
Control Delay	522.1	31.0	151.2	9.8	21.9	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	522.1	31.0	151.2	9.8	21.9	2.9
LOS	F	C	F	A	C	A
Approach Delay	270.1			51.2	18.0	
Approach LOS	F			D	B	

Intersection Summary

Area Type: Other

Cycle Length: 132

Actuated Cycle Length: 132

Offset: 75 (57%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.08

Intersection Signal Delay: 92.4

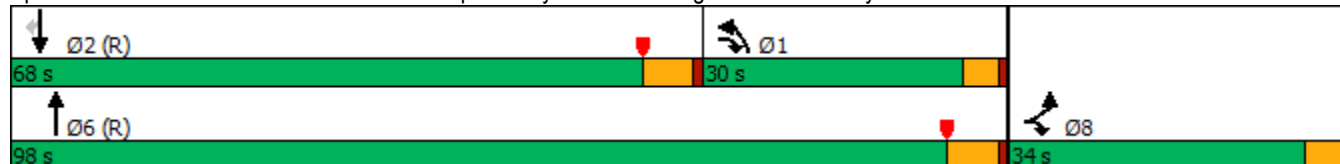
Intersection LOS: F

Intersection Capacity Utilization 110.4%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	837	882	877	2117	1951	500
v/c Ratio	2.08	0.68	1.23	0.84	0.81	0.49
Control Delay	522.1	31.0	151.2	9.8	21.9	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	522.1	31.0	151.2	9.8	21.9	2.9
Queue Length 50th (ft)	~1131	333	~503	252	305	40
Queue Length 95th (ft)	#1380	418	m#608	320	691	m51
Internal Link Dist (ft)	2848			4591	3475	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	402	1299	711	2520	2465	1025
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.08	0.68	1.23	0.84	0.79	0.49

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	103	790	1335	94	910	1745
Future Volume (vph)	103	790	1335	94	910	1745
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.881	0.850		0.850		
Flt Protected	0.990				0.950	
Satd. Flow (prot)	3152	1441	3539	1583	3433	3539
Flt Permitted	0.990				0.950	
Satd. Flow (perm)	3152	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	346	346		65		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4671
Travel Time (s)	10.9		27.3			63.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	859	1451	102	989	1897
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	542	429	1451	102	989	1897
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	20.4	20.4	58.3	58.3	41.3	103.6
Actuated g/C Ratio	0.15	0.15	0.44	0.44	0.31	0.78
v/c Ratio	0.70	0.83	0.93	0.14	0.92	0.68
Control Delay	22.3	25.2	56.4	23.7	50.9	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	25.2	56.4	23.7	50.9	6.9
LOS	C	C	E	C	D	A
Approach Delay	23.6		54.3			22.0
Approach LOS	C		D			C

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 37 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 31.6
 Intersection Capacity Utilization 84.2%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	542	429	1451	102	989	1897
v/c Ratio	0.70	0.83	0.93	0.14	0.92	0.68
Control Delay	22.3	25.2	56.4	23.7	50.9	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	25.2	56.4	23.7	50.9	6.9
Queue Length 50th (ft)	82	74	587	43	327	92
Queue Length 95th (ft)	123	197	m590	m51	#726	827
Internal Link Dist (ft)	558		1922			4591
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1090	636	1581	743	1075	2778
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.67	0.92	0.14	0.92	0.68

Intersection Summary





















95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	559	0	319	10	1570	470	348	1690	0
Future Volume (vph)	0	0	0	559	0	319	10	1570	470	348	1690	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	140		0
Storage Lanes	0		0	2		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	0	0	3433	0	1583	1770	3539	1583	1770	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	0	0	3433	0	1583	1770	3539	1583	1770	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						347			94			
Link Speed (mph)		25			25			45				45
Link Distance (ft)		337			628			1217				3340
Travel Time (s)		9.2			17.1			18.4				50.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	608	0	347	11	1707	511	378	1837	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	608	0	347	11	1707	511	378	1837	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	2	1	1		2
Detector Template				Left		Right	Left	Thru	Right	Left		Thru
Leading Detector (ft)				20		20	20	100	20	20		100
Trailing Detector (ft)				0		0	0	0	0	0		0
Detector 1 Position(ft)				0		0	0	0	0	0		0
Detector 1 Size(ft)				20		20	20	6	20	20		6
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)								94				94
Detector 2 Size(ft)								6				6
Detector 2 Type								Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)								0.0				0.0
Turn Type				Prot		Perm	Prot	NA	pm+ov	Prot		NA
Protected Phases				7			1	6	7	5		2
Permitted Phases						7			6			

Lanes, Volumes, Timings

5: Railroad Avenue & Driveway/13th Street

01/24/2023

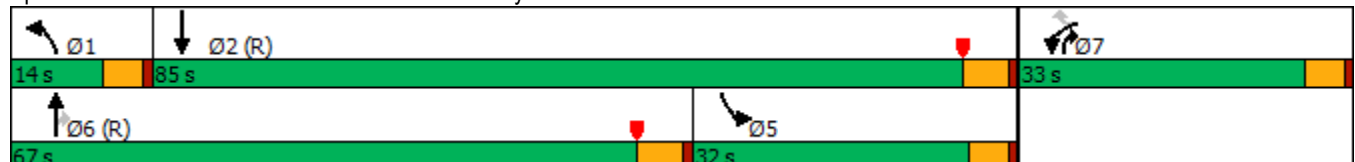


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				7		7	1	6	7	5	2	
Switch Phase												
Minimum Initial (s)				10.0		10.0	9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				33.0		33.0	14.0	23.5	33.0	14.0	23.5	
Total Split (s)				33.0		33.0	14.0	67.0	33.0	32.0	85.0	
Total Split (%)				25.0%		25.0%	10.6%	50.8%	25.0%	24.2%	64.4%	
Maximum Green (s)				28.0		28.0	9.0	61.5	28.0	27.0	79.5	
Yellow Time (s)				4.0		4.0	4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0		1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0		5.0	5.0	5.5	5.0	5.0	5.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None		None	None	C-Max	None	None	C-Max	
Walk Time (s)				7.0		7.0		7.0	7.0		7.0	
Flash Dont Walk (s)				21.0		21.0		11.0	21.0		11.0	
Pedestrian Calls (#/hr)				0		0		0	0		0	
Act Effct Green (s)				27.3		27.3	9.0	62.2	95.0	27.0	91.4	
Actuated g/C Ratio				0.21		0.21	0.07	0.47	0.72	0.20	0.69	
v/c Ratio				0.86		0.58	0.09	1.02	0.44	1.04	0.75	
Control Delay				53.9		10.6	71.4	56.4	4.9	116.2	26.5	
Queue Delay				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay				53.9		10.6	71.4	56.4	4.9	116.2	26.5	
LOS				D		B	E	E	A	F	C	
Approach Delay					38.2			44.7			41.8	
Approach LOS					D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 42.4 Intersection LOS: D
 Intersection Capacity Utilization 90.7% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Queues

5: Railroad Avenue & Driveway/13th Street

01/24/2023



Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	608	347	11	1707	511	378	1837
v/c Ratio	0.86	0.58	0.09	1.02	0.44	1.04	0.75
Control Delay	53.9	10.6	71.4	56.4	4.9	116.2	26.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	10.6	71.4	56.4	4.9	116.2	26.5
Queue Length 50th (ft)	270	125	0	~841	125	~343	711
Queue Length 95th (ft)	#352	185	m18	#955	155	#567	944
Internal Link Dist (ft)				1137			3260
Turn Bay Length (ft)	110		100		570	140	
Base Capacity (vph)	728	609	120	1667	1162	362	2450
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.57	0.09	1.02	0.44	1.04	0.75

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	551	160	330	1159	1376	553			
Future Volume (vph)	551	160	330	1159	1376	553			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		174				335			
Link Speed (mph)	35			35	45				
Link Distance (ft)	1347			1246	1217				
Travel Time (s)	26.2			24.3	18.4				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	599	174	359	1260	1496	601			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	599	174	359	1260	1496	601			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	34			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	42.0	30.0	30.0	30.0	30.0

Lanes, Volumes, Timings

6: Railroad Avenue & Lyons Avenue

01/24/2023

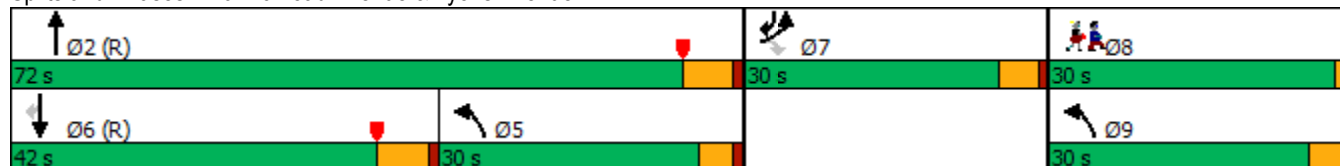


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	31.8%	22.7%	23%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	36.0	25.0	25.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effct Green (s)	32.4	32.4	24.7	76.8	59.0	91.3			
Actuated g/C Ratio	0.25	0.25	0.19	0.58	0.45	0.69			
v/c Ratio	0.71	0.34	0.56	0.61	0.95	0.50			
Control Delay	61.5	23.6	25.6	27.3	44.3	4.0			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	61.5	23.6	25.6	27.3	44.3	4.0			
LOS	E	C	C	C	D	A			
Approach Delay	53.0			26.9	32.8				
Approach LOS	D			C	C				

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.95
Intersection Signal Delay:	34.1
Intersection LOS:	C
Intersection Capacity Utilization	73.2%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	599	174	359	1260	1496	601
v/c Ratio	0.71	0.34	0.56	0.61	0.95	0.50
Control Delay	61.5	23.6	25.6	27.3	44.3	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	23.6	25.6	27.3	44.3	4.0
Queue Length 50th (ft)	191	69	82	383	562	99
Queue Length 95th (ft)	232	112	103	430	#900	m136
Internal Link Dist (ft)	1267			1166	1137	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	844	520	1352	2059	1581	1199
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.33	0.27	0.61	0.95	0.50

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

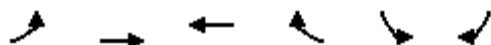
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↗↘	↗↘		
Traffic Volume (vph)	0	1470	930	1569	1156	0	
Future Volume (vph)	0	1470	930	1569	1156	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.98			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1284			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1913		1540		
Travel Time (s)		6.2	32.6		30.0		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1598	1011	1705	1257	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1598	1011	1705	1257	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		82.0	38.0	50.0	50.0	44.0	
Total Split (%)		62.1%	28.8%	37.9%	37.9%	33%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		76.0	32.0	44.0	44.0		42.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		78.0	78.0	124.0	46.0		
Actuated g/C Ratio		0.59	0.59	0.94	0.35		
v/c Ratio		0.76	0.92	0.64	1.05		
Control Delay		23.3	24.7	5.3	56.3		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		23.3	24.7	5.3	56.3		
LOS		C	C	A	E		
Approach Delay		23.3	12.5		56.3		
Approach LOS		C	B		E		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	32 (24%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.05
Intersection Signal Delay:	25.5
Intersection LOS:	C
Intersection Capacity Utilization	88.6%
ICU Level of Service	E
Analysis Period (min)	15

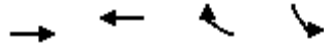
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1598	1011	1705	1257
v/c Ratio	0.76	0.92	0.64	1.05
Control Delay	23.3	24.7	5.3	56.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.3	24.7	5.3	56.3
Queue Length 50th (ft)	511	339	156	~583
Queue Length 95th (ft)	605	#1099	123	m#654
Internal Link Dist (ft)	282	1833		1460
Turn Bay Length (ft)				
Base Capacity (vph)	2091	1100	2654	1196
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.76	0.92	0.64	1.05

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗↗	↖↖↖		↘	↘
Traffic Volume (vph)	280	2197	1544	90	70	170
Future Volume (vph)	280	2197	1544	90	70	170
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	3			2	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.992			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5045	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5045	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			9			185
Link Speed (mph)		40	40		30	
Link Distance (ft)		1403	3070		2619	
Travel Time (s)		23.9	52.3		59.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	2388	1678	98	76	185
Shared Lane Traffic (%)						
Lane Group Flow (vph)	304	2388	1776	0	76	185
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	35.0	98.0	63.0		34.0	34.0

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023

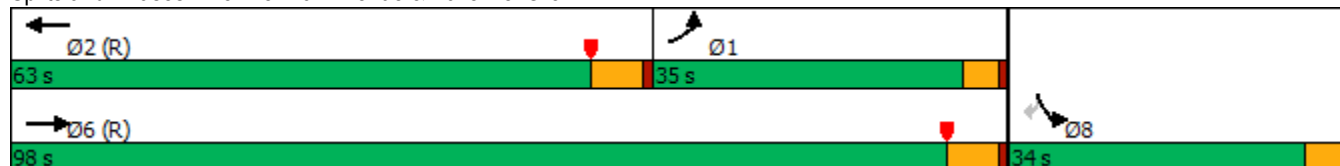


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	26.5%	74.2%	47.7%		25.8%	25.8%
Maximum Green (s)	30.5	92.0	57.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)				7.0	7.0	7.0
Flash Dont Walk (s)				11.0	22.0	22.0
Pedestrian Calls (#/hr)				0	0	0
Act Effct Green (s)	31.0	112.0	77.0		12.0	12.0
Actuated g/C Ratio	0.23	0.85	0.58		0.09	0.09
v/c Ratio	0.73	0.55	0.60		0.47	0.59
Control Delay	50.1	3.2	7.8		65.5	21.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	50.1	3.2	7.8		65.5	21.3
LOS	D	A	A		E	C
Approach Delay	8.5		7.8		34.2	
Approach LOS	A		A		C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 53 (40%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 9.6
 Intersection Capacity Utilization 61.2%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

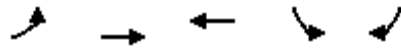
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	304	2388	1776	76	185
v/c Ratio	0.73	0.55	0.60	0.47	0.59
Control Delay	50.1	3.2	7.8	65.5	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	3.2	7.8	65.5	21.3
Queue Length 50th (ft)	230	181	121	67	21
Queue Length 95th (ft)	m276	m190	168	120	104
Internal Link Dist (ft)		1323	2990	2539	
Turn Bay Length (ft)	150				
Base Capacity (vph)	415	4313	2944	402	502
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.73	0.55	0.60	0.19	0.37

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	1847	10	240	1204	666	50	1450	140	88	260	250
Future Volume (vph)	100	1847	10	240	1204	666	50	1450	140	88	260	250
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		300
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.926	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	1770	4709	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	1770	4709	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			395			149		186	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3070			687			398			2905	
Travel Time (s)		52.3			11.7			9.0			66.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	2008	11	261	1309	724	54	1576	152	96	283	272
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	2008	11	261	1309	724	54	1576	152	96	555	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	50.0	50.0	20.0	45.0	45.0	20.0	42.0	42.0	20.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

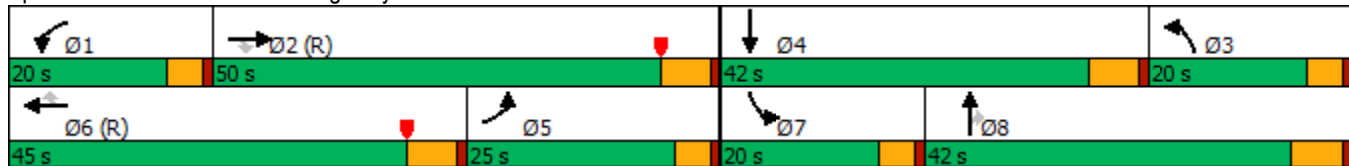


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	37.9%	37.9%	15.2%	34.1%	34.1%	15.2%	31.8%	31.8%	15.2%	31.8%	
Maximum Green (s)	20.5	44.0	44.0	15.5	39.0	39.0	15.5	36.0	36.0	15.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	47.3	47.3	14.7	41.0	41.0	28.7	41.4	39.4	12.6	27.4	
Actuated g/C Ratio	0.16	0.36	0.36	0.11	0.31	0.31	0.22	0.31	0.30	0.10	0.21	
v/c Ratio	0.20	1.10	0.02	0.68	0.83	0.95	0.07	0.99	0.26	0.57	0.49	
Control Delay	59.8	101.6	0.0	65.8	47.7	42.4	38.4	65.0	7.2	77.6	38.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.8	101.6	0.0	65.8	47.7	42.4	38.4	65.0	7.2	77.6	38.0	
LOS	E	F	A	E	D	D	D	E	A	E	D	
Approach Delay		99.0			48.1			59.3			43.8	
Approach LOS		F			D			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.10
 Intersection Signal Delay: 66.4
 Intersection LOS: E
 Intersection Capacity Utilization 88.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023
























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	109	2008	11	261	1309	724	54	1576	152	96	555
v/c Ratio	0.20	1.10	0.02	0.68	0.83	0.95	0.07	0.99	0.26	0.57	0.49
Control Delay	59.8	101.6	0.0	65.8	47.7	42.4	38.4	65.0	7.2	77.6	38.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	101.6	0.0	65.8	47.7	42.4	38.4	65.0	7.2	77.6	38.0
Queue Length 50th (ft)	47	~733	0	111	380	328	17	493	2	73	82
Queue Length 95th (ft)	81	#851	m0	158	441	#603	37	#646	55	148	171
Internal Link Dist (ft)		2990			607			318			2825
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1821	662	416	1579	764	796	1594	577	214	1625
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	1.10	0.02	0.63	0.83	0.95	0.07	0.99	0.26	0.45	0.34

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	0	999	1235	20	1935	0	0	0	0	10	0	475
Future Volume (vph)	0	999	1235	20	1935	0	0	0	0	10	0	475
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.947	0.850									0.850
Fl _t Protected				0.950							0.950	
Satd. Flow (prot)	0	3211	1441	1770	3539	0	0	0	0	0	1770	1583
Fl _t Permitted				0.950							0.950	
Satd. Flow (perm)	0	3211	1441	1770	3539	0	0	0	0	0	1770	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		687			492			504			602	
Travel Time (s)		11.7			8.4			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1086	1342	22	2103	0	0	0	0	11	0	516
Shared Lane Traffic (%)			44%									
Lane Group Flow (vph)	0	1676	752	22	2103	0	0	0	0	0	11	516
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	89.6%
Analysis Period (min)	15
	ICU Level of Service E

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	999	1235	20	1935	0	0	0	0	10	0	475
Future Vol, veh/h	0	999	1235	20	1935	0	0	0	0	10	0	475
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082488832	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1086	1342	22	2103	0	0	0	0	11	0	516

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	1086	0	0		2690	3233	-
Stage 1	-	-	-	-	-	-		2147	2147	-
Stage 2	-	-	-	-	-	-		543	1086	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	638	-	0		17	9	0
Stage 1	0	-	-	-	-	0		75	87	0
Stage 2	0	-	-	-	-	0		546	291	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	638	-	-		16	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		16	0	-
Stage 1	-	-	-	-	-	-		75	0	-
Stage 2	-	-	-	-	-	-		527	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	\$ 429.9
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	638	-	16	-
HCM Lane V/C Ratio	-	-	0.034	-	0.679	-
HCM Control Delay (s)	-	-	10.8	-	\$ 429.9	0
HCM Lane LOS	-	-	B	-	F	A
HCM 95th %tile Q(veh)	-	-	0.1	-	1.7	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	0	0	0	110	0	620
Future Volume (vph)	0	0	0	110	0	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr _t						0.865
Fl _t Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Fl _t Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	492			551	676	
Travel Time (s)	8.4			9.4	15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	120	0	674
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	120	0	674
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	89.6%
Analysis Period (min)	15
	ICU Level of Service E

Intersection						
Int Delay, s/veh	11.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	0	0	0	110	0	620
Future Vol, veh/h	0	0	0	110	0	620
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	120	0	674




















Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	1083	-	-
HCM Lane V/C Ratio	0.622	-	-
HCM Control Delay (s)	13.6	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	4.5	-	-

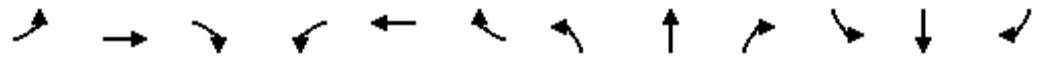
Lanes, Volumes, Timings
12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	1160	0	0	859	729	370	0	345	0	0	0
Future Volume (vph)	220	1160	0	0	859	729	370	0	345	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.931				0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1770	3539	0	0	4734	0	1681	1681	1583	0	0	0
Flt Permitted	0.950						0.950	0.950				
Satd. Flow (perm)	1770	3539	0	0	4734	0	1681	1681	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					262				73			
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		1093			1835			601			382	
Travel Time (s)		18.6			31.3			13.7			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	1261	0	0	934	792	402	0	375	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	239	1261	0	0	1726	0	201	201	375	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

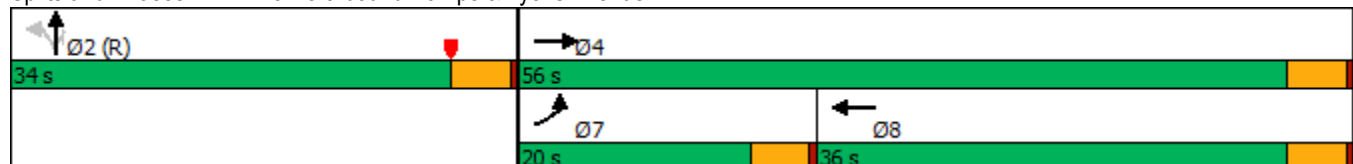


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			10.0		10.0	10.0	10.0			
Minimum Split (s)	14.5	22.5			22.5		32.5	32.5	32.5			
Total Split (s)	20.0	56.0			36.0		34.0	34.0	34.0			
Total Split (%)	22.2%	62.2%			40.0%		37.8%	37.8%	37.8%			
Maximum Green (s)	15.5	51.5			31.5		29.5	29.5	29.5			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	0.5	0.5			0.5		0.5	0.5	0.5			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	4.5			4.5		4.5	4.5	4.5			
Lead/Lag	Lead			Lag								
Lead-Lag Optimize?	Yes			Yes								
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.8	51.3			32.0		29.7	29.7	29.7			
Actuated g/C Ratio	0.16	0.57			0.36		0.33	0.33	0.33			
v/c Ratio	0.82	0.63			1.07dr		0.36	0.36	0.66			
Control Delay	60.0	14.6			34.5		25.4	25.4	27.1			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	60.0	14.6			34.5		25.4	25.4	27.1			
LOS	E	B			C		C	C	C			
Approach Delay		21.9			34.5			26.2				
Approach LOS		C			C			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 28.1 Intersection LOS: C
 Intersection Capacity Utilization 66.6% ICU Level of Service C
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

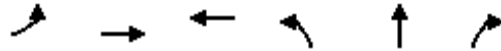
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	239	1261	1726	201	201	375
v/c Ratio	0.82	0.63	1.07dr	0.36	0.36	0.66
Control Delay	60.0	14.6	34.5	25.4	25.4	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	14.6	34.5	25.4	25.4	27.1
Queue Length 50th (ft)	132	233	301	91	91	146
Queue Length 95th (ft)	#248	297	#412	153	153	246
Internal Link Dist (ft)		1013	1755		521	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	304	2025	1853	554	554	570
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.62	0.93	0.36	0.36	0.66

Intersection Summary
































95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			  			 		  	 	
Traffic Volume (vph)	400	1255	130	180	1208	172	160	490	280	279	390	270
Future Volume (vph)	400	1255	130	180	1208	172	160	490	280	279	390	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	2		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	0.97	0.95	1.00
Fr _t			0.850		0.981				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4989	0	1652	3303	1478	3204	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4989	0	1652	3303	1478	3204	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99		20				304			93
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1835			5346			887				1679
Travel Time (s)		31.3			91.1			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	435	1364	141	196	1313	187	174	533	304	303	424	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	435	1364	141	196	1500	0	174	533	304	303	424	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			20				20
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/24/2023

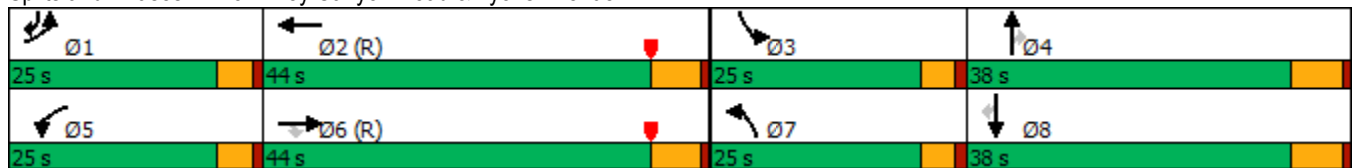


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	25.0	44.0	44.0	25.0	44.0		25.0	38.0	38.0	25.0	38.0	25.0
Total Split (%)	18.9%	33.3%	33.3%	18.9%	33.3%		18.9%	28.8%	28.8%	18.9%	28.8%	18.9%
Maximum Green (s)	20.5	38.0	38.0	20.5	38.0		20.5	32.0	32.0	20.5	32.0	20.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	21.9	49.2	49.2	19.9	47.2		18.2	29.0	29.0	17.8	28.6	54.5
Actuated g/C Ratio	0.17	0.37	0.37	0.15	0.36		0.14	0.22	0.22	0.13	0.22	0.41
v/c Ratio	0.82	1.11	0.23	0.79	0.83		0.77	0.73	0.54	0.70	0.57	0.41
Control Delay	66.3	99.3	12.5	94.0	17.1		76.1	54.0	8.1	63.4	49.0	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.3	99.3	12.5	94.0	17.1		76.1	54.0	8.1	63.4	49.0	19.3
LOS	E	F	B	F	B		E	D	A	E	D	B
Approach Delay		85.6			26.0			44.0			44.7	
Approach LOS		F			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.11
 Intersection Signal Delay: 53.0
 Intersection LOS: D
 Intersection Capacity Utilization 79.5%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	435	1364	141	196	1500	174	533	304	303	424	293
v/c Ratio	0.82	1.11	0.23	0.79	0.83	0.77	0.73	0.54	0.70	0.57	0.41
Control Delay	66.3	99.3	12.5	94.0	17.1	76.1	54.0	8.1	63.4	49.0	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.3	99.3	12.5	94.0	17.1	76.1	54.0	8.1	63.4	49.0	19.3
Queue Length 50th (ft)	182	~730	24	165	324	144	224	0	129	173	113
Queue Length 95th (ft)	#273	#947	79	m188	m206	223	276	75	175	216	183
Internal Link Dist (ft)		1755			5266		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	544	1231	613	270	1798	262	850	606	509	881	714
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	1.11	0.23	0.73	0.83	0.66	0.63	0.50	0.60	0.48	0.41

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	280	1313	120	132	1440	652	80	130	19	549	160	220
Future Volume (vph)	280	1313	120	132	1440	652	80	130	19	549	160	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	4746	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	4746	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			289			112			239
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5346			2329			465				345
Travel Time (s)		104.1			45.4			9.1				5.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	1427	130	143	1565	709	87	141	21	597	174	239
Shared Lane Traffic (%)												
Lane Group Flow (vph)	304	1427	130	143	1565	709	87	141	21	597	174	239
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

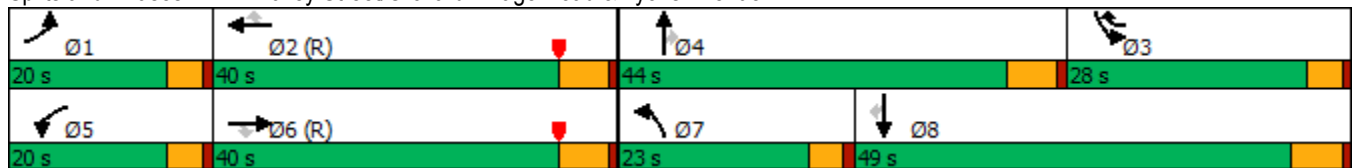
01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	18.5	52.5	52.5	17.5	51.5	84.7	12.8	12.8	12.8	33.1	33.2	33.2
Actuated g/C Ratio	0.14	0.40	0.40	0.13	0.39	0.64	0.10	0.10	0.10	0.25	0.25	0.25
v/c Ratio	0.68	0.76	0.19	0.65	1.03	0.58	0.55	0.42	0.09	0.69	0.38	0.42
Control Delay	36.6	49.9	17.1	46.6	72.3	12.8	68.9	59.6	0.7	49.0	43.1	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.6	49.9	17.1	46.6	72.3	12.8	68.9	59.6	0.7	49.0	43.1	6.9
LOS	D	D	B	D	E	B	E	E	A	D	D	A
Approach Delay		45.5			53.3			57.9			38.0	
Approach LOS		D			D			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 2 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 48.1
 Intersection LOS: D
 Intersection Capacity Utilization 80.4%
 ICU Level of Service D
 Analysis Period (min) 15

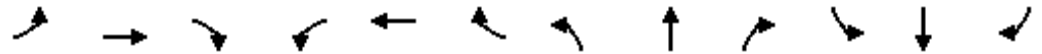
Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	304	1427	130	143	1565	709	87	141	21	597	174	239
v/c Ratio	0.68	0.76	0.19	0.65	1.03	0.58	0.55	0.42	0.09	0.69	0.38	0.42
Control Delay	36.6	49.9	17.1	46.6	72.3	12.8	68.9	59.6	0.7	49.0	43.1	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.6	49.9	17.1	46.6	72.3	12.8	68.9	59.6	0.7	49.0	43.1	6.9
Queue Length 50th (ft)	122	468	39	108	~777	272	72	61	0	239	124	0
Queue Length 95th (ft)	m124	m#468	m54	m94	m#848	m247	124	94	0	287	186	63
Internal Link Dist (ft)		5266			2249			385			265	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	459	1887	698	233	1519	1221	237	1036	493	861	613	679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.76	0.19	0.61	1.03	0.58	0.37	0.14	0.04	0.69	0.28	0.35

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	681	1510	70	873	30	930	110	60	10	140	110
Future Volume (vph)	110	681	1510	70	873	30	930	110	60	10	140	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1623	3539	1468	1639	3539	1356	3123	1863	1471	1671	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			403			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2329			1347			528				401
Travel Time (s)		45.4			26.2			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	740	1641	76	949	33	1011	120	65	11	152	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	120	740	1641	76	949	33	1011	120	65	11	152	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22			22	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
 15: Newhall Avenue & Lyons Avenue

01/24/2023

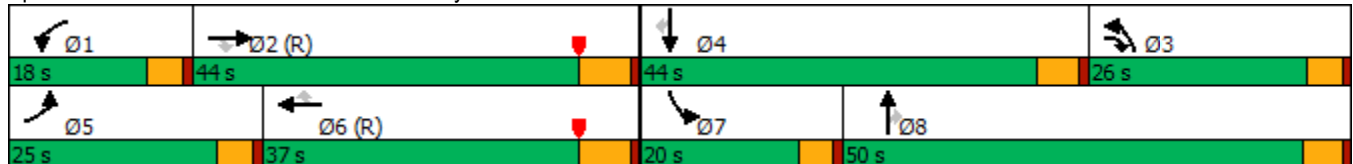


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	25.0	44.0	26.0	18.0	37.0	37.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	18.9%	33.3%	19.7%	13.6%	28.0%	28.0%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	20.5	38.0	21.5	13.5	31.0	31.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		32.0	32.0		32.0	32.0
Pedestrian Calls (#/hr)		27			27	27		43	43		43	43
Act Effct Green (s)	15.3	44.9	72.6	11.4	38.7	38.7	27.7	61.2	61.2	7.0	34.3	34.3
Actuated g/C Ratio	0.12	0.34	0.55	0.09	0.29	0.29	0.21	0.46	0.46	0.05	0.26	0.26
v/c Ratio	0.63	0.62	1.64	0.54	0.92	0.06	1.45	0.14	0.09	0.12	0.33	0.26
Control Delay	81.3	26.8	312.3	77.6	55.1	0.3	247.8	22.3	0.2	62.0	39.5	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.3	26.8	312.3	77.6	55.1	0.3	247.8	22.3	0.2	62.0	39.5	4.8
LOS	F	C	F	E	E	A	F	C	A	E	D	A
Approach Delay		216.8			55.0			211.7			25.7	
Approach LOS		F			D			F			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 47 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.64
 Intersection Signal Delay: 170.9
 Intersection LOS: F
 Intersection Capacity Utilization 134.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	120	740	1641	76	949	33	1011	120	65	11	152	120
v/c Ratio	0.63	0.62	1.64	0.54	0.92	0.06	1.45	0.14	0.09	0.12	0.33	0.26
Control Delay	81.3	26.8	312.3	77.6	55.1	0.3	247.8	22.3	0.2	62.0	39.5	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.3	26.8	312.3	77.6	55.1	0.3	247.8	22.3	0.2	62.0	39.5	4.8
Queue Length 50th (ft)	94	261	~2142	64	384	0	~673	53	0	9	99	0
Queue Length 95th (ft)	m151	219	#2335	119	#608	m0	#806	108	0	29	159	33
Internal Link Dist (ft)		2249			1267			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	262	1202	1001	175	1036	516	697	864	755	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.62	1.64	0.43	0.92	0.06	1.45	0.14	0.09	0.05	0.28	0.23

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023

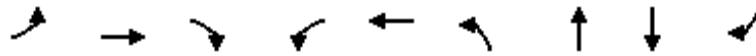


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	104	470	8	135	0	470	30	9	0	39	163
Future Volume (vph)	125	104	470	8	135	0	470	30	9	0	39	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.965				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3415	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	3433	3415	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			511					10				177
Link Speed (mph)		45			30			45				30
Link Distance (ft)		628			467			423				391
Travel Time (s)		9.5			10.6			6.4				8.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	113	511	9	147	0	511	33	10	0	42	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	113	511	9	147	0	511	43	0	0	42	177
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Over	Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases												

Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023




















Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	136	113	511	9	147	511	43	42	177
v/c Ratio	0.49	0.28	0.43	0.12	0.67	0.50	0.02	0.03	0.61
Control Delay	56.0	36.2	2.9	63.9	69.6	40.6	6.4	30.3	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	36.2	2.9	63.9	69.6	40.6	6.4	30.3	17.3
Queue Length 50th (ft)	63	79	18	8	122	187	4	12	0
Queue Length 95th (ft)	m82	m124	m20	27	187	242	12	28	71
Internal Link Dist (ft)		548			387		343	311	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	572	564	1183	80	338	1014	2375	1278	411
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.20	0.43	0.11	0.43	0.50	0.02	0.03	0.43

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Placerita Canyon Road/Arch Street & 12th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	10	50	49	20	163	20	316	40	240	266	10
Future Volume (vph)	30	10	50	49	20	163	20	316	40	240	266	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	250		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.926			0.905			0.986			0.994	
Flt Protected		0.983			0.990			0.997		0.950		
Satd. Flow (prot)	0	1696	0	0	1669	0	0	1831	0	1770	3518	0
Flt Permitted		0.983			0.990			0.997		0.950		
Satd. Flow (perm)	0	1696	0	0	1669	0	0	1831	0	1770	3518	0
Link Speed (mph)		25			25			35			25	
Link Distance (ft)		391			842			1231			423	
Travel Time (s)		10.7			23.0			24.0			11.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	11	54	53	22	177	22	343	43	261	289	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	98	0	0	252	0	0	408	0	261	300	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	59.5%						ICU Level of Service B					
Analysis Period (min)	15											

HCM 6th TWSC
 17: Placerita Canyon Road/Arch Street & 12th Street

01/24/2023

Intersection												
Int Delay, s/veh	10.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↗			↕		↖	↕	
Traffic Vol, veh/h	30	10	50	49	20	163	20	316	40	240	266	10
Future Vol, veh/h	30	10	50	49	20	163	20	316	40	240	266	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	11	54	53	22	177	22	343	43	261	289	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1325	1247	150	1081	1231	365	300	0	0	386	0	0
Stage 1	817	817	-	409	409	-	-	-	-	-	-	-
Stage 2	508	430	-	672	822	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	123	173	870	183	177	679	1260	-	-	1171	-	-
Stage 1	337	389	-	619	595	-	-	-	-	-	-	-
Stage 2	546	583	-	412	387	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	65	131	870	131	135	679	1260	-	-	1171	-	-
Mov Cap-2 Maneuver	65	131	-	131	135	-	-	-	-	-	-	-
Stage 1	330	302	-	605	582	-	-	-	-	-	-	-
Stage 2	380	570	-	289	301	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	64.6	18.1	0.4	4.2
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1260	-	-	151	471	1171	-
HCM Lane V/C Ratio	0.017	-	-	0.648	0.422	0.223	-
HCM Control Delay (s)	7.9	0	-	64.6	18.1	9	-
HCM Lane LOS	A	A	-	F	C	A	-
HCM 95th %tile Q(veh)	0.1	-	-	3.6	2.1	0.9	-

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	220	330	10	10	20	10	420	10	10	10
Future Volume (vph)	10	10	220	330	10	10	20	10	420	10	10	10
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.857			0.925			0.874			0.955	
Flt Protected	0.950			0.950				0.998			0.984	
Satd. Flow (prot)	1770	1596	0	1770	1723	0	0	1625	0	0	1750	0
Flt Permitted	0.950			0.950				0.998			0.984	
Satd. Flow (perm)	1770	1596	0	1770	1723	0	0	1625	0	0	1750	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		298			3919			2619			300	
Travel Time (s)		6.8			89.1			59.5			6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	11	239	359	11	11	22	11	457	11	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	250	0	359	22	0	0	490	0	0	33	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	70.6%
ICU Level of Service	C
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	11.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Traffic Vol, veh/h	10	10	220	330	10	10	20	10	420	10	10	10
Future Vol, veh/h	10	10	220	330	10	10	20	10	420	10	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	239	359	11	11	22	11	457	11	11	11

Major/Minor	Major1		Major2		Minor1			Minor2				
Conflicting Flow All	22	0	0	250	0	0	899	893	131	1122	1007	17
Stage 1	-	-	-	-	-	-	153	153	-	735	735	-
Stage 2	-	-	-	-	-	-	746	740	-	387	272	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1593	-	-	1316	-	-	260	281	919	183	241	1062
Stage 1	-	-	-	-	-	-	849	771	-	411	425	-
Stage 2	-	-	-	-	-	-	405	423	-	637	685	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1593	-	-	1316	-	-	193	203	919	70	174	1062
Mov Cap-2 Maneuver	-	-	-	-	-	-	193	203	-	70	174	-
Stage 1	-	-	-	-	-	-	843	766	-	408	309	-
Stage 2	-	-	-	-	-	-	281	308	-	314	680	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	8.3	18.9	37.5
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	738	1593	-	-	1316	-	-	143
HCM Lane V/C Ratio	0.663	0.007	-	-	0.273	-	-	0.228
HCM Control Delay (s)	18.9	7.3	-	-	8.8	-	-	37.5
HCM Lane LOS	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	5.1	0	-	-	1.1	-	-	0.8

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	120	20	120	2066	548	350
Future Volume (vph)	120	20	120	2066	548	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.998	0.850				0.850
Flt Protected	0.953		0.950			
Satd. Flow (prot)	3437	1441	1770	3539	3539	1583
Flt Permitted	0.953		0.950			
Satd. Flow (perm)	3437	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	1	20				380
Link Speed (mph)	30			50	50	
Link Distance (ft)	3919			2905	621	
Travel Time (s)	89.1			39.6	8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	22	130	2246	596	380
Shared Lane Traffic (%)		10%				
Lane Group Flow (vph)	132	20	130	2246	596	380
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	15.0	21.0	30.0	30.0
Total Split (s)	35.0	35.0	22.0	97.0	75.0	75.0
Total Split (%)	26.5%	26.5%	16.7%	73.5%	56.8%	56.8%
Maximum Green (s)	30.0	30.0	17.0	92.0	70.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	11.1	11.1	15.0	110.9	90.9	90.9
Actuated g/C Ratio	0.08	0.08	0.11	0.84	0.69	0.69
v/c Ratio	0.46	0.14	0.65	0.76	0.24	0.31
Control Delay	62.2	23.1	52.9	18.7	14.7	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	23.1	52.9	18.7	14.7	8.0
LOS	E	C	D	B	B	A
Approach Delay	57.1			20.6	12.1	
Approach LOS	E			C	B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 19.8
 Intersection LOS: B
 Intersection Capacity Utilization 73.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	132	20	130	2246	596	380
v/c Ratio	0.46	0.14	0.65	0.76	0.24	0.31
Control Delay	62.2	23.1	52.9	18.7	14.7	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	23.1	52.9	18.7	14.7	8.0
Queue Length 50th (ft)	56	0	112	520	76	0
Queue Length 95th (ft)	88	28	m115	m601	247	190
Internal Link Dist (ft)	3839			2825	541	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	781	342	237	2974	2437	1208
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.06	0.55	0.76	0.24	0.31

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

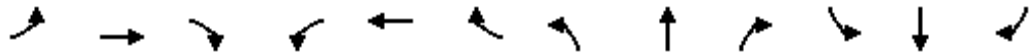
Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	69	18	80	45	650	16	2200	400	290	790	59
Future Volume (vph)	80	69	18	80	45	650	16	2200	400	290	790	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.723			0.706			0.950			0.950		
Satd. Flow (perm)	1347	3539	1583	1315	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			225			118			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		816			677			2247			787	
Travel Time (s)		12.4			10.3			30.6			10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	75	20	87	49	707	17	2391	435	315	859	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	75	20	87	49	707	17	2391	435	315	859	64
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8			6			2

Lanes, Volumes, Timings
21: Sierra Highway & Placerita Canyon Road

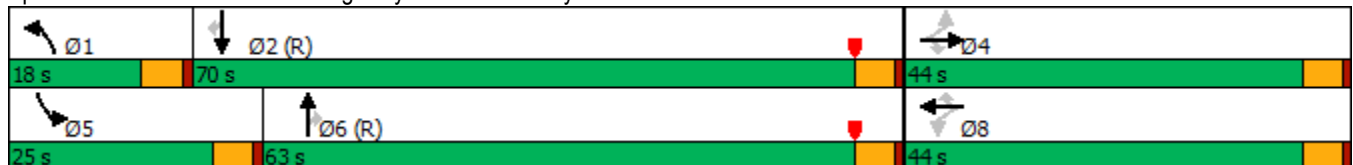
01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	20.0	20.0	20.0	37.0	37.0	37.0	15.0	20.0	20.0	15.0	39.0	39.0
Total Split (s)	44.0	44.0	44.0	44.0	44.0	44.0	18.0	63.0	63.0	25.0	70.0	70.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	13.6%	47.7%	47.7%	18.9%	53.0%	53.0%
Maximum Green (s)	39.0	39.0	39.0	39.0	39.0	39.0	13.0	58.0	58.0	20.0	65.0	65.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	39.0	39.0	39.0	39.0	39.0	39.0	10.0	58.0	58.0	20.0	77.0	77.0
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30	0.30	0.08	0.44	0.44	0.15	0.58	0.58
v/c Ratio	0.22	0.07	0.04	0.22	0.05	1.13	0.13	1.54	0.57	1.18	0.42	0.07
Control Delay	36.9	33.8	0.1	37.0	33.5	106.6	60.2	276.8	25.7	157.0	17.3	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay	36.9	33.8	0.1	37.0	33.5	106.8	60.2	277.5	25.7	157.0	17.3	4.9
LOS	D	C	A	D	C	F	E	F	C	F	B	A
Approach Delay		31.6			95.3			237.7			52.2	
Approach LOS		C			F			F			D	

Intersection Summary
 Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.54
 Intersection Signal Delay: 161.9
 Intersection LOS: F
 Intersection Capacity Utilization 121.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	87	75	20	87	49	707	17	2391	435	315	859	64
v/c Ratio	0.22	0.07	0.04	0.22	0.05	1.13	0.13	1.54	0.57	1.18	0.42	0.07
Control Delay	36.9	33.8	0.1	37.0	33.5	106.6	60.2	276.8	25.7	157.0	17.3	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay	36.9	33.8	0.1	37.0	33.5	106.8	60.2	277.5	25.7	157.0	17.3	4.9
Queue Length 50th (ft)	56	24	0	56	15	~557	15	~1547	249	~324	193	7
Queue Length 95th (ft)	102	44	0	102	32	#801	m25	#1682	289	#514	308	29
Internal Link Dist (ft)		736			597			2167			707	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	397	1045	537	388	1045	626	174	1555	761	268	2064	947
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	16	0	265	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.07	0.04	0.22	0.05	1.16	0.10	1.85	0.57	1.18	0.42	0.07

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	55	40	2971	79	800	924
Future Volume (vph)	55	40	2971	79	800	924
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		43		41		
Link Speed (mph)	30		50			50
Link Distance (ft)	615		787			1009
Travel Time (s)	14.0		10.7			13.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	43	3229	86	870	1004
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	43	3229	86	870	1004
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023

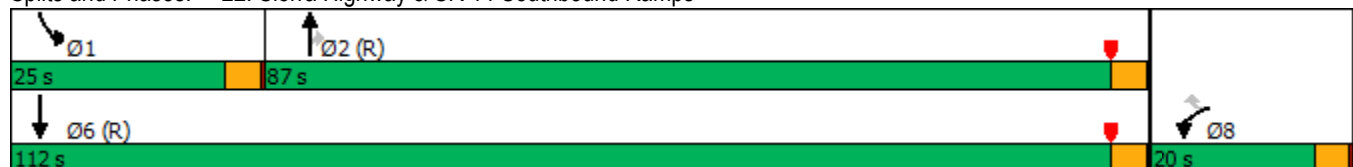


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	8.0	20.0
Total Split (s)	20.0	20.0	87.0	87.0	25.0	112.0
Total Split (%)	15.2%	15.2%	65.9%	65.9%	18.9%	84.8%
Maximum Green (s)	16.0	16.0	83.0	83.0	21.0	108.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effct Green (s)	9.8	9.8	83.0	83.0	29.2	117.0
Actuated g/C Ratio	0.07	0.07	0.63	0.63	0.22	0.89
v/c Ratio	0.46	0.27	1.45	0.09	1.15	0.32
Control Delay	68.8	20.0	226.1	5.7	126.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.8	20.0	226.1	5.7	126.8	2.0
LOS	E	C	F	A	F	A
Approach Delay	48.4		220.4			59.9
Approach LOS	D		F			E

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.45
 Intersection Signal Delay: 160.2
 Intersection LOS: F
 Intersection Capacity Utilization 118.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR 14 Southbound Ramps



Queues

22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	60	43	3229	86	870	1004
v/c Ratio	0.46	0.27	1.45	0.09	1.15	0.32
Control Delay	68.8	20.0	226.1	5.7	126.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.8	20.0	226.1	5.7	126.8	2.0
Queue Length 50th (ft)	50	0	~1962	11	~473	60
Queue Length 95th (ft)	95	37	m#1130	m6	#647	97
Internal Link Dist (ft)	535		707			929
Turn Bay Length (ft)					160	
Base Capacity (vph)	214	229	2225	1010	758	3136
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.19	1.45	0.09	1.15	0.32

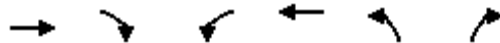
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	↑
Traffic Volume (vph)	290	0	0	330	245	190
Future Volume (vph)	290	0	0	330	245	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	677			645	774	
Travel Time (s)	10.3			9.8	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	0	0	359	266	207
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	359	266	207
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Stop			Stop	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	26.4%
Analysis Period (min)	15
	ICU Level of Service A

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↗	↗
Traffic Vol, veh/h	290	0	0	330	245	190
Future Vol, veh/h	290	0	0	330	245	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	315	0	0	359	266	207
Number of Lanes	2	0	0	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	2
HCM Control Delay	10.5	10.7	9.9
HCM LOS	B	B	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	100%	0%	0%	0%	0%	0%
Vol Thru, %	0%	0%	0%	100%	100%	100%	100%
Vol Right, %	0%	0%	100%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	123	123	190	145	145	165	165
LT Vol	123	123	0	0	0	0	0
Through Vol	0	0	0	145	145	165	165
RT Vol	0	0	190	0	0	0	0
Lane Flow Rate	133	133	207	158	158	179	179
Geometry Grp	7	7	7	8	8	8	8
Degree of Util (X)	0.248	0.248	0.215	0.288	0.211	0.324	0.237
Departure Headway (Hd)	6.709	6.709	3.747	6.584	4.828	6.503	4.748
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	535	535	954	545	741	552	753
Service Time	4.451	4.451	1.488	4.335	2.578	4.25	2.494
HCM Lane V/C Ratio	0.249	0.249	0.217	0.29	0.213	0.324	0.238
HCM Control Delay	11.7	11.7	7.5	12	8.9	12.4	9
HCM Lane LOS	B	B	A	B	A	B	A
HCM 95th-tile Q	1	1	0.8	1.2	0.8	1.4	0.9

***Future without Project
with DDEP Conditions (Roundabout)***

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	880	250	670	1840	70	450	620	170	210	2530	450
Future Volume (vph)	140	880	250	670	1840	70	450	620	170	210	2530	450
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	0		230
Storage Lanes	3		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			136			186			112
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			2037			1105	
Travel Time (s)		13.2			11.3			30.9			16.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	957	272	728	2000	76	489	674	185	228	2750	489
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	957	272	728	2000	76	489	674	185	228	2750	489
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	21.0	36.0	22.0	21.0	36.0	36.0	22.0	45.0	45.0	30.0	53.0	21.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

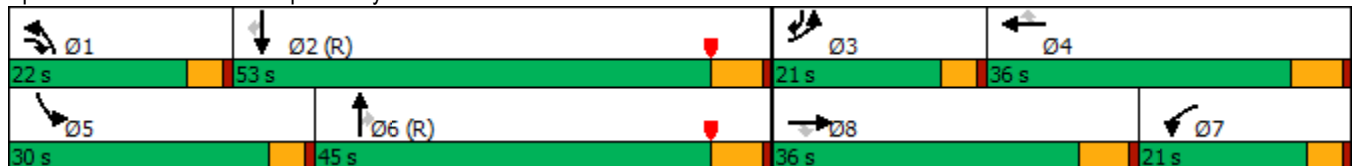


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	15.9%	27.3%	16.7%	15.9%	27.3%	27.3%	16.7%	34.1%	34.1%	22.7%	40.2%	15.9%
Maximum Green (s)	16.5	30.0	17.5	16.5	30.0	30.0	17.5	39.0	39.0	25.5	47.0	16.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	7.9	29.2	47.2	19.8	41.1	41.1	18.0	54.3	54.3	12.7	49.0	60.9
Actuated g/C Ratio	0.06	0.22	0.36	0.15	0.31	0.31	0.14	0.41	0.41	0.10	0.37	0.46
v/c Ratio	0.51	0.67	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.16	0.62
Control Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	36.6	14.2	68.7	113.6	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	36.6	14.2	68.7	113.6	23.8
LOS	E	D	B	F	E	A	F	D	B	E	F	C
Approach Delay		43.9			109.4			55.0			98.0	
Approach LOS		D			F			E			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 105 (80%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.42
 Intersection Signal Delay: 86.8
 Intersection LOS: F
 Intersection Capacity Utilization 94.7%
 ICU Level of Service F
 Analysis Period (min) 15

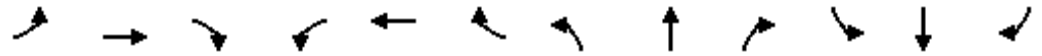
Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	957	272	728	2000	76	489	674	185	228	2750	489
v/c Ratio	0.51	0.67	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.16	0.62
Control Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	36.6	14.2	68.7	113.6	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	36.6	14.2	68.7	113.6	23.8
Queue Length 50th (ft)	45	218	63	~438	~500	0	~232	151	37	98	~806	240
Queue Length 95th (ft)	69	252	115	#589	#621	0	#333	176	104	139	#874	348
Internal Link Dist (ft)		790			665			1957			1025	
Turn Bay Length (ft)	270		265	280		340	300					230
Base Capacity (vph)	642	1553	638	513	1993	586	468	2636	760	676	2378	892
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.62	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.34	1.16	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔↔	↕↕↕	↔↔↔
Traffic Volume (vph)	360	900	40	550	1000	410	20	550	280	470	1790	1560
Future Volume (vph)	360	900	40	550	1000	410	20	550	280	470	1790	1560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		225	450		400
Storage Lanes	3		0	3		1	1		1	1		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5055	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5055	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				99			112			477
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			888			2037	
Travel Time (s)		32.4			35.4			13.5			30.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	978	43	598	1087	446	22	598	304	511	1946	1696
Shared Lane Traffic (%)												
Lane Group Flow (vph)	391	1021	0	598	1087	446	22	598	304	511	1946	1696
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	26.0	39.0		31.0	44.0	20.0	19.0	42.0	31.0	20.0	43.0	26.0

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

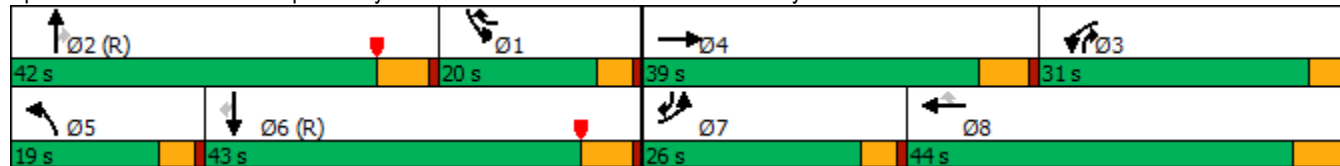


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	19.7%	29.5%		23.5%	33.3%	15.2%	14.4%	31.8%	23.5%	15.2%	32.6%	19.7%
Maximum Green (s)	21.5	33.0		26.5	38.0	15.5	14.5	36.0	26.5	15.5	37.0	21.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	22.0	33.4		25.0	36.4	52.4	7.7	41.6	70.6	16.0	54.0	80.0
Actuated g/C Ratio	0.17	0.25		0.19	0.28	0.40	0.06	0.32	0.53	0.12	0.41	0.61
v/c Ratio	0.47	0.80		0.63	0.78	0.65	0.21	0.37	0.34	1.23	0.94	0.90
Control Delay	51.9	51.1		52.5	48.1	18.8	52.1	31.0	5.6	138.2	21.3	17.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	51.1		52.5	48.1	18.8	52.1	31.0	5.6	138.2	21.3	17.0
LOS	D	D		D	D	B	D	C	A	F	C	B
Approach Delay		51.3			43.2			23.2			33.9	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.23
 Intersection Signal Delay: 37.9 Intersection LOS: D
 Intersection Capacity Utilization 87.2% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	391	1021	598	1087	446	22	598	304	511	1946	1696
v/c Ratio	0.47	0.80	0.63	0.78	0.65	0.21	0.37	0.34	1.23	0.94	0.90
Control Delay	51.9	51.1	52.5	48.1	18.8	52.1	31.0	5.6	138.2	21.3	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	51.1	52.5	48.1	18.8	52.1	31.0	5.6	138.2	21.3	17.0
Queue Length 50th (ft)	108	294	170	313	139	19	172	47	~276	~568	775
Queue Length 95th (ft)	143	349	207	356	195	m34	167	79	m#229	m456	m643
Internal Link Dist (ft)		2060		2257			808			1957	
Turn Bay Length (ft)						250		225	450		400
Base Capacity (vph)	831	1344	1020	1540	688	201	1602	885	416	2080	1877
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.76	0.59	0.71	0.65	0.11	0.37	0.34	1.23	0.94	0.90

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	330	550	1220	1860	510
Future Volume (vph)	140	330	550	1220	1860	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		6				453
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4834	2595	
Travel Time (s)	44.4			65.9	39.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	359	598	1326	2022	554
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	359	598	1326	2022	554
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

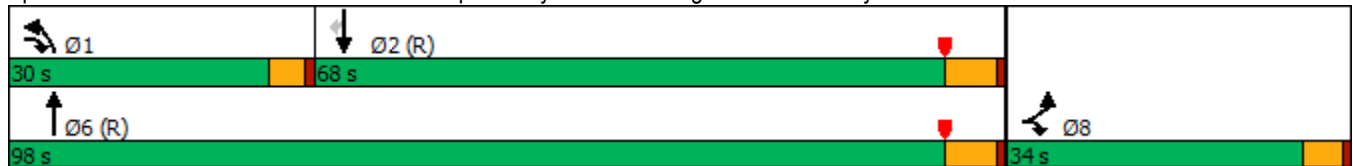


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	30.0	59.6	25.6	94.0	64.4	64.4
Actuated g/C Ratio	0.23	0.45	0.19	0.71	0.49	0.49
v/c Ratio	0.38	0.28	0.90	0.53	1.17	0.55
Control Delay	46.4	23.0	63.6	10.5	108.5	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	23.0	63.6	10.5	108.5	4.6
LOS	D	C	E	B	F	A
Approach Delay	30.0			27.0	86.1	
Approach LOS	C			C	F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 77 (58%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.17
 Intersection Signal Delay: 57.7
 Intersection LOS: E
 Intersection Capacity Utilization 84.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	152	359	598	1326	2022	554
v/c Ratio	0.38	0.28	0.90	0.53	1.17	0.55
Control Delay	46.4	23.0	63.6	10.5	108.5	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	23.0	63.6	10.5	108.5	4.6
Queue Length 50th (ft)	111	105	219	464	~1121	61
Queue Length 95th (ft)	178	145	#350	96	m#1257	m61
Internal Link Dist (ft)	2848			4754	2515	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	402	1270	676	2520	1725	1003
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.28	0.88	0.53	1.17	0.55

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	90	680	1170	70	490	1270
Future Volume (vph)	90	680	1170	70	490	1270
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.881	0.850		0.850		
Flt Protected	0.990				0.950	
Satd. Flow (prot)	3152	1441	3539	1583	3433	3539
Flt Permitted	0.990				0.950	
Satd. Flow (perm)	3152	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	353	353		55		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4834
Travel Time (s)	10.9		27.3			65.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	739	1272	76	533	1380
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	468	369	1272	76	533	1380
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	14.5	14.5	79.3	79.3	26.2	109.5
Actuated g/C Ratio	0.11	0.11	0.60	0.60	0.20	0.83
v/c Ratio	0.71	0.78	0.60	0.08	0.78	0.47
Control Delay	19.7	18.5	30.7	15.2	44.5	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	18.5	30.7	15.2	44.5	6.1
LOS	B	B	C	B	D	A
Approach Delay	19.1		29.8			16.8
Approach LOS	B		C			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 21.6
 Intersection Capacity Utilization 67.1%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023























Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	468	369	1272	76	533	1380
v/c Ratio	0.71	0.78	0.60	0.08	0.78	0.47
Control Delay	19.7	18.5	30.7	15.2	44.5	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	18.5	30.7	15.2	44.5	6.1
Queue Length 50th (ft)	48	14	407	22	230	267
Queue Length 95th (ft)	94	121	582	47	m224	m151
Internal Link Dist (ft)	558		1922			4754
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1095	641	2127	973	721	2936
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.58	0.60	0.08	0.74	0.47

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	40	0	380	10	1060	30	200	1580	0
Future Volume (vph)	0	0	0	40	0	380	10	1060	30	200	1580	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	100		100	100		0
Storage Lanes	0		0	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor				0.99			1.00		0.92	0.99		
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	0	0	3433	0	1531	1770	3539	1583	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	0	0	3391	0	1531	1761	3539	1455	3390	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						413			33			
Link Speed (mph)		25			35			45				45
Link Distance (ft)		183			612			1314				3196
Travel Time (s)		5.0			11.9			19.9				48.4
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	43	0	413	11	1152	33	217	1717	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	43	0	413	11	1152	33	217	1717	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)				50		50	50	50	50	50	50	
Trailing Detector (ft)				0		0	0	0	0	0	0	
Detector 1 Position(ft)				0		0	0	0	0	0	0	
Detector 1 Size(ft)				50		50	50	50	50	50	50	
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type				Prot		Prot	Prot	NA	pm+ov	Prot	NA	
Protected Phases				3		9!	5	2!	3	1	6	
Permitted Phases									2			
Detector Phase				3		9	5	2	3	1	6	
Switch Phase												

Lanes, Volumes, Timings
 5: Railroad Avenue & 13th Street

01/24/2023

Lane Group	Ø8	Ø10
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	8	10
Permitted Phases		
Detector Phase		
Switch Phase		

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)				10.0		9.0	9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				15.0		14.0	14.0	23.5	15.0	14.0	25.0	
Total Split (s)				31.0		101.0	14.0	83.0	31.0	18.0	87.0	
Total Split (%)				23.5%		76.5%	10.6%	62.9%	23.5%	13.6%	65.9%	
Maximum Green (s)				26.0		96.0	9.0	77.5	26.0	13.0	81.5	
Yellow Time (s)				4.0		4.0	4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0		1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				-1.0		-1.0	-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)				4.0		4.0	4.5	3.5	4.0	4.5	3.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None		None	None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				11.0		116.8	9.5	98.5	106.8	13.5	114.4	
Actuated g/C Ratio				0.08		0.88	0.07	0.75	0.81	0.10	0.87	
v/c Ratio				0.15		0.29	0.09	0.44	0.03	0.62	0.56	
Control Delay				57.6		0.7	56.4	12.0	1.4	64.5	3.1	
Queue Delay				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay				57.6		0.7	56.4	12.0	1.4	64.5	3.1	
LOS				E		A	E	B	A	E	A	
Approach Delay						6.0		12.1			10.0	
Approach LOS						A		B			A	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 10.2 Intersection LOS: B
 Intersection Capacity Utilization 69.9% ICU Level of Service C
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & 13th Street



Lane Group	Ø8	Ø10
Minimum Initial (s)	7.0	4.0
Minimum Split (s)	31.0	16.0
Total Split (s)	31.0	31.0
Total Split (%)	23%	23%
Maximum Green (s)	28.0	28.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	21.0	6.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

5: Railroad Avenue & 13th Street

01/24/2023



Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	43	413	11	1152	33	217	1717
v/c Ratio	0.15	0.29	0.09	0.44	0.03	0.62	0.56
Control Delay	57.6	0.7	56.4	12.0	1.4	64.5	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	0.7	56.4	12.0	1.4	64.5	3.1
Queue Length 50th (ft)	18	0	10	230	1	98	36
Queue Length 95th (ft)	37	11	m25	258	m3	138	505
Internal Link Dist (ft)				1234			3116
Turn Bay Length (ft)			100		100	100	
Base Capacity (vph)	702	1402	127	2640	1244	351	3067
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.29	0.09	0.44	0.03	0.62	0.56

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations	↔↔	↗	↔↔	↕↕	↕↕	↗			
Traffic Volume (vph)	330	100	290	790	1190	430			
Future Volume (vph)	330	100	290	790	1190	430			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		109				302			
Link Speed (mph)	35			35	45				
Link Distance (ft)	374			1566	1314				
Travel Time (s)	7.3			30.5	19.9				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	359	109	315	859	1293	467			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	359	109	315	859	1293	467			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	24			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	52.0	30.0	20.0	30.0	30.0

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023

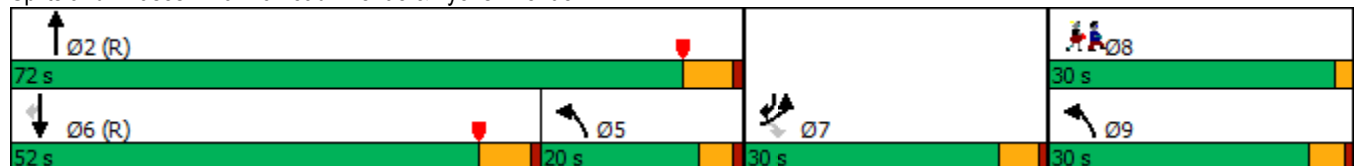


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	39.4%	22.7%	15%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	46.0	25.0	15.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effect Green (s)	21.3	21.3	23.1	89.6	71.6	92.9			
Actuated g/C Ratio	0.16	0.16	0.18	0.68	0.54	0.70			
v/c Ratio	0.65	0.31	0.53	0.36	0.67	0.39			
Control Delay	89.3	47.1	21.2	12.8	25.5	3.2			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	89.3	47.1	21.2	12.8	25.5	3.2			
LOS	F	D	C	B	C	A			
Approach Delay	79.4			15.1	19.6				
Approach LOS	E			B	B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 103 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 26.3
 Intersection LOS: C
 Intersection Capacity Utilization 60.6%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023

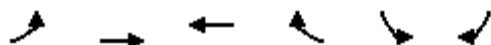


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	359	109	315	859	1293	467
v/c Ratio	0.65	0.31	0.53	0.36	0.67	0.39
Control Delay	89.3	47.1	21.2	12.8	25.5	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.3	47.1	21.2	12.8	25.5	3.2
Queue Length 50th (ft)	169	67	64	141	319	20
Queue Length 95th (ft)	220	120	81	185	397	102
Internal Link Dist (ft)	294			1486	1234	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	676	399	1092	2402	1919	1249
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.27	0.29	0.36	0.67	0.37

Intersection Summary

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

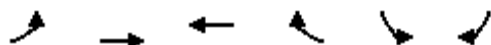
01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1120	570	970	1210	0	
Future Volume (vph)	0	1120	570	970	1210	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.97			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1054			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1645		1196		
Travel Time (s)		6.2	28.0		23.3		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1217	620	1054	1315	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1217	620	1054	1315	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		62.0	15.0	70.0	70.0	47.0	
Total Split (%)		47.0%	11.4%	53.0%	53.0%	36%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023

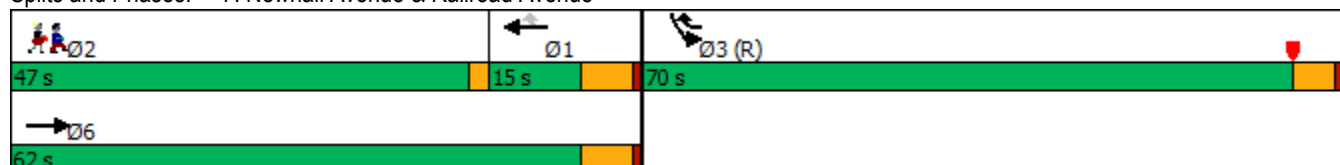


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		56.0	9.0	64.0	64.0		45.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effect Green (s)		58.0	58.0	124.0	66.0		
Actuated g/C Ratio		0.44	0.44	0.94	0.50		
v/c Ratio		0.78	0.76	0.40	0.77		
Control Delay		36.0	16.4	1.8	9.1		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		36.0	16.4	1.8	9.1		
LOS		D	B	A	A		
Approach Delay		36.0	7.2		9.1		
Approach LOS		D	A		A		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	20 (15%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	16.1
Intersection LOS:	B
Intersection Capacity Utilization:	72.1%
ICU Level of Service:	C
Analysis Period (min):	15

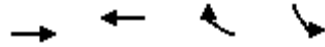
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1217	620	1054	1315
v/c Ratio	0.78	0.76	0.40	0.77
Control Delay	36.0	16.4	1.8	9.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	36.0	16.4	1.8	9.1
Queue Length 50th (ft)	461	115	17	33
Queue Length 95th (ft)	552	143	37	78
Internal Link Dist (ft)	282	1565		1116
Turn Bay Length (ft)				
Base Capacity (vph)	1555	818	2651	1716
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.78	0.76	0.40	0.77
Intersection Summary				

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	140	1480	1240	30	330	110
Future Volume (vph)	140	1480	1240	30	330	110
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.996			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5065	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5065	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			4			120
Link Speed (mph)		40	40		30	
Link Distance (ft)		1545	3086		2703	
Travel Time (s)		26.3	52.6		61.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	1609	1348	33	359	120
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	1609	1381	0	359	120
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	25.0	98.0	73.0		34.0	34.0

Lanes, Volumes, Timings
 8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	18.9%	74.2%	55.3%		25.8%	25.8%
Maximum Green (s)	20.5	92.0	67.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	21.0	94.8	69.8		29.2	29.2
Actuated g/C Ratio	0.16	0.72	0.53		0.22	0.22
v/c Ratio	0.54	0.44	0.52		0.92	0.27
Control Delay	60.4	10.0	10.2		60.0	6.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	60.4	10.0	10.2		60.0	6.2
LOS	E	A	B		E	A
Approach Delay		14.3	10.2		46.5	
Approach LOS		B	B		D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 50 (38%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 17.0
 Intersection LOS: B
 Intersection Capacity Utilization 60.7%
 ICU Level of Service B
 Analysis Period (min) 15

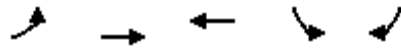
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	152	1609	1381	359	120
v/c Ratio	0.54	0.44	0.52	0.92	0.27
Control Delay	60.4	10.0	10.2	60.0	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	60.4	10.0	10.2	60.0	6.2
Queue Length 50th (ft)	132	238	147	243	10
Queue Length 95th (ft)	m165	253	165	#476	m28
Internal Link Dist (ft)		1465	3006	2623	
Turn Bay Length (ft)	150				
Base Capacity (vph)	281	3653	2681	402	452
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.44	0.52	0.89	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
9: Sierra Highway & Newhall Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	1260	10	810	700	120	10	130	110	510	870	270
Future Volume (vph)	190	1260	10	810	700	120	10	130	110	510	870	270
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		350
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4907	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4907	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			130			161		59	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3086			633			398			2854	
Travel Time (s)		52.6			10.8			9.0			64.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	1370	11	880	761	130	11	141	120	554	946	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	1370	11	880	761	130	11	141	120	554	1239	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	45.0	45.0	25.0	45.0	45.0	20.0	20.0	20.0	42.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

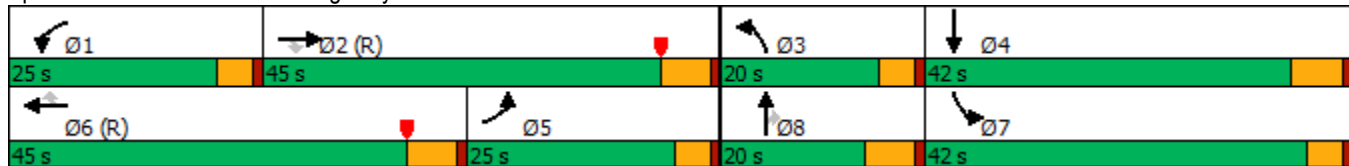


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	34.1%	34.1%	18.9%	34.1%	34.1%	15.2%	15.2%	15.2%	31.8%	31.8%	
Maximum Green (s)	20.5	39.0	39.0	20.5	39.0	39.0	15.5	14.0	14.0	37.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	41.0	41.0	21.0	41.0	41.0	6.5	12.6	10.6	41.4	53.6	
Actuated g/C Ratio	0.16	0.31	0.31	0.16	0.31	0.31	0.05	0.10	0.08	0.31	0.41	
v/c Ratio	0.38	0.87	0.02	1.61	0.48	0.22	0.07	0.42	0.44	1.00	0.61	
Control Delay	61.2	58.4	0.1	319.2	38.1	6.3	60.5	59.6	7.9	60.2	14.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	61.2	58.4	0.1	319.2	38.1	6.3	60.5	59.6	7.9	60.2	14.9	
LOS	E	E	A	F	D	A	E	E	A	E	B	
Approach Delay		58.4			175.4			36.8			28.9	
Approach LOS		E			F			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 121 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.61
 Intersection Signal Delay: 85.8
 Intersection LOS: F
 Intersection Capacity Utilization 92.6%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023





















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	207	1370	11	880	761	130	11	141	120	554	1239
v/c Ratio	0.38	0.87	0.02	1.61	0.48	0.22	0.07	0.42	0.44	1.00	0.61
Control Delay	61.2	58.4	0.1	319.2	38.1	6.3	60.5	59.6	7.9	60.2	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	58.4	0.1	319.2	38.1	6.3	60.5	59.6	7.9	60.2	14.9
Queue Length 50th (ft)	88	415	0	~556	193	0	4	61	0	488	240
Queue Length 95th (ft)	m123	479	m0	#686	235	47	14	94	26	m#729	373
Internal Link Dist (ft)		3006			553			318			2774
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1579	568	546	1579	581	416	428	311	555	2028
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.87	0.02	1.61	0.48	0.22	0.03	0.33	0.39	1.00	0.61

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	360	1570	10	790	0	0	0	0	10	10	760
Future Volume (vph)	0	360	1570	10	790	0	0	0	0	10	10	760
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.897	0.850									0.850
Fl _t Protected				0.950							0.976	
Satd. Flow (prot)	0	3041	1441	1770	3539	0	0	0	0	0	1818	1583
Fl _t Permitted				0.950							0.976	
Satd. Flow (perm)	0	3041	1441	1770	3539	0	0	0	0	0	1818	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		633			469			446			465	
Travel Time (s)		10.8			8.0			10.1			10.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	391	1707	11	859	0	0	0	0	11	11	826
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1245	853	11	859	0	0	0	0	0	22	826
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	81.5%
	ICU Level of Service D
Analysis Period (min)	15

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	360	1570	10	790	0	0	0	0	10	10	760
Future Vol, veh/h	0	360	1570	10	790	0	0	0	0	10	10	760
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082378240	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	391	1707	11	859	0	0	0	0	11	11	826

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	391	0	0		1077	1272	-
Stage 1	-	-	-	-	-	-		881	881	-
Stage 2	-	-	-	-	-	-		196	391	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	1164	-	0		214	166	0
Stage 1	0	-	-	-	-	0		365	363	0
Stage 2	0	-	-	-	-	0		818	606	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1164	-	-		212	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		212	0	-
Stage 1	-	-	-	-	-	-		365	0	-
Stage 2	-	-	-	-	-	-		811	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	23.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1164	-	212	-
HCM Lane V/C Ratio	-	-	0.009	-	0.103	-
HCM Control Delay (s)	-	-	8.1	-	23.9	0
HCM Lane LOS	-	-	A	-	C	A
HCM 95th %tile Q(veh)	-	-	0	-	0.3	-

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	390	0	0	60	0	10
Future Volume (vph)	390	0	0	60	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Flt						0.865
Flt Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	469			639	290	
Travel Time (s)	8.0			10.9	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	424	0	0	65	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	424	0	0	65	0	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	81.5%
Analysis Period (min)	15
	ICU Level of Service D

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	390	0	0	60	0	10
Future Vol, veh/h	390	0	0	60	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	424	0	0	65	0	11



















Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.319
Pot Cap-1 Maneuver	-	0	0	0
Stage 1	-	0	0	0
Stage 2	-	0	0	0
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	794
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	794	-	-
HCM Lane V/C Ratio	0.014	-	-
HCM Control Delay (s)	9.6	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	1190	0	0	800	560	270	10	260	0	0	0
Future Volume (vph)	180	1190	0	0	800	560	270	10	260	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.938				0.850			
Flt Protected	0.950						0.950	0.956				
Satd. Flow (prot)	1770	3539	0	0	4770	0	1681	1692	1583	0	0	0
Flt Permitted	0.950						0.950	0.956				
Satd. Flow (perm)	1770	3539	0	0	4770	0	1681	1692	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					207				85			
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		722			1900			440			464	
Travel Time (s)		12.3			32.4			10.0			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	1293	0	0	870	609	293	11	283	0	0	0
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	196	1293	0	0	1479	0	152	152	283	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

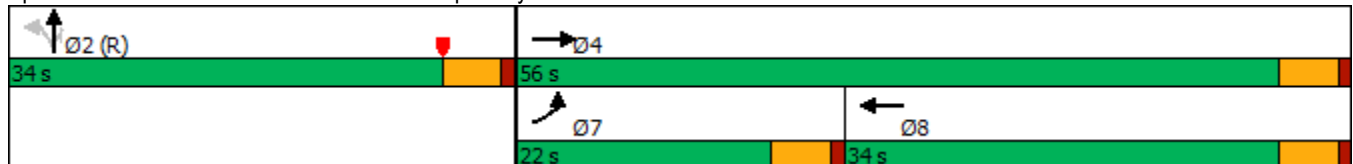


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			5.0		10.0	10.0	10.0			
Minimum Split (s)	15.0	23.0			23.0		33.0	33.0	33.0			
Total Split (s)	22.0	56.0			34.0		34.0	34.0	34.0			
Total Split (%)	24.4%	62.2%			37.8%		37.8%	37.8%	37.8%			
Maximum Green (s)	17.0	51.0			29.0		29.0	29.0	29.0			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.4	49.4			30.0		30.6	30.6	30.6			
Actuated g/C Ratio	0.16	0.55			0.33		0.34	0.34	0.34			
v/c Ratio	0.69	0.67			0.90dr		0.27	0.26	0.48			
Control Delay	48.6	16.2			30.1		24.0	23.9	19.8			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	48.6	16.2			30.1		24.0	23.9	19.8			
LOS	D	B			C		C	C	B			
Approach Delay		20.5			30.1			22.0				
Approach LOS		C			C			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 24.7
 Intersection LOS: C
 Intersection Capacity Utilization 58.8%
 ICU Level of Service B
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

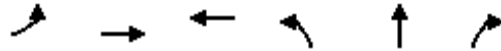
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	196	1293	1479	152	152	283
v/c Ratio	0.69	0.67	0.90dr	0.27	0.26	0.48
Control Delay	48.6	16.2	30.1	24.0	23.9	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	16.2	30.1	24.0	23.9	19.8
Queue Length 50th (ft)	106	245	244	67	67	88
Queue Length 95th (ft)	174	314	#321	118	118	164
Internal Link Dist (ft)		642	1820		360	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	334	2005	1736	571	574	593
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.64	0.85	0.27	0.26	0.48

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	830	130	250	770	120	200	240	200	140	400	270
Future Volume (vph)	140	830	130	250	770	120	200	240	200	140	400	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.980				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			124		24				217			112
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1900			5304			887				1679
Travel Time (s)		32.4			90.4			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	902	141	272	837	130	217	261	217	152	435	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	902	141	272	967	0	217	261	217	152	435	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/24/2023

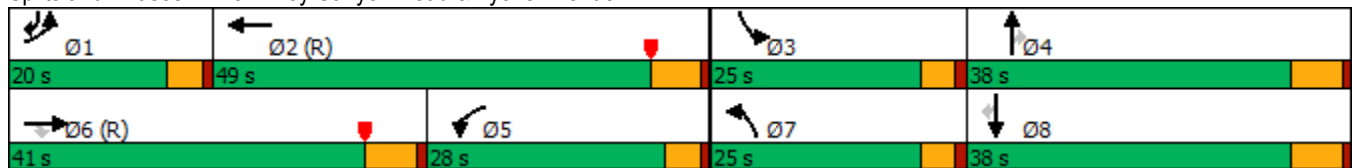


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	41.0	41.0	28.0	49.0		25.0	38.0	38.0	25.0	38.0	20.0
Total Split (%)	15.2%	31.1%	31.1%	21.2%	37.1%		18.9%	28.8%	28.8%	18.9%	28.8%	15.2%
Maximum Green (s)	15.5	35.0	35.0	23.5	43.0		20.5	32.0	32.0	20.5	32.0	15.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	12.3	47.9	47.9	24.0	59.6		20.1	26.9	26.9	17.2	24.0	40.3
Actuated g/C Ratio	0.09	0.36	0.36	0.18	0.45		0.15	0.20	0.20	0.13	0.18	0.31
v/c Ratio	0.51	0.75	0.23	0.91	0.43		0.86	0.39	0.46	0.71	0.70	0.52
Control Delay	62.7	42.7	8.2	68.5	10.7		85.3	47.0	8.7	72.4	56.6	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	42.7	8.2	68.5	10.7		85.3	47.0	8.7	72.4	56.6	25.2
LOS	E	D	A	E	B		F	D	A	E	E	C
Approach Delay		41.1			23.4			47.0			48.8	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 38.4
 Intersection LOS: D
 Intersection Capacity Utilization 72.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	902	141	272	967	217	261	217	152	435	293
v/c Ratio	0.51	0.75	0.23	0.91	0.43	0.86	0.39	0.46	0.71	0.70	0.52
Control Delay	62.7	42.7	8.2	68.5	10.7	85.3	47.0	8.7	72.4	56.6	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	42.7	8.2	68.5	10.7	85.3	47.0	8.7	72.4	56.6	25.2
Queue Length 50th (ft)	64	358	9	229	171	182	102	0	126	185	126
Queue Length 95th (ft)	98	#471	59	#403	166	#318	142	68	197	233	195
Internal Link Dist (ft)		1820			5224		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	389	1197	614	300	2263	262	850	541	262	881	603
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.75	0.23	0.91	0.43	0.83	0.31	0.40	0.58	0.49	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	1020	60	120	1050	380	110	120	110	490	90	230
Future Volume (vph)	200	1020	60	120	1050	380	110	120	110	490	90	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			231			120			250
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5304			2371			465				790
Travel Time (s)		103.3			46.2			9.1				12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1109	65	130	1141	413	120	130	120	533	98	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	217	1109	65	130	1141	413	120	130	120	533	98	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

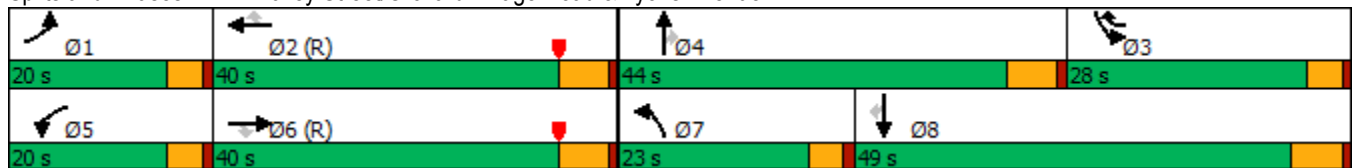
01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	14.7	59.4	59.4	16.2	60.9	88.9	14.9	12.4	12.4	28.1	25.5	25.5
Actuated g/C Ratio	0.11	0.45	0.45	0.12	0.46	0.67	0.11	0.09	0.09	0.21	0.19	0.19
v/c Ratio	0.61	0.75	0.08	0.64	0.64	0.33	0.65	0.40	0.51	0.73	0.28	0.50
Control Delay	57.4	55.9	6.8	64.5	37.0	4.7	71.3	59.7	16.9	54.3	46.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	55.9	6.8	64.5	37.0	4.7	71.3	59.7	16.9	54.3	46.7	8.7
LOS	E	E	A	E	D	A	E	E	B	D	D	A
Approach Delay		53.8			31.2			49.6			40.5	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 41.9 Intersection LOS: D
 Intersection Capacity Utilization 65.5% ICU Level of Service C
 Analysis Period (min) 15

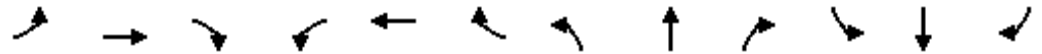
Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	217	1109	65	130	1141	413	120	130	120	533	98	250
v/c Ratio	0.61	0.75	0.08	0.64	0.64	0.33	0.65	0.40	0.51	0.73	0.28	0.50
Control Delay	57.4	55.9	6.8	64.5	37.0	4.7	71.3	59.7	16.9	54.3	46.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	55.9	6.8	64.5	37.0	4.7	71.3	59.7	16.9	54.3	46.7	8.7
Queue Length 50th (ft)	100	506	4	97	519	56	99	56	0	221	73	0
Queue Length 95th (ft)	m136	#670	m18	m111	m604	m152	162	88	60	267	120	70
Internal Link Dist (ft)		5224			2291			385			710	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	402	1485	770	222	1795	1253	237	1036	499	741	613	686
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.75	0.08	0.59	0.64	0.33	0.51	0.13	0.24	0.72	0.16	0.36

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	500	950	60	680	30	580	110	40	40	170	190
Future Volume (vph)	130	500	950	60	680	30	580	110	40	40	170	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1614	3539	1468	1635	3539	1356	3132	1863	1471	1671	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			383			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2371			962			528				401
Travel Time (s)		46.2			18.7			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	543	1033	65	739	33	630	120	43	43	185	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	543	1033	65	739	33	630	120	43	43	185	207
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

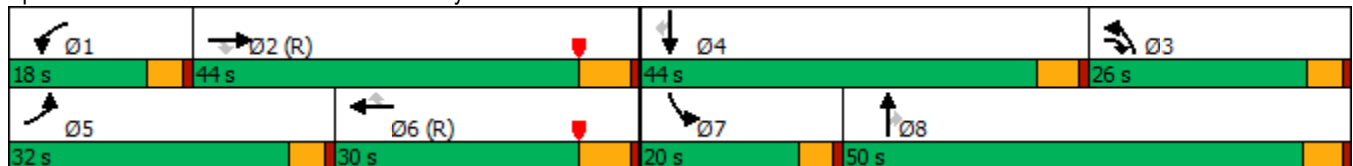


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	32.0	44.0	26.0	18.0	30.0	30.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	24.2%	33.3%	19.7%	13.6%	22.7%	22.7%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	27.5	38.0	21.5	13.5	24.0	24.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	24.0		24.0		24.0		32.0		32.0		32.0	
Pedestrian Calls (#/hr)	27		27		27		43		43		43	
Act Effct Green (s)	17.1	45.4	72.7	10.8	36.9	36.9	27.3	54.8	54.8	9.2	34.7	34.7
Actuated g/C Ratio	0.13	0.34	0.55	0.08	0.28	0.28	0.21	0.42	0.42	0.07	0.26	0.26
v/c Ratio	0.66	0.45	1.04	0.49	0.75	0.07	0.92	0.16	0.06	0.36	0.39	0.44
Control Delay	67.8	28.3	56.6	79.2	39.3	0.6	71.2	26.4	0.2	66.1	41.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	28.3	56.6	79.2	39.3	0.6	71.2	26.4	0.2	66.1	41.0	15.5
LOS	E	C	E	E	D	A	E	C	A	E	D	B
Approach Delay	48.6		40.9		60.6		31.3					
Approach LOS	D		D		E		C					

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 49 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 47.4 Intersection LOS: D
 Intersection Capacity Utilization 100.1% ICU Level of Service G
 Analysis Period (min) 15

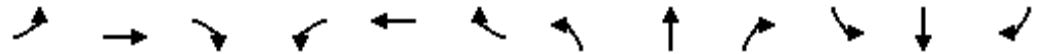
Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	141	543	1033	65	739	33	630	120	43	43	185	207
v/c Ratio	0.66	0.45	1.04	0.49	0.75	0.07	0.92	0.16	0.06	0.36	0.39	0.44
Control Delay	67.8	28.3	56.6	79.2	39.3	0.6	71.2	26.4	0.2	66.1	41.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	28.3	56.6	79.2	39.3	0.6	71.2	26.4	0.2	66.1	41.0	15.5
Queue Length 50th (ft)	103	198	~909	56	282	0	~324	65	0	36	123	42
Queue Length 95th (ft)	m145	190	#893	96	#440	2	#444	114	0	74	191	113
Internal Link Dist (ft)		2291			882			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	350	1217	993	175	990	501	687	773	690	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.45	1.04	0.37	0.75	0.07	0.92	0.16	0.06	0.21	0.34	0.40

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	30	10	30	90	20	120	40	270	110	40	140	10
Future Volume (vph)	30	10	30	90	20	120	40	270	110	40	140	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	200		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.942			0.930			0.964			0.993	
Flt Protected		0.979			0.981			0.995			0.990	
Satd. Flow (prot)	0	1718	0	0	1699	0	0	1787	0	0	1831	0
Flt Permitted		0.979			0.981			0.995			0.990	
Satd. Flow (perm)	0	1718	0	0	1699	0	0	1787	0	0	1831	0
Link Speed (mph)		25			25			30			25	
Link Distance (ft)		391			842			164			505	
Travel Time (s)		10.7			23.0			3.7			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	11	33	98	22	130	43	293	120	43	152	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	0	0	250	0	0	456	0	0	206	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	49.3%
ICU Level of Service	A
Analysis Period (min)	15













HCM 6th Roundabout
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023

Intersection				
Intersection Delay, s/veh	6.0			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	77	250	456	206
Demand Flow Rate, veh/h	79	255	465	210
Vehicles Circulating, veh/h	299	377	89	166
Vehicles Exiting, veh/h	77	177	289	466
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.3	6.7	6.5	4.7
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	79	255	465	210
Cap Entry Lane, veh/h	1017	939	1260	1165
Entry HV Adj Factor	0.972	0.979	0.981	0.981
Flow Entry, veh/h	77	250	456	206
Cap Entry, veh/h	989	919	1236	1143
V/C Ratio	0.078	0.271	0.369	0.180
Control Delay, s/veh	4.3	6.7	6.5	4.7
LOS	A	A	A	A
95th %tile Queue, veh	0	1	2	1

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023

							Ø1	Ø2	Ø7	Ø8
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT				
Lane Configurations						 				
Traffic Volume (vph)	70	90	330	140	60	210				
Future Volume (vph)	70	90	330	140	60	210				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	100	0		0	0					
Storage Lanes	1	1		0	1					
Taper Length (ft)	25				25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95				
Frt		0.850	0.960							
Flt Protected	0.950				0.950					
Satd. Flow (prot)	1770	1583	1788	0	1770	3539				
Flt Permitted	0.950				0.950					
Satd. Flow (perm)	1770	1583	1788	0	1770	3539				
Right Turn on Red		Yes		Yes						
Satd. Flow (RTOR)		98	17							
Link Speed (mph)	30		45			45				
Link Distance (ft)	1101		354			164				
Travel Time (s)	25.0		5.4			2.5				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Adj. Flow (vph)	76	98	359	152	65	228				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	76	98	511	0	65	228				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Right	Left	Left				
Median Width(ft)	12		12			12				
Link Offset(ft)	0		0			0				
Crosswalk Width(ft)	16		16			16				
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)	15	9		9	15					
Number of Detectors	1	1	2		1	2				
Detector Template	Left	Right	Thru		Left	Thru				
Leading Detector (ft)	20	20	100		20	100				
Trailing Detector (ft)	0	0	0		0	0				
Detector 1 Position(ft)	0	0	0		0	0				
Detector 1 Size(ft)	20	20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0				
Detector 2 Position(ft)			94			94				
Detector 2 Size(ft)			6			6				
Detector 2 Type			Cl+Ex			Cl+Ex				
Detector 2 Channel										
Detector 2 Extend (s)			0.0			0.0				
Turn Type	Prot	Perm	NA		Prot	NA				
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8
Permitted Phases		7 8								

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023



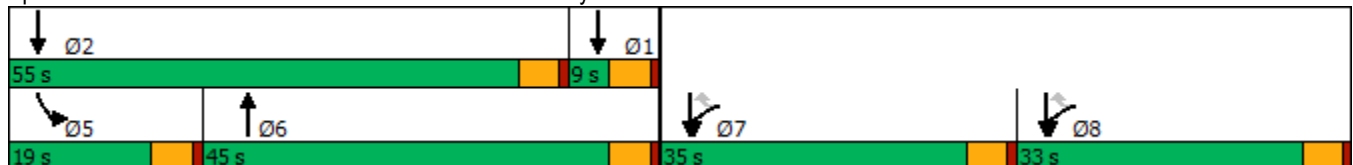
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		9.0	23.0	33.0	33.0
Total Split (s)			45.0		19.0		9.0	55.0	35.0	33.0
Total Split (%)			34.1%		14.4%		7%	42%	27%	25%
Maximum Green (s)			40.0		14.0		4.0	50.0	30.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lag	Lead	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Min	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	19.7	19.7	27.4		8.5	68.1				
Actuated g/C Ratio	0.29	0.29	0.40		0.12	1.00				
v/c Ratio	0.15	0.19	0.70		0.30	0.06				
Control Delay	23.1	6.7	23.3		35.2	0.0				
Queue Delay	0.0	0.0	0.0		0.0	0.0				
Total Delay	23.1	6.7	23.3		35.2	0.0				
LOS	C	A	C		D	A				
Approach Delay	13.9		23.3			7.8				
Approach LOS	B		C			A				

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	68.1
Natural Cycle:	100
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	17.0
Intersection LOS:	B
Intersection Capacity Utilization:	45.6%
ICU Level of Service:	A
Analysis Period (min):	15

! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road






















01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	76	98	511	65	228
v/c Ratio	0.15	0.19	0.70	0.30	0.06
Control Delay	23.1	6.7	23.3	35.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	6.7	23.3	35.2	0.0
Queue Length 50th (ft)	25	0	172	26	0
Queue Length 95th (ft)	67	36	321	72	0
Internal Link Dist (ft)	1021		274		84
Turn Bay Length (ft)	100				
Base Capacity (vph)	1121	1038	1120	385	3526
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.09	0.46	0.17	0.06
Intersection Summary					

Lanes, Volumes, Timings
19: Valle Del Oro & Dockweiler Drive

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	270	20	390	450	10	10	10	270	10	10	10
Future Volume (vph)	10	270	20	390	450	10	10	10	270	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	100		100	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.874			0.955	
Flt Protected	0.950			0.950				0.998			0.984	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1625	0	0	1750	0
Flt Permitted	0.366			0.522				0.993			0.892	
Satd. Flow (perm)	682	1863	1583	972	1863	1583	0	1617	0	0	1587	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			22			10		293			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5199			3882			2703			372	
Travel Time (s)		118.2			88.2			61.4			8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	293	22	424	489	11	11	11	293	11	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	293	22	424	489	11	0	315	0	0	33	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		6			

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

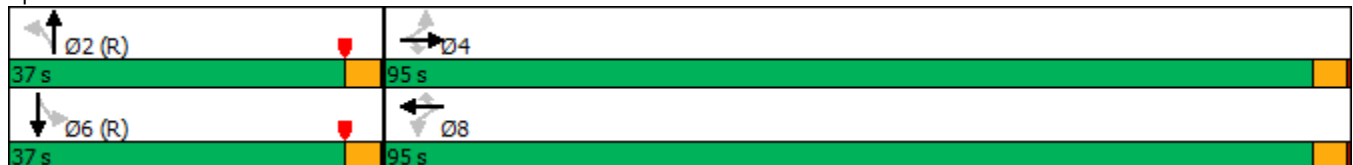


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	95.0	95.0	95.0	95.0	95.0	95.0	37.0	37.0		37.0	37.0	
Total Split (%)	72.0%	72.0%	72.0%	72.0%	72.0%	72.0%	28.0%	28.0%		28.0%	28.0%	
Maximum Green (s)	91.0	91.0	91.0	91.0	91.0	91.0	33.0	33.0		33.0	33.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	73.1	73.1	73.1	73.1	73.1	73.1		50.9			50.9	
Actuated g/C Ratio	0.55	0.55	0.55	0.55	0.55	0.55		0.39			0.39	
v/c Ratio	0.03	0.28	0.02	0.79	0.47	0.01		0.39			0.05	
Control Delay	8.6	15.0	2.6	28.8	15.6	0.9		3.2			25.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	8.6	15.0	2.6	28.8	15.6	0.9		3.2			25.5	
LOS	A	B	A	C	B	A		A			C	
Approach Delay		14.0			21.5			3.2			25.5	
Approach LOS		B			C			A			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 16.4
 Intersection LOS: B
 Intersection Capacity Utilization 63.9%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 19: Valle Del Oro & Dockweiler Drive



Queues

19: Valle Del Oro & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	293	22	424	489	11	315	33
v/c Ratio	0.03	0.28	0.02	0.79	0.47	0.01	0.39	0.05
Control Delay	8.6	15.0	2.6	28.8	15.6	0.9	3.2	25.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	15.0	2.6	28.8	15.6	0.9	3.2	25.5
Queue Length 50th (ft)	4	122	0	318	209	1	12	12
Queue Length 95th (ft)	9	122	8	291	149	m0	34	42
Internal Link Dist (ft)		5119			3802		2623	292
Turn Bay Length (ft)	100		100	100		100		
Base Capacity (vph)	470	1284	1098	670	1284	1094	803	619
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.23	0.02	0.63	0.38	0.01	0.39	0.05

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	400	280	180	310	1370	580
Future Volume (vph)	400	280	180	310	1370	580
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.978	0.850				0.850
Flt Protected	0.959		0.950			
Satd. Flow (prot)	3389	1441	1770	3539	3539	1583
Flt Permitted	0.959		0.950			
Satd. Flow (perm)	3389	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	14	231				307
Link Speed (mph)	30			50	50	
Link Distance (ft)	3882			2854	2872	
Travel Time (s)	88.2			38.9	39.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	435	304	196	337	1489	630
Shared Lane Traffic (%)		24%				
Lane Group Flow (vph)	508	231	196	337	1489	630
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	21.0	21.0	30.0	30.0
Total Split (s)	35.0	35.0	26.0	97.0	71.0	71.0
Total Split (%)	26.5%	26.5%	19.7%	73.5%	53.8%	53.8%
Maximum Green (s)	30.0	30.0	21.0	92.0	66.0	66.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	24.7	24.7	26.3	97.3	66.0	66.0
Actuated g/C Ratio	0.19	0.19	0.20	0.74	0.50	0.50
v/c Ratio	0.79	0.51	0.56	0.13	0.84	0.67
Control Delay	56.4	15.1	42.7	2.8	31.6	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	15.1	42.7	2.8	31.6	17.0
LOS	E	B	D	A	C	B
Approach Delay	43.5			17.4	27.3	
Approach LOS	D			B	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 29.3
 Intersection LOS: C
 Intersection Capacity Utilization 74.7%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	508	231	196	337	1489	630
v/c Ratio	0.79	0.51	0.56	0.13	0.84	0.67
Control Delay	56.4	15.1	42.7	2.8	31.6	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	15.1	42.7	2.8	31.6	17.0
Queue Length 50th (ft)	213	56	143	13	474	230
Queue Length 95th (ft)	266	96	#239	47	m524	m293
Internal Link Dist (ft)	3802			2774	2792	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	781	506	352	2607	1769	945
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.46	0.56	0.13	0.84	0.67

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	40	10	380	30	680	20	400	210	550	1560	50
Future Volume (vph)	10	40	10	380	30	680	20	400	210	550	1560	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.734			0.728			0.950			0.950		
Satd. Flow (perm)	1367	3539	1583	1356	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			724			228			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		715			720			2872			794	
Travel Time (s)		10.8			10.9			39.2			10.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	43	11	413	33	739	22	435	228	598	1696	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	43	11	413	33	739	22	435	228	598	1696	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8		6				2

Lanes, Volumes, Timings
21: Sierra Highway & Placerita Canyon Road

01/24/2023

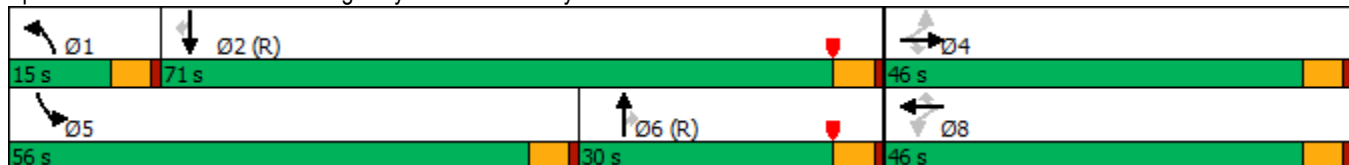


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.0	21.0	21.0	37.0	37.0	37.0	15.0	21.0	21.0	15.0	39.0	39.0
Total Split (s)	46.0	46.0	46.0	46.0	46.0	46.0	15.0	30.0	30.0	56.0	71.0	71.0
Total Split (%)	34.8%	34.8%	34.8%	34.8%	34.8%	34.8%	11.4%	22.7%	22.7%	42.4%	53.8%	53.8%
Maximum Green (s)	41.0	41.0	41.0	41.0	41.0	41.0	10.0	25.0	25.0	51.0	66.0	66.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	41.0	41.0	41.0	41.0	41.0	41.0	10.0	28.1	28.1	47.9	72.0	72.0
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31	0.31	0.08	0.21	0.21	0.36	0.55	0.55
v/c Ratio	0.03	0.04	0.02	0.98	0.03	0.75	0.16	0.58	0.44	0.93	0.88	0.06
Control Delay	32.0	32.0	0.1	84.7	31.9	8.3	58.2	49.8	25.8	54.2	29.4	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Total Delay	32.0	32.0	0.1	84.7	31.9	8.3	58.2	49.8	25.8	54.2	30.2	3.4
LOS	C	C	A	F	C	A	E	D	C	D	C	A
Approach Delay		26.6			35.6			42.1			35.7	
Approach LOS		C			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 36.5 Intersection LOS: D
 Intersection Capacity Utilization 91.7% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	43	11	413	33	739	22	435	228	598	1696	54
v/c Ratio	0.03	0.04	0.02	0.98	0.03	0.75	0.16	0.58	0.44	0.93	0.88	0.06
Control Delay	32.0	32.0	0.1	84.7	31.9	8.3	58.2	49.8	25.8	54.2	29.4	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Total Delay	32.0	32.0	0.1	84.7	31.9	8.3	58.2	49.8	25.8	54.2	30.2	3.4
Queue Length 50th (ft)	7	13	0	351	10	9	11	206	102	472	714	4
Queue Length 95th (ft)	21	28	0	#566	23	134	m28	264	173	#687	#900	m8
Internal Link Dist (ft)		635			640			2792			714	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	424	1099	559	421	1099	990	134	754	516	683	1930	889
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	69	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.04	0.02	0.98	0.03	0.75	0.16	0.58	0.44	0.88	0.91	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	20	40	890	320	1210	2200
Future Volume (vph)	20	40	890	320	1210	2200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		0	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Frt		0.850	0.960			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3398	0	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3398	0	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		43	46			
Link Speed (mph)	30		50			50
Link Distance (ft)	717		794			675
Travel Time (s)	16.3		10.8			9.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	43	967	348	1315	2391
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	43	1315	0	1315	2391
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

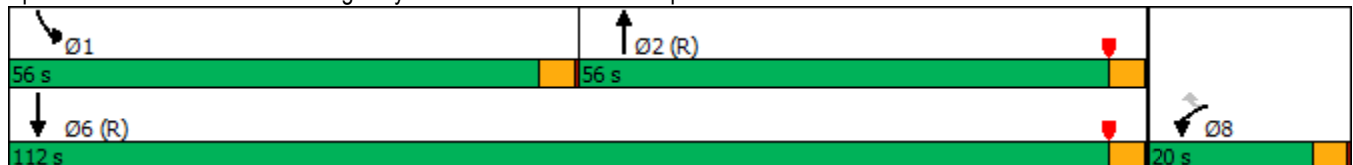


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		8.0	20.0
Total Split (s)	20.0	20.0	56.0		56.0	112.0
Total Split (%)	15.2%	15.2%	42.4%		42.4%	84.8%
Maximum Green (s)	16.0	16.0	52.0		52.0	108.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	7.2	7.2	57.6		57.1	119.5
Actuated g/C Ratio	0.05	0.05	0.44		0.43	0.91
v/c Ratio	0.23	0.34	0.87		0.89	0.75
Control Delay	64.8	24.0	36.4		42.7	4.4
Queue Delay	0.0	0.0	0.0		0.0	0.3
Total Delay	64.8	24.0	36.4		42.7	4.7
LOS	E	C	D		D	A
Approach Delay	37.8		36.4			18.2
Approach LOS	D		D			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 23.1
 Intersection LOS: C
 Intersection Capacity Utilization 82.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR-14 Southbound Ramps



Queues

22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	22	43	1315	1315	2391
v/c Ratio	0.23	0.34	0.87	0.89	0.75
Control Delay	64.8	24.0	36.4	42.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.3
Total Delay	64.8	24.0	36.4	42.7	4.7
Queue Length 50th (ft)	18	0	402	506	245
Queue Length 95th (ft)	47	38	#685	615	367
Internal Link Dist (ft)	637		714		595
Turn Bay Length (ft)				160	
Base Capacity (vph)	214	229	1509	1486	3204
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	258
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.10	0.19	0.87	0.88	0.81

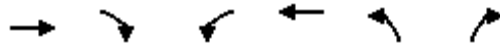
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	220	0	0	790	440	100
Future Volume (vph)	220	0	0	790	440	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	720			392	651	
Travel Time (s)	10.9			5.9	14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	0	0	859	478	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	0	0	859	478	109
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	52.9%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
 23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023

Intersection						
Int Delay, s/veh	43.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	220	0	0	790	440	100
Future Vol, veh/h	220	0	0	790	440	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	239	0	0	859	478	109

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	669 120
Stage 1	-	-	-	-	239 -
Stage 2	-	-	-	-	430 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	~ 391 909
Stage 1	-	0	0	-	778 -
Stage 2	-	0	0	-	624 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	~ 391 909
Mov Cap-2 Maneuver	-	-	-	-	~ 391 -
Stage 1	-	-	-	-	778 -
Stage 2	-	-	-	-	624 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	125.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	391	909	-	-
HCM Lane V/C Ratio	1.223	0.12	-	-
HCM Control Delay (s)	151.5	9.5	-	-
HCM Lane LOS	F	A	-	-
HCM 95th %tile Q(veh)	19.9	0.4	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	820	1800	360	390	1320	430	450	1930	650	410	1500	230
Future Volume (vph)	820	1800	360	390	1320	430	450	1930	650	410	1500	230
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	300		230
Storage Lanes	3		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62			295			299			99
Link Speed (mph)		45		45			45			45		45
Link Distance (ft)		870		745			1975			1020		
Travel Time (s)		13.2		11.3			29.9			15.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	891	1957	391	424	1435	467	489	2098	707	446	1630	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2098	707	446	1630	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36		36			24			24		
Link Offset(ft)		0		0			0			0		
Crosswalk Width(ft)		16		16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	25.0	39.0	26.0	22.0	36.0	36.0	26.0	45.0	45.0	26.0	45.0	25.0

Lanes, Volumes, Timings
1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

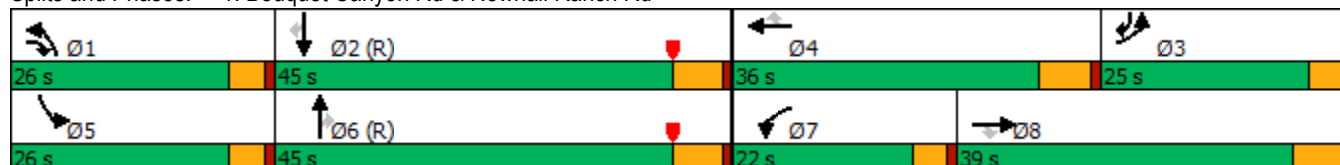


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	29.5%	19.7%	16.7%	27.3%	27.3%	19.7%	34.1%	34.1%	19.7%	34.1%	18.9%
Maximum Green (s)	20.5	33.0	21.5	17.5	30.0	30.0	21.5	39.0	39.0	21.5	39.0	20.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	21.0	35.4	60.3	17.6	32.0	32.0	20.9	43.0	43.0	20.0	42.1	63.1
Actuated g/C Ratio	0.16	0.27	0.46	0.13	0.24	0.24	0.16	0.33	0.33	0.15	0.32	0.48
v/c Ratio	1.12	1.14	0.52	0.92	0.92	0.77	0.90	1.00	0.99	0.86	0.80	0.31
Control Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.4	32.2	24.4	71.2	44.8	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.4	32.2	24.4	71.2	44.8	7.5
LOS	F	F	C	F	E	C	E	C	C	E	D	A
Approach Delay		105.3			57.2			36.9			45.9	
Approach LOS		F			E			D			D	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	55 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
Natural Cycle:	140
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.14
Intersection Signal Delay:	62.8
Intersection LOS:	E
Intersection Capacity Utilization:	90.2%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2098	707	446	1630	250
v/c Ratio	1.12	1.14	0.52	0.92	0.92	0.77	0.90	1.00	0.99	0.86	0.80	0.31
Control Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.4	32.2	24.4	71.2	44.8	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.4	32.2	24.4	71.2	44.8	7.5
Queue Length 50th (ft)	~311	~572	194	187	350	142	230	~568	~516	192	375	40
Queue Length 95th (ft)	#400	#647	290	#281	#417	285	m200	m291	m105	251	422	70
Internal Link Dist (ft)		790			665			1895			940	
Turn Bay Length (ft)	270		265	280		340	300			300		230
Base Capacity (vph)	793	1716	768	468	1553	607	572	2088	717	572	2043	808
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	1.14	0.51	0.91	0.92	0.77	0.85	1.00	0.99	0.78	0.80	0.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔	↕↕↕	↔↔
Traffic Volume (vph)	1040	1620	10	380	990	160	20	2100	600	220	1520	590
Future Volume (vph)	1040	1620	10	380	990	160	20	2100	600	220	1520	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Fr _t		0.999				0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5080	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5080	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				124			112			562
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			3555			1975	
Travel Time (s)		32.4			35.4			53.9			29.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1130	1761	11	413	1076	174	22	2283	652	239	1652	641
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1130	1772	0	413	1076	174	22	2283	652	239	1652	641
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			48			48	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	40.0	48.0		22.0	30.0	20.0	18.0	42.0	22.0	20.0	44.0	40.0
Total Split (%)	30.3%	36.4%		16.7%	22.7%	15.2%	13.6%	31.8%	16.7%	15.2%	33.3%	30.3%
Maximum Green (s)	35.5	42.0		17.5	24.0	15.5	13.5	36.0	17.5	15.5	38.0	35.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

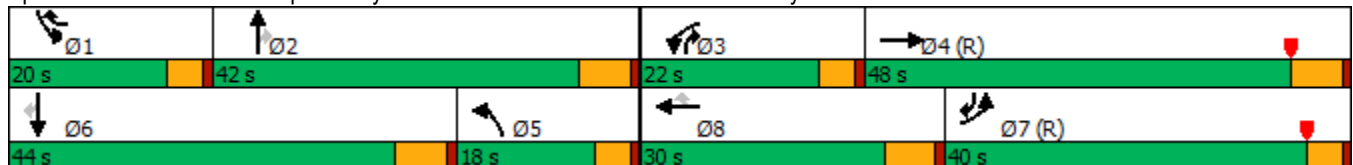


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	None	None	None	Max	None	None	None	C-Max
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	36.0	45.0		17.0	26.0	40.3	10.9	39.7	60.8	14.3	47.2	87.2
Actuated g/C Ratio	0.27	0.34		0.13	0.20	0.31	0.08	0.30	0.46	0.11	0.36	0.66
v/c Ratio	0.83	1.02		0.64	1.07	0.31	0.15	1.49	0.83	0.64	0.91	0.32
Control Delay	51.5	70.6		59.4	100.4	6.9	53.1	254.4	28.2	48.5	50.5	2.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	70.6		59.4	100.4	6.9	53.1	254.4	28.2	48.5	50.5	2.4
LOS	D	E		E	F	A	D	F	C	D	D	A
Approach Delay		63.1			80.5			203.0				38.1
Approach LOS		E			F			F				D

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 92 (70%), Referenced to phase 4:EBT and 7:EBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.49
 Intersection Signal Delay: 100.9 Intersection LOS: F
 Intersection Capacity Utilization 99.1% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1130	1772	413	1076	174	22	2283	652	239	1652	641
v/c Ratio	0.83	1.02	0.64	1.07	0.31	0.15	1.49	0.83	0.64	0.91	0.32
Control Delay	51.5	70.6	59.4	100.4	6.9	53.1	254.4	28.2	48.5	50.5	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	70.6	59.4	100.4	6.9	53.1	254.4	28.2	48.5	50.5	2.4
Queue Length 50th (ft)	324	~603	119	~374	15	17	~1005	434	104	~589	44
Queue Length 95th (ft)	380	#701	157	#469	41	m19	m#879	m447	m132	#682	m46
Internal Link Dist (ft)		2060		2257			3475			1895	
Turn Bay Length (ft)											
Base Capacity (vph)	1360	1732	680	1001	588	187	1530	799	416	1818	2031
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	1.02	0.61	1.07	0.30	0.12	1.49	0.82	0.57	0.91	0.32

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	740	920	790	1900	1750	450
Future Volume (vph)	740	920	790	1900	1750	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		8				425
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4671	3555	
Travel Time (s)	44.4			63.7	53.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	804	1000	859	2065	1902	489
Shared Lane Traffic (%)						
Lane Group Flow (vph)	804	1000	859	2065	1902	489
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

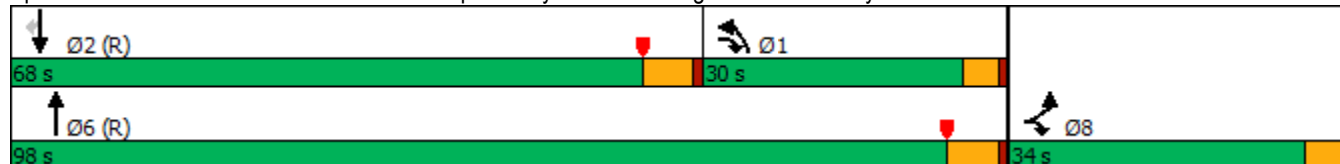


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effct Green (s)	30.0	60.0	26.0	94.0	64.0	64.0
Actuated g/C Ratio	0.23	0.45	0.20	0.71	0.48	0.48
v/c Ratio	2.00	0.79	1.27	0.82	1.11	0.50
Control Delay	486.5	35.8	166.0	8.9	80.1	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	486.5	35.8	166.0	8.9	80.1	3.0
LOS	F	D	F	A	F	A
Approach Delay	236.7			55.1	64.4	
Approach LOS	F			E	E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.00
 Intersection Signal Delay: 104.2
 Intersection Capacity Utilization 121.9%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	804	1000	859	2065	1902	489
v/c Ratio	2.00	0.79	1.27	0.82	1.11	0.50
Control Delay	486.5	35.8	166.0	8.9	80.1	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	486.5	35.8	166.0	8.9	80.1	3.0
Queue Length 50th (ft)	~1072	402	~487	231	~1005	34
Queue Length 95th (ft)	#1319	502	m#574	m293	#1145	m45
Internal Link Dist (ft)	2848			4591	3475	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	402	1271	676	2520	1715	986
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.00	0.79	1.27	0.82	1.11	0.50

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	100	790	1380	100	890	1850
Future Volume (vph)	100	790	1380	100	890	1850
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.880	0.850		0.850		
Flt Protected	0.990				0.950	
Satd. Flow (prot)	3148	1441	3539	1583	3433	3539
Flt Permitted	0.990				0.950	
Satd. Flow (perm)	3148	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	345	345		67		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4671
Travel Time (s)	10.9		27.3			63.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	859	1500	109	967	2011
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	539	429	1500	109	967	2011
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	20.4	20.4	58.7	58.7	40.9	103.6
Actuated g/C Ratio	0.15	0.15	0.44	0.44	0.31	0.78
v/c Ratio	0.69	0.83	0.95	0.15	0.91	0.72
Control Delay	22.1	25.4	46.1	15.6	50.5	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	25.4	46.1	15.6	50.5	7.4
LOS	C	C	D	B	D	A
Approach Delay	23.6		44.0			21.4
Approach LOS	C		D			C

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 37 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 28.3
 Intersection Capacity Utilization 84.7%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	539	429	1500	109	967	2011
v/c Ratio	0.69	0.83	0.95	0.15	0.91	0.72
Control Delay	22.1	25.4	46.1	15.6	50.5	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	25.4	46.1	15.6	50.5	7.4
Queue Length 50th (ft)	81	75	405	24	371	143
Queue Length 95th (ft)	122	198	#790	m53	m#567	m642
Internal Link Dist (ft)	558		1922			4591
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1088	635	1581	744	1063	2778
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.68	0.95	0.15	0.91	0.72

Intersection Summary





















95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	100	0	350	10	1560	180	330	1610	0
Future Volume (vph)	0	0	0	100	0	350	10	1560	180	330	1610	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	140		0
Storage Lanes	0		0	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	0	0	3433	0	1583	1770	3539	1583	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	0	0	3433	0	1583	1770	3539	1583	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						380			88			
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		337			628			1217			3340	
Travel Time (s)		9.2			17.1			18.4			50.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	109	0	380	11	1696	196	359	1750	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	109	0	380	11	1696	196	359	1750	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	2	1	1	2	
Detector Template				Left		Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)				20		20	20	100	20	20	100	
Trailing Detector (ft)				0		0	0	0	0	0	0	
Detector 1 Position(ft)				0		0	0	0	0	0	0	
Detector 1 Size(ft)				20		20	20	6	20	20	6	
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type				Prot		Prot	Prot	NA	pm+ov	Prot	NA	
Protected Phases				3		9!	5	2!	3	1	6	
Permitted Phases									2			

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/24/2023

Lane Group	Ø8	Ø10
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	8	10
Permitted Phases		

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/24/2023

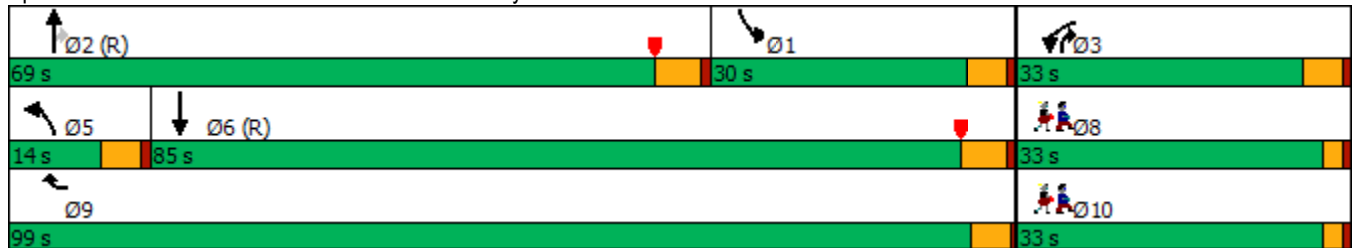


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				3		9	5	2	3	1		6
Switch Phase												
Minimum Initial (s)				10.0		4.0	9.0	10.0	10.0	9.0		10.0
Minimum Split (s)				33.0		14.0	14.0	23.5	33.0	14.0		23.5
Total Split (s)				33.0		99.0	14.0	69.0	33.0	30.0		85.0
Total Split (%)				25.0%		75.0%	10.6%	52.3%	25.0%	22.7%		64.4%
Maximum Green (s)				28.0		94.5	9.0	63.5	28.0	25.0		79.5
Yellow Time (s)				4.0		4.0	4.0	4.5	4.0	4.0		4.5
All-Red Time (s)				1.0		0.5	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)				5.0		4.5	5.0	5.5	5.0	5.0		5.5
Lead/Lag							Lead	Lead		Lag		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode				None		None	None	C-Max	None	None		C-Max
Walk Time (s)								7.0				7.0
Flash Dont Walk (s)								11.0				11.0
Pedestrian Calls (#/hr)								0				0
Act Effct Green (s)				10.6		111.9	9.0	80.9	97.0	25.0		108.1
Actuated g/C Ratio				0.08		0.85	0.07	0.61	0.73	0.19		0.82
v/c Ratio				0.40		0.27	0.09	0.78	0.17	0.55		0.60
Control Delay				62.0		0.7	60.8	16.4	1.9	61.6		8.3
Queue Delay				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Delay				62.0		0.7	60.8	16.4	1.9	61.6		8.3
LOS				E		A	E	B	A	E		A
Approach Delay					14.3			15.2				17.4
Approach LOS					B			B				B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 16.1 Intersection LOS: B
 Intersection Capacity Utilization 73.1% ICU Level of Service D
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/24/2023

Lane Group	Ø8	Ø10
Detector Phase		
Switch Phase		
Minimum Initial (s)	4.0	4.0
Minimum Split (s)	31.0	16.0
Total Split (s)	33.0	33.0
Total Split (%)	25%	25%
Maximum Green (s)	30.0	30.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	21.0	6.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

5: Railroad Avenue & Driveway/13th Street

01/24/2023



Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	109	380	11	1696	196	359	1750
v/c Ratio	0.40	0.27	0.09	0.78	0.17	0.55	0.60
Control Delay	62.0	0.7	60.8	16.4	1.9	61.6	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	0.7	60.8	16.4	1.9	61.6	8.3
Queue Length 50th (ft)	46	0	10	290	13	163	424
Queue Length 95th (ft)	76	13	m13	406	25	220	790
Internal Link Dist (ft)				1137			3260
Turn Bay Length (ft)	110		100		570	140	
Base Capacity (vph)	728	1400	120	2169	1186	650	2898
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.27	0.09	0.78	0.17	0.55	0.60

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	480	120	210	1360	850	710			
Future Volume (vph)	480	120	210	1360	850	710			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		130				519			
Link Speed (mph)	35			35	45				
Link Distance (ft)	1347			1246	1217				
Travel Time (s)	26.2			24.3	18.4				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	522	130	228	1478	924	772			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	522	130	228	1478	924	772			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	34			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	42.0	30.0	30.0	30.0	30.0

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023

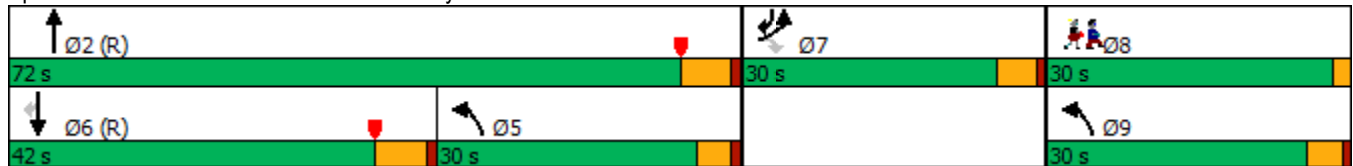


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	31.8%	22.7%	23%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	36.0	25.0	25.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effect Green (s)	28.8	28.8	21.9	82.6	65.4	94.1			
Actuated g/C Ratio	0.22	0.22	0.17	0.63	0.50	0.71			
v/c Ratio	0.70	0.29	0.40	0.67	0.53	0.60			
Control Delay	77.0	28.0	25.6	25.8	20.9	4.7			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	77.0	28.0	25.6	25.8	20.9	4.7			
LOS	E	C	C	C	C	A			
Approach Delay	67.2			25.8	13.5				
Approach LOS	E			C	B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 27.3
 Intersection LOS: C
 Intersection Capacity Utilization 58.0%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023

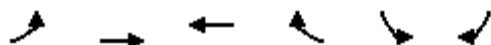


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	522	130	228	1478	924	772
v/c Ratio	0.70	0.29	0.40	0.67	0.53	0.60
Control Delay	77.0	28.0	25.6	25.8	20.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.0	28.0	25.6	25.8	20.9	4.7
Queue Length 50th (ft)	205	53	50	469	127	7
Queue Length 95th (ft)	199	82	56	455	297	318
Internal Link Dist (ft)	1267			1166	1137	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	767	455	1352	2214	1752	1283
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.29	0.17	0.67	0.53	0.60

Intersection Summary

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1520	960	1320	770	0	
Future Volume (vph)	0	1520	960	1320	770	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.98			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1048			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1913		1540		
Travel Time (s)		6.2	32.6		30.0		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1652	1043	1435	837	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1652	1043	1435	837	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		82.0	38.0	50.0	50.0	44.0	
Total Split (%)		62.1%	28.8%	37.9%	37.9%	33%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		76.0	32.0	44.0	44.0		42.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		78.0	78.0	124.0	46.0		
Actuated g/C Ratio		0.59	0.59	0.94	0.35		
v/c Ratio		0.79	0.95	0.54	0.70		
Control Delay		24.3	32.2	3.1	20.2		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		24.3	32.2	3.1	20.2		
LOS		C	C	A	C		
Approach Delay		24.3	15.4		20.2		
Approach LOS		C	B		C		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	32 (24%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.95
Intersection Signal Delay:	19.1
Intersection LOS:	B
Intersection Capacity Utilization	79.2%
ICU Level of Service	D
Analysis Period (min)	15

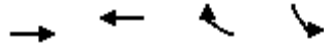
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1652	1043	1435	837
v/c Ratio	0.79	0.95	0.54	0.70
Control Delay	24.3	32.2	3.1	20.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.3	32.2	3.1	20.2
Queue Length 50th (ft)	543	374	101	206
Queue Length 95th (ft)	643	#1159	79	102
Internal Link Dist (ft)	282	1833		1460
Turn Bay Length (ft)				
Base Capacity (vph)	2091	1100	2640	1196
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.79	0.95	0.54	0.70

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023

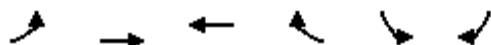


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑		↗	↗
Traffic Volume (vph)	240	1980	1260	90	60	130
Future Volume (vph)	240	1980	1260	90	60	130
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	3			2	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.990			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5034	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5034	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			11			141
Link Speed (mph)		40	40		30	
Link Distance (ft)		1403	3070		2619	
Travel Time (s)		23.9	52.3		59.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	2152	1370	98	65	141
Shared Lane Traffic (%)						
Lane Group Flow (vph)	261	2152	1468	0	65	141
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	35.0	98.0	63.0		34.0	34.0

Lanes, Volumes, Timings

8: Newhall Avenue & Valle Del Oro

01/24/2023



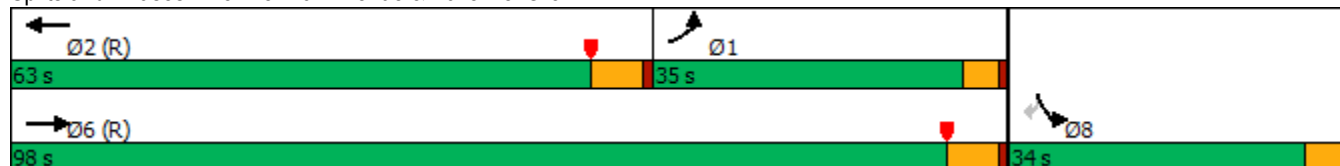
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	26.5%	74.2%	47.7%		25.8%	25.8%
Maximum Green (s)	30.5	92.0	57.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	31.0	112.8	77.8		11.2	11.2
Actuated g/C Ratio	0.23	0.85	0.59		0.08	0.08
v/c Ratio	0.63	0.50	0.49		0.43	0.54
Control Delay	56.1	3.3	4.7		60.3	15.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	56.1	3.3	4.7		60.3	15.8
LOS	E	A	A		E	B
Approach Delay	9.0		4.7		29.9	
Approach LOS	A		A		C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 53 (40%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 8.5
 Intersection Capacity Utilization 53.0%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

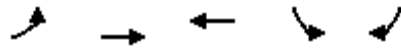
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	261	2152	1468	65	141
v/c Ratio	0.63	0.50	0.49	0.43	0.54
Control Delay	56.1	3.3	4.7	60.3	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	3.3	4.7	60.3	15.8
Queue Length 50th (ft)	218	175	75	51	15
Queue Length 95th (ft)	m293	205	86	m62	m27
Internal Link Dist (ft)		1323	2990	2539	
Turn Bay Length (ft)	150				
Base Capacity (vph)	415	4344	2970	402	468
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.63	0.50	0.49	0.16	0.30

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	1670	10	240	1090	740	50	1490	260	170	290	200
Future Volume (vph)	370	1670	10	240	1090	740	50	1490	260	170	290	200
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		300
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.939	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4775	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4775	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			273			162		132	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3070			687			398			2905	
Travel Time (s)		52.3			11.7			9.0			66.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	1815	11	261	1185	804	54	1620	283	185	315	217
Shared Lane Traffic (%)												
Lane Group Flow (vph)	402	1815	11	261	1185	804	54	1620	283	185	532	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	50.0	50.0	20.0	45.0	45.0	20.0	42.0	42.0	20.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

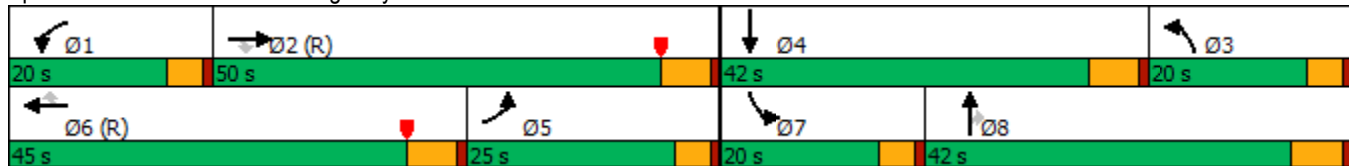


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	37.9%	37.9%	15.2%	34.1%	34.1%	15.2%	31.8%	31.8%	15.2%	31.8%	
Maximum Green (s)	20.5	44.0	44.0	15.5	39.0	39.0	15.5	36.0	36.0	15.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	47.3	47.3	14.7	41.0	41.0	28.4	38.3	36.3	15.7	27.6	
Actuated g/C Ratio	0.16	0.36	0.36	0.11	0.31	0.31	0.22	0.29	0.28	0.12	0.21	
v/c Ratio	0.74	1.00	0.02	0.68	0.75	1.18	0.07	1.58	0.51	0.88	0.48	
Control Delay	77.8	76.7	0.0	65.8	44.5	124.6	38.6	297.8	20.4	84.9	26.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	77.8	76.7	0.0	65.8	44.5	124.6	38.6	297.8	20.4	84.9	26.9	
LOS	E	E	A	E	D	F	D	F	C	F	C	
Approach Delay		76.6			75.6			250.5			41.9	
Approach LOS		E			E			F			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.58
 Intersection Signal Delay: 120.4 Intersection LOS: F
 Intersection Capacity Utilization 107.6% ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023





















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	402	1815	11	261	1185	804	54	1620	283	185	532
v/c Ratio	0.74	1.00	0.02	0.68	0.75	1.18	0.07	1.58	0.51	0.88	0.48
Control Delay	77.8	76.7	0.0	65.8	44.5	124.6	38.6	297.8	20.4	84.9	26.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.8	76.7	0.0	65.8	44.5	124.6	38.6	297.8	20.4	84.9	26.9
Queue Length 50th (ft)	181	~595	0	111	334	~656	18	~1039	84	136	87
Queue Length 95th (ft)	244	#723	m0	158	390	#907	37	#1178	175	m#297	m159
Internal Link Dist (ft)		2990			607			318			2825
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1821	662	416	1579	679	790	1026	552	214	1609
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	1.00	0.02	0.63	0.75	1.18	0.07	1.58	0.51	0.86	0.33

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	980	1260	20	1880	0	0	0	0	10	0	380
Future Volume (vph)	0	980	1260	20	1880	0	0	0	0	10	0	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.945	0.850									0.850
Fl _t Protected				0.950							0.950	
Satd. Flow (prot)	0	3204	1441	1770	3539	0	0	0	0	0	1770	1583
Fl _t Permitted				0.950							0.950	
Satd. Flow (perm)	0	3204	1441	1770	3539	0	0	0	0	0	1770	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		687			492			504			602	
Travel Time (s)		11.7			8.4			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1065	1370	22	2043	0	0	0	0	11	0	413
Shared Lane Traffic (%)			45%									
Lane Group Flow (vph)	0	1682	753	22	2043	0	0	0	0	0	11	413
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	82.2%
ICU Level of Service	E
Analysis Period (min)	15

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	980	1260	20	1880	0	0	0	0	10	0	380
Future Vol, veh/h	0	980	1260	20	1880	0	0	0	0	10	0	380
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082488832	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1065	1370	22	2043	0	0	0	0	11	0	413

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	1065	0	0		2620	3152	-
Stage 1	-	-	-	-	-	-		2087	2087	-
Stage 2	-	-	-	-	-	-		533	1065	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	650	-	0		20	11	0
Stage 1	0	-	-	-	-	0		81	93	0
Stage 2	0	-	-	-	-	0		553	297	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	650	-	-		19	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		19	0	-
Stage 1	-	-	-	-	-	-		81	0	-
Stage 2	-	-	-	-	-	-		534	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	\$ 339.1
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	650	-	19	-
HCM Lane V/C Ratio	-	-	0.033	-	0.572	-
HCM Control Delay (s)	-	-	10.7	-	\$ 339.1	0
HCM Lane LOS	-	-	B	-	F	A
HCM 95th %tile Q(veh)	-	-	0.1	-	1.6	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	980	0	0	110	0	10
Future Volume (vph)	980	0	0	110	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr _t						0.865
Fl _t Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Fl _t Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	492			551	676	
Travel Time (s)	8.4			9.4	15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1065	0	0	120	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1065	0	0	120	0	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	82.2%
Analysis Period (min)	15
	ICU Level of Service E

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	980	0	0	110	0	10
Future Vol, veh/h	980	0	0	110	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1065	0	0	120	0	11

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	492	-	-
HCM Lane V/C Ratio	0.022	-	-
HCM Control Delay (s)	12.5	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	1180	0	0	850	700	480	0	410	0	0	0
Future Volume (vph)	220	1180	0	0	850	700	480	0	410	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.932				0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1770	3539	0	0	4739	0	1681	1681	1583	0	0	0
Flt Permitted	0.950						0.950	0.950				
Satd. Flow (perm)	1770	3539	0	0	4739	0	1681	1681	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					250				73			
Link Speed (mph)		40			40			30				30
Link Distance (ft)		1093			1835			601				382
Travel Time (s)		18.6			31.3			13.7				8.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	1283	0	0	924	761	522	0	446	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	239	1283	0	0	1685	0	261	261	446	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

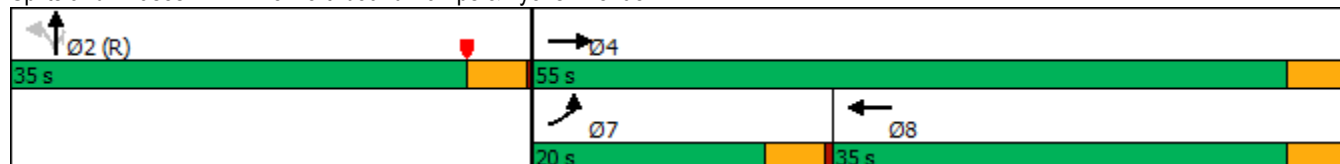


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			10.0		10.0	10.0	10.0			
Minimum Split (s)	14.5	22.5			22.5		32.5	32.5	32.5			
Total Split (s)	20.0	55.0			35.0		35.0	35.0	35.0			
Total Split (%)	22.2%	61.1%			38.9%		38.9%	38.9%	38.9%			
Maximum Green (s)	15.5	50.5			30.5		30.5	30.5	30.5			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	0.5	0.5			0.5		0.5	0.5	0.5			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	4.5			4.5		4.5	4.5	4.5			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.8	50.5			31.2		30.5	30.5	30.5			
Actuated g/C Ratio	0.16	0.56			0.35		0.34	0.34	0.34			
v/c Ratio	0.82	0.65			1.05dr		0.46	0.46	0.76			
Control Delay	60.0	15.5			35.3		26.5	26.5	32.2			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	60.0	15.5			35.3		26.5	26.5	32.2			
LOS	E	B			D		C	C	C			
Approach Delay		22.5			35.3			29.1				
Approach LOS		C			D			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 29.2
 Intersection LOS: C
 Intersection Capacity Utilization 68.9%
 ICU Level of Service C
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

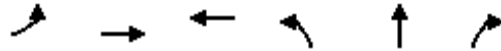
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	239	1283	1685	261	261	446
v/c Ratio	0.82	0.65	1.05dr	0.46	0.46	0.76
Control Delay	60.0	15.5	35.3	26.5	26.5	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	15.5	35.3	26.5	26.5	32.2
Queue Length 50th (ft)	132	246	297	121	121	189
Queue Length 95th (ft)	#248	315	#408	195	195	#337
Internal Link Dist (ft)		1013	1755		521	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	304	1985	1807	569	569	584
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.65	0.93	0.46	0.46	0.76

Intersection Summary






























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			  			 			 	
Traffic Volume (vph)	440	1140	250	190	1220	180	130	490	310	370	440	270
Future Volume (vph)	440	1140	250	190	1220	180	130	490	310	370	440	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.981				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4989	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4989	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180		21				294			122
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1835			5346			887				1679
Travel Time (s)		31.3			91.1			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	478	1239	272	207	1326	196	141	533	337	402	478	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	478	1239	272	207	1522	0	141	533	337	402	478	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/24/2023

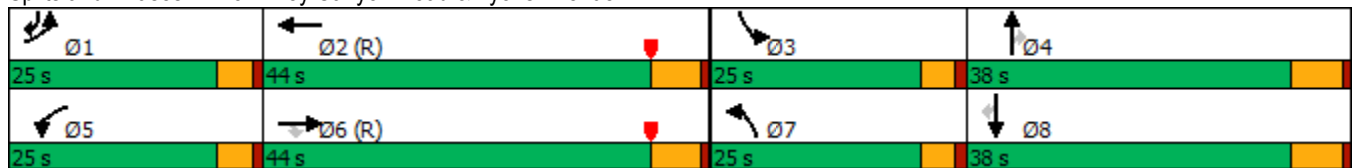


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	25.0	44.0	44.0	25.0	44.0		25.0	38.0	38.0	25.0	38.0	25.0
Total Split (%)	18.9%	33.3%	33.3%	18.9%	33.3%		18.9%	28.8%	28.8%	18.9%	28.8%	18.9%
Maximum Green (s)	20.5	38.0	38.0	20.5	38.0		20.5	32.0	32.0	20.5	32.0	20.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	23.2	45.5	45.5	20.4	42.6		16.6	29.2	29.2	21.0	33.6	60.8
Actuated g/C Ratio	0.18	0.34	0.34	0.15	0.32		0.13	0.22	0.22	0.16	0.25	0.46
v/c Ratio	0.85	1.09	0.43	0.81	0.94		0.68	0.73	0.61	1.53	0.55	0.37
Control Delay	67.8	95.6	14.6	92.0	23.8		71.3	53.7	12.3	296.0	45.3	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	95.6	14.6	92.0	23.8		71.3	53.7	12.3	296.0	45.3	14.5
LOS	E	F	B	F	C		E	D	B	F	D	B
Approach Delay		77.8			32.0			42.4			123.5	
Approach LOS		E			C			D			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.53
 Intersection Signal Delay: 67.4
 Intersection LOS: E
 Intersection Capacity Utilization 89.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	478	1239	272	207	1522	141	533	337	402	478	293
v/c Ratio	0.85	1.09	0.43	0.81	0.94	0.68	0.73	0.61	1.53	0.55	0.37
Control Delay	67.8	95.6	14.6	92.0	23.8	71.3	53.7	12.3	296.0	45.3	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	95.6	14.6	92.0	23.8	71.3	53.7	12.3	296.0	45.3	14.5
Queue Length 50th (ft)	203	~667	57	165	434	117	222	30	~481	186	86
Queue Length 95th (ft)	#315	#830	144	m196	m73	184	276	122	#686	244	163
Internal Link Dist (ft)		1755			5266		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	562	1137	627	271	1625	262	850	598	262	881	795
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	1.09	0.43	0.76	0.94	0.54	0.63	0.56	1.53	0.54	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

































Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 	 	 	 	 	 	 	 	 		
Traffic Volume (vph)	280	1310	120	100	1420	630	100	160	90	560	150	220
Future Volume (vph)	280	1310	120	100	1420	630	100	160	90	560	150	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			283			112			239
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5346			2329			465				345
Travel Time (s)		104.1			45.4			9.1				5.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	1424	130	109	1543	685	109	174	98	609	163	239
Shared Lane Traffic (%)												
Lane Group Flow (vph)	304	1424	130	109	1543	685	109	174	98	609	163	239
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

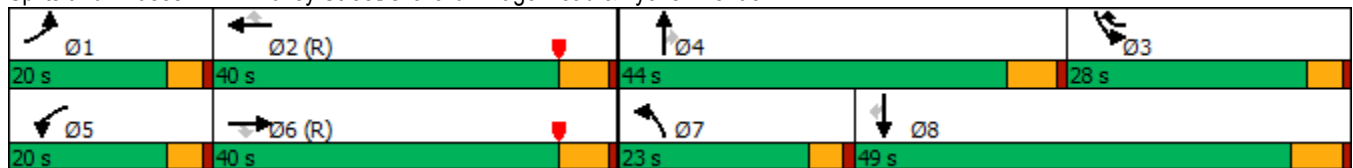


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	18.5	53.5	53.5	14.5	49.4	83.4	14.3	14.1	14.1	34.0	33.8	33.8
Actuated g/C Ratio	0.14	0.41	0.41	0.11	0.37	0.63	0.11	0.11	0.11	0.26	0.26	0.26
v/c Ratio	0.68	1.07	0.18	0.60	1.06	0.57	0.61	0.48	0.40	0.69	0.35	0.42
Control Delay	37.4	77.0	14.2	45.1	81.1	12.5	70.1	59.5	11.6	48.4	42.1	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	77.0	14.2	45.1	81.1	12.5	70.1	59.5	11.6	48.4	42.1	6.8
LOS	D	E	B	D	F	B	E	E	B	D	D	A
Approach Delay		66.2			59.3			50.2			37.5	
Approach LOS		E			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 2 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.07
 Intersection Signal Delay: 57.0
 Intersection LOS: E
 Intersection Capacity Utilization 81.0%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	304	1424	130	109	1543	685	109	174	98	609	163	239
v/c Ratio	0.68	1.07	0.18	0.60	1.06	0.57	0.61	0.48	0.40	0.69	0.35	0.42
Control Delay	37.4	77.0	14.2	45.1	81.1	12.5	70.1	59.5	11.6	48.4	42.1	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	77.0	14.2	45.1	81.1	12.5	70.1	59.5	11.6	48.4	42.1	6.8
Queue Length 50th (ft)	127	~730	34	84	~785	279	90	75	0	243	115	0
Queue Length 95th (ft)	m106	m#754	m33	m78	m#828	m257	149	110	42	292	175	63
Internal Link Dist (ft)		5266			2249			385			265	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	460	1337	708	212	1456	1204	237	1036	493	883	613	679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	1.07	0.18	0.51	1.06	0.57	0.46	0.17	0.20	0.69	0.27	0.35

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	610	1560	50	820	20	970	100	60	20	120	110
Future Volume (vph)	100	610	1560	50	820	20	970	100	60	20	120	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1619	3539	1468	1638	3539	1356	3123	1863	1471	1670	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			469			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2329			1347			528				401
Travel Time (s)		45.4			26.2			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	663	1696	54	891	22	1054	109	65	22	130	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	663	1696	54	891	22	1054	109	65	22	130	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

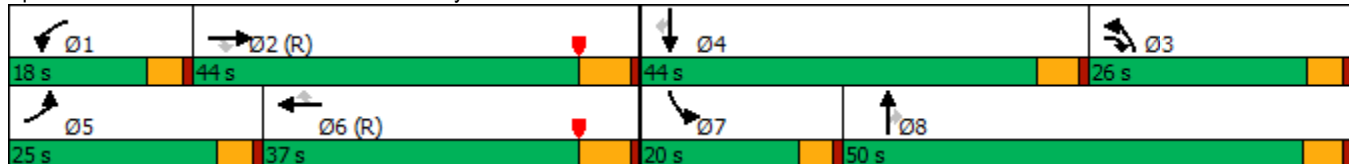


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	25.0	44.0	26.0	18.0	37.0	37.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	18.9%	33.3%	19.7%	13.6%	28.0%	28.0%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	20.5	38.0	21.5	13.5	31.0	31.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	24.0		24.0		24.0		32.0		32.0		32.0	
Pedestrian Calls (#/hr)	27		27		27		43		43		43	
Act Effct Green (s)	14.5	45.9	73.8	10.2	39.5	39.5	27.9	58.4	58.4	7.8	34.1	34.1
Actuated g/C Ratio	0.11	0.35	0.56	0.08	0.30	0.30	0.21	0.44	0.44	0.06	0.26	0.26
v/c Ratio	0.60	0.54	1.63	0.43	0.84	0.04	1.50	0.13	0.09	0.22	0.28	0.26
Control Delay	78.9	23.5	306.1	67.2	46.4	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.9	23.5	306.1	67.2	46.4	0.1	268.6	24.1	0.2	63.7	38.6	4.8
LOS	E	C	F	E	D	A	F	C	A	E	D	A
Approach Delay	220.1		46.5		232.7		25.7					
Approach LOS	F		D		F		C					

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 47 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.63
 Intersection Signal Delay: 178.5 Intersection LOS: F
 Intersection Capacity Utilization 137.2% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	109	663	1696	54	891	22	1054	109	65	22	130	120
v/c Ratio	0.60	0.54	1.63	0.43	0.84	0.04	1.50	0.13	0.09	0.22	0.28	0.26
Control Delay	78.9	23.5	306.1	67.2	46.4	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.9	23.5	306.1	67.2	46.4	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Length 50th (ft)	88	180	~2137	43	402	0	~712	58	0	18	84	0
Queue Length 95th (ft)	m115	m153	m#2149	m74	#536	m0	#846	102	0	47	138	33
Internal Link Dist (ft)		2249			1267			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	262	1230	1041	175	1059	524	702	823	726	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.54	1.63	0.31	0.84	0.04	1.50	0.13	0.09	0.11	0.24	0.23

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	120	20	180	80	10	40	20	290	110	150	350	10
Future Volume (vph)	120	20	180	80	10	40	20	290	110	150	350	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	180		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.924			0.959			0.965			0.997	
Flt Protected		0.982			0.970			0.998			0.986	
Satd. Flow (prot)	0	1690	0	0	1733	0	0	1794	0	0	1831	0
Flt Permitted		0.982			0.970			0.998			0.986	
Satd. Flow (perm)	0	1690	0	0	1733	0	0	1794	0	0	1831	0
Link Speed (mph)		25			25			30			25	
Link Distance (ft)		391			842			206			423	
Travel Time (s)		10.7			23.0			4.7			11.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	22	196	87	11	43	22	315	120	163	380	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	348	0	0	141	0	0	457	0	0	554	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	80.2%
ICU Level of Service	D
Analysis Period (min)	15













HCM 6th Roundabout
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023

Intersection				
Intersection Delay, s/veh	9.2			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	348	141	457	554
Demand Flow Rate, veh/h	355	144	465	565
Vehicles Circulating, veh/h	643	476	321	122
Vehicles Exiting, veh/h	44	310	677	498
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.6	6.1	9.2	7.9
Approach LOS	B	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	355	144	465	565
Cap Entry Lane, veh/h	716	849	995	1218
Entry HV Adj Factor	0.979	0.978	0.982	0.981
Flow Entry, veh/h	348	141	457	554
Cap Entry, veh/h	701	830	977	1196
V/C Ratio	0.496	0.170	0.468	0.464
Control Delay, s/veh	12.6	6.1	9.2	7.9
LOS	B	A	A	A
95th %tile Queue, veh	3	1	3	3

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023

							Ø1	Ø2	Ø7	Ø8
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT				
Lane Configurations						 				
Traffic Volume (vph)	160	140	280	140	160	450				
Future Volume (vph)	160	140	280	140	160	450				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	150	0		0	0					
Storage Lanes	1	1		0	1					
Taper Length (ft)	25				25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95				
Frt		0.850	0.955							
Flt Protected	0.950				0.950					
Satd. Flow (prot)	1770	1583	1779	0	1770	3539				
Flt Permitted	0.950				0.950					
Satd. Flow (perm)	1770	1583	1779	0	1770	3539				
Right Turn on Red		Yes		Yes						
Satd. Flow (RTOR)		152	17							
Link Speed (mph)	30		45			45				
Link Distance (ft)	1067		195			206				
Travel Time (s)	24.3		3.0			3.1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Adj. Flow (vph)	174	152	304	152	174	489				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	174	152	456	0	174	489				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Right	Left	Left				
Median Width(ft)	12		12			12				
Link Offset(ft)	0		0			0				
Crosswalk Width(ft)	16		16			16				
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)	15	9		9	15					
Number of Detectors	1	1	2		1	2				
Detector Template	Left	Right	Thru		Left	Thru				
Leading Detector (ft)	20	20	100		20	100				
Trailing Detector (ft)	0	0	0		0	0				
Detector 1 Position(ft)	0	0	0		0	0				
Detector 1 Size(ft)	20	20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0				
Detector 2 Position(ft)			94			94				
Detector 2 Size(ft)			6			6				
Detector 2 Type			Cl+Ex			Cl+Ex				
Detector 2 Channel										
Detector 2 Extend (s)			0.0			0.0				
Turn Type	Prot	Perm	NA		Prot	NA				
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8
Permitted Phases		7 8								

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023

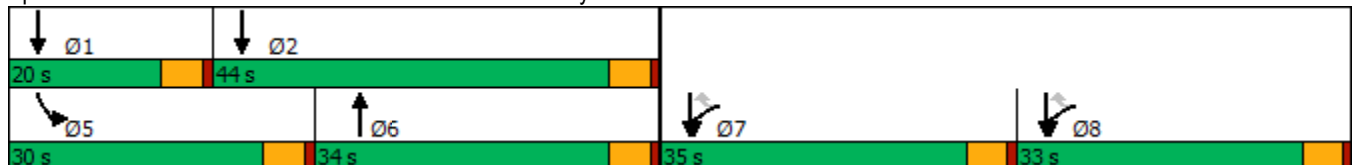


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		20.0	23.0	33.0	33.0
Total Split (s)			34.0		30.0		20.0	44.0	35.0	33.0
Total Split (%)			25.8%		22.7%		15%	33%	27%	25%
Maximum Green (s)			29.0		25.0		15.0	39.0	30.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Ped	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	27.0	27.0	29.4		13.7	85.2				
Actuated g/C Ratio	0.32	0.32	0.35		0.16	1.00				
v/c Ratio	0.31	0.25	0.73		0.61	0.14				
Control Delay	23.9	4.9	34.1		44.2	0.1				
Queue Delay	0.0	0.0	0.0		0.0	0.0				
Total Delay	23.9	4.9	34.1		44.2	0.1				
LOS	C	A	C		D	A				
Approach Delay	15.1		34.1			11.6				
Approach LOS	B		C			B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 85.2
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 19.5
 Intersection LOS: B
 Intersection Capacity Utilization 53.5%
 ICU Level of Service A
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

01/24/2023
























Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	174	152	456	174	489
v/c Ratio	0.31	0.25	0.73	0.61	0.14
Control Delay	23.9	4.9	34.1	44.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	4.9	34.1	44.2	0.1
Queue Length 50th (ft)	69	0	202	87	0
Queue Length 95th (ft)	130	41	#440	167	0
Internal Link Dist (ft)	987		115		126
Turn Bay Length (ft)	150				
Base Capacity (vph)	979	943	624	526	3472
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.16	0.73	0.33	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
19: Valle Del Oro & Dockweiler Drive

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	570	30	380	370	10	20	10	410	0	10	10
Future Volume (vph)	10	570	30	380	370	10	20	10	410	0	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	100		100	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.874			0.932	
Flt Protected	0.950			0.950				0.998				
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1625	0	0	1736	0
Flt Permitted	0.485			0.354				0.988				
Satd. Flow (perm)	903	1863	1583	659	1863	1583	0	1609	0	0	1736	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			27			11		366			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5381			3919			2619			300	
Travel Time (s)		122.3			89.1			59.5			6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	620	33	413	402	11	22	11	446	0	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	620	33	413	402	11	0	479	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		6			

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

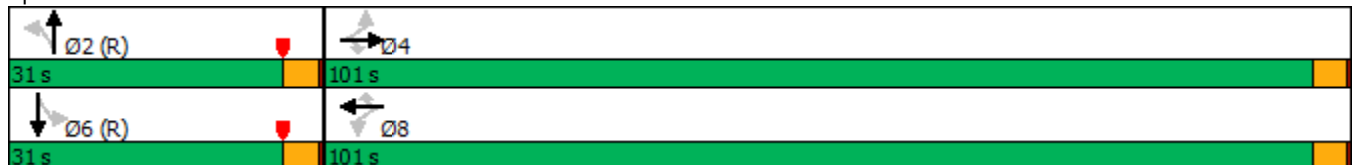


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	101.0	101.0	101.0	101.0	101.0	101.0	31.0	31.0		31.0	31.0	
Total Split (%)	76.5%	76.5%	76.5%	76.5%	76.5%	76.5%	23.5%	23.5%		23.5%	23.5%	
Maximum Green (s)	97.0	97.0	97.0	97.0	97.0	97.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	93.1	93.1	93.1	93.1	93.1	93.1		30.9			30.9	
Actuated g/C Ratio	0.71	0.71	0.71	0.71	0.71	0.71		0.23			0.23	
v/c Ratio	0.02	0.47	0.03	0.89	0.31	0.01		0.73			0.05	
Control Delay	4.8	9.6	2.1	34.7	5.3	0.8		17.9			27.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	4.8	9.6	2.1	34.7	5.3	0.8		17.9			27.8	
LOS	A	A	A	C	A	A		B			C	
Approach Delay		9.1			20.0			17.9			27.8	
Approach LOS		A			B			B			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 16.0
 Intersection LOS: B
 Intersection Capacity Utilization 94.7%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 19: Valle Del Oro & Dockweiler Drive



Queues

19: Valle Del Oro & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	620	33	413	402	11	479	22
v/c Ratio	0.02	0.47	0.03	0.89	0.31	0.01	0.73	0.05
Control Delay	4.8	9.6	2.1	34.7	5.3	0.8	17.9	27.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	9.6	2.1	34.7	5.3	0.8	17.9	27.8
Queue Length 50th (ft)	2	188	1	141	65	0	86	8
Queue Length 95th (ft)	7	254	10	#411	89	m0	152	32
Internal Link Dist (ft)		5301			3839		2539	220
Turn Bay Length (ft)	100		100	100		100		
Base Capacity (vph)	663	1369	1170	484	1369	1166	656	414
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.45	0.03	0.85	0.29	0.01	0.73	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	800	170	220	2260	490	600
Future Volume (vph)	800	170	220	2260	490	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.997	0.850				0.850
Flt Protected	0.953		0.950			
Satd. Flow (prot)	3434	1441	1770	3539	3539	1583
Flt Permitted	0.953		0.950			
Satd. Flow (perm)	3434	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	2	126				652
Link Speed (mph)	30			50	50	
Link Distance (ft)	3919			2905	621	
Travel Time (s)	89.1			39.6	8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	870	185	239	2457	533	652
Shared Lane Traffic (%)		10%				
Lane Group Flow (vph)	889	166	239	2457	533	652
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	15.0	21.0	30.0	30.0
Total Split (s)	40.0	40.0	33.0	92.0	59.0	59.0
Total Split (%)	30.3%	30.3%	25.0%	69.7%	44.7%	44.7%
Maximum Green (s)	35.0	35.0	28.0	87.0	54.0	54.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effect Green (s)	35.0	35.0	22.5	87.0	59.5	59.5
Actuated g/C Ratio	0.27	0.27	0.17	0.66	0.45	0.45
v/c Ratio	0.97	0.35	0.79	1.05	0.33	0.61
Control Delay	69.7	14.8	54.5	52.1	25.7	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.7	14.8	54.5	52.1	25.7	10.9
LOS	E	B	D	D	C	B
Approach Delay	61.0			52.3	17.6	
Approach LOS	E			D	B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.05
 Intersection Signal Delay: 45.8
 Intersection LOS: D
 Intersection Capacity Utilization 95.4%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	889	166	239	2457	533	652
v/c Ratio	0.97	0.35	0.79	1.05	0.33	0.61
Control Delay	69.7	14.8	54.5	52.1	25.7	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.7	14.8	54.5	52.1	25.7	10.9
Queue Length 50th (ft)	396	42	196	~773	118	54
Queue Length 95th (ft)	#530	m100	m148	m391	236	292
Internal Link Dist (ft)	3839			2825	541	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	912	474	375	2332	1596	1071
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.35	0.64	1.05	0.33	0.61

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	50	10	90	30	560	10	2180	890	280	940	20
Future Volume (vph)	30	50	10	90	30	560	10	2180	890	280	940	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.734			0.720			0.950			0.950		
Satd. Flow (perm)	1367	3539	1583	1341	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			227			275			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		816			677			2247			787	
Travel Time (s)		12.4			10.3			30.6			10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	54	11	98	33	609	11	2370	967	304	1022	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	54	11	98	33	609	11	2370	967	304	1022	22
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5		2
Permitted Phases	4		4	8		8		6		6		2

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

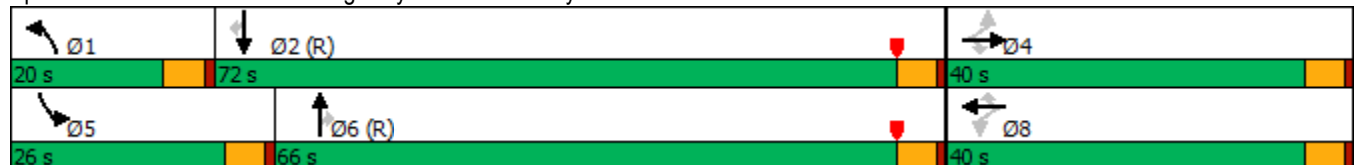


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	20.0	20.0	20.0	37.0	37.0	37.0	15.0	20.0	20.0	15.0	39.0	39.0
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	20.0	66.0	66.0	26.0	72.0	72.0
Total Split (%)	30.3%	30.3%	30.3%	30.3%	30.3%	30.3%	15.2%	50.0%	50.0%	19.7%	54.5%	54.5%
Maximum Green (s)	35.0	35.0	35.0	35.0	35.0	35.0	15.0	61.0	61.0	21.0	67.0	67.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	35.0	35.0	35.0	35.0	35.0	35.0	10.0	61.0	61.0	21.0	84.0	84.0
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27	0.27	0.08	0.46	0.46	0.16	0.64	0.64
v/c Ratio	0.09	0.06	0.02	0.28	0.04	1.04	0.08	1.45	1.10	1.08	0.45	0.02
Control Delay	37.5	36.5	0.1	41.1	36.2	77.5	59.9	232.3	72.4	125.0	14.1	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	17.6	0.0	1.0	0.0	0.0	0.0	0.0
Total Delay	37.5	36.5	0.1	41.1	36.2	95.1	59.9	233.3	72.4	125.0	14.1	1.2
LOS	D	D	A	D	D	F	E	F	E	F	B	A
Approach Delay		32.8			85.3			186.3			38.9	
Approach LOS		C			F			F			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.45
 Intersection Signal Delay: 134.2
 Intersection LOS: F
 Intersection Capacity Utilization 115.8%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	33	54	11	98	33	609	11	2370	967	304	1022	22
v/c Ratio	0.09	0.06	0.02	0.28	0.04	1.04	0.08	1.45	1.10	1.08	0.45	0.02
Control Delay	37.5	36.5	0.1	41.1	36.2	77.5	59.9	232.3	72.4	125.0	14.1	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	17.6	0.0	1.0	0.0	0.0	0.0	0.0
Total Delay	37.5	36.5	0.1	41.1	36.2	95.1	59.9	233.3	72.4	125.0	14.1	1.2
Queue Length 50th (ft)	21	18	0	67	11	~409	9	~1459	~571	~292	233	0
Queue Length 95th (ft)	49	35	0	119	25	#644	m9	m#1393	m#522	#482	367	m4
Internal Link Dist (ft)		736			597			2167			707	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	362	938	492	355	938	586	201	1635	879	281	2252	1028
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	26	0	412	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.06	0.02	0.28	0.04	1.09	0.05	1.94	1.10	1.08	0.45	0.02

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	90	40	2830	70	790	1010
Future Volume (vph)	90	40	2830	70	790	1010
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		0	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Frt		0.850	0.996			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3525	0	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3525	0	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		43	3			
Link Speed (mph)	30		50			50
Link Distance (ft)	615		787			1009
Travel Time (s)	14.0		10.7			13.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	43	3076	76	859	1098
Shared Lane Traffic (%)						
Lane Group Flow (vph)	98	43	3152	0	859	1098
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023

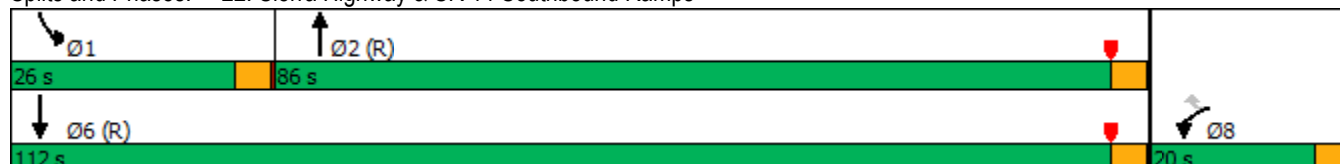


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		8.0	20.0
Total Split (s)	20.0	20.0	86.0		26.0	112.0
Total Split (%)	15.2%	15.2%	65.2%		19.7%	84.8%
Maximum Green (s)	16.0	16.0	82.0		22.0	108.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	12.3	12.3	82.0		25.7	111.7
Actuated g/C Ratio	0.09	0.09	0.62		0.19	0.85
v/c Ratio	0.59	0.23	1.44		1.29	0.37
Control Delay	71.7	17.9	219.9		182.6	2.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	71.7	17.9	219.9		182.6	2.8
LOS	E	B	F		F	A
Approach Delay	55.3		219.9			81.7
Approach LOS	E		F			F

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.44
 Intersection Signal Delay: 164.0
 Intersection LOS: F
 Intersection Capacity Utilization 118.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR 14 Southbound Ramps



Queues

22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	98	43	3152	859	1098
v/c Ratio	0.59	0.23	1.44	1.29	0.37
Control Delay	71.7	17.9	219.9	182.6	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	71.7	17.9	219.9	182.6	2.8
Queue Length 50th (ft)	82	0	~1906	~484	85
Queue Length 95th (ft)	139	36	m#1200	#654	126
Internal Link Dist (ft)	535		707		929
Turn Bay Length (ft)				160	
Base Capacity (vph)	214	229	2190	667	2994
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.46	0.19	1.44	1.29	0.37

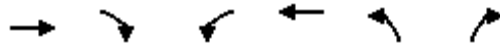
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	290	0	0	330	230	190
Future Volume (vph)	290	0	0	330	230	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	677			645	774	
Travel Time (s)	10.3			9.8	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	0	0	359	250	207
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	359	250	207
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	28.5%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
 23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023

Intersection						
Int Delay, s/veh	6.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	290	0	0	330	230	190
Future Vol, veh/h	290	0	0	330	230	190
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	315	0	0	359	250	207

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	495 158
Stage 1	-	-	-	-	315 -
Stage 2	-	-	-	-	180 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	504 859
Stage 1	-	0	0	-	713 -
Stage 2	-	0	0	-	833 -
Platoon blocked, %	-			-	
Mov Cap-1 Maneuver	-	-	-	-	504 859
Mov Cap-2 Maneuver	-	-	-	-	504 -
Stage 1	-	-	-	-	713 -
Stage 2	-	-	-	-	833 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	504	859	-	-
HCM Lane V/C Ratio	0.496	0.24	-	-
HCM Control Delay (s)	19	10.5	-	-
HCM Lane LOS	C	B	-	-
HCM 95th %tile Q(veh)	2.7	0.9	-	-

***Future with Project
with DDEP Conditions (Roundabout)***

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	880	250	670	1840	70	450	642	170	210	2569	450
Future Volume (vph)	140	880	250	670	1840	70	450	642	170	210	2569	450
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	0		230
Storage Lanes	3		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			136			186			112
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			2037			1105	
Travel Time (s)		13.2			11.3			30.9			16.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	21.0	36.0	22.0	21.0	36.0	36.0	22.0	45.0	45.0	30.0	53.0	21.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

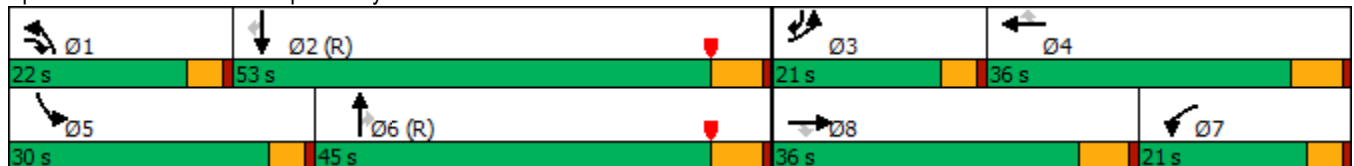


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	15.9%	27.3%	16.7%	15.9%	27.3%	27.3%	16.7%	34.1%	34.1%	22.7%	40.2%	15.9%
Maximum Green (s)	16.5	30.0	17.5	16.5	30.0	30.0	17.5	39.0	39.0	25.5	47.0	16.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	7.9	29.2	47.2	19.8	41.1	41.1	18.0	54.3	54.3	12.7	49.0	60.9
Actuated g/C Ratio	0.06	0.22	0.36	0.15	0.31	0.31	0.14	0.41	0.41	0.10	0.37	0.46
v/c Ratio	0.51	0.67	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.17	0.62
Control Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	37.3	14.6	68.7	120.8	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	37.3	14.6	68.7	120.8	23.8
LOS	E	D	B	F	E	A	F	D	B	E	F	C
Approach Delay		43.9			109.4			55.1			103.9	
Approach LOS		D			F			E			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 105 (80%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.42
 Intersection Signal Delay: 89.1
 Intersection LOS: F
 Intersection Capacity Utilization 95.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
v/c Ratio	0.51	0.67	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.17	0.62
Control Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	37.3	14.6	68.7	120.8	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	37.3	14.6	68.7	120.8	23.8
Queue Length 50th (ft)	45	218	63	~438	~500	0	~232	156	38	98	~828	240
Queue Length 95th (ft)	69	252	115	#589	#621	0	#334	183	105	139	#895	348
Internal Link Dist (ft)		790			665			1957			1025	
Turn Bay Length (ft)	270		265	280		340	300					230
Base Capacity (vph)	642	1553	638	513	1993	586	468	2636	760	676	2378	892
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.62	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.34	1.17	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔	↕↕↕	↔↔
Traffic Volume (vph)	360	900	40	569	1000	410	20	572	291	470	1829	1560
Future Volume (vph)	360	900	40	569	1000	410	20	572	291	470	1829	1560
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		225	450		400
Storage Lanes	3		0	3		1	1		1	1		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5055	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5055	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				99			112			477
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			888			2037	
Travel Time (s)		32.4			35.4			13.5			30.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	978	43	618	1087	446	22	622	316	511	1988	1696
Shared Lane Traffic (%)												
Lane Group Flow (vph)	391	1021	0	618	1087	446	22	622	316	511	1988	1696
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	26.0	39.0		31.0	44.0	20.0	19.0	42.0	31.0	20.0	43.0	26.0

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

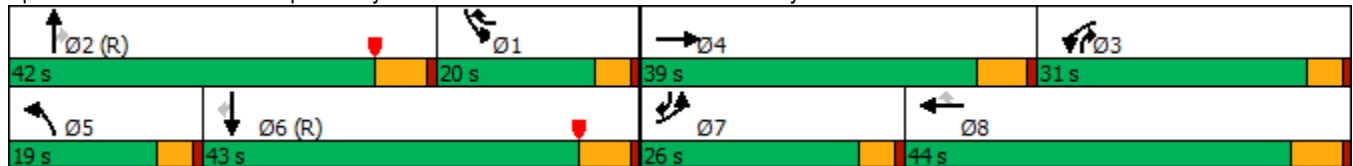


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	19.7%	29.5%		23.5%	33.3%	15.2%	14.4%	31.8%	23.5%	15.2%	32.6%	19.7%
Maximum Green (s)	21.5	33.0		26.5	38.0	15.5	14.5	36.0	26.5	15.5	37.0	21.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	22.0	33.4		25.0	36.4	52.4	7.7	41.6	70.6	16.0	54.0	80.0
Actuated g/C Ratio	0.17	0.25		0.19	0.28	0.40	0.06	0.32	0.53	0.12	0.41	0.61
v/c Ratio	0.47	0.80		0.65	0.78	0.65	0.21	0.39	0.35	1.23	0.96	0.90
Control Delay	51.9	51.1		53.0	48.1	18.8	52.5	30.6	5.7	138.1	22.0	16.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	51.1		53.0	48.1	18.8	52.5	30.6	5.7	138.1	22.0	16.9
LOS	D	D		D	D	B	D	C	A	F	C	B
Approach Delay		51.3			43.4			22.9			34.1	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.23
 Intersection Signal Delay: 38.0 Intersection LOS: D
 Intersection Capacity Utilization 87.2% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	391	1021	618	1087	446	22	622	316	511	1988	1696
v/c Ratio	0.47	0.80	0.65	0.78	0.65	0.21	0.39	0.35	1.23	0.96	0.90
Control Delay	51.9	51.1	53.0	48.1	18.8	52.5	30.6	5.7	138.1	22.0	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	51.1	53.0	48.1	18.8	52.5	30.6	5.7	138.1	22.0	16.9
Queue Length 50th (ft)	108	294	177	313	140	18	182	49	~275	~665	775
Queue Length 95th (ft)	143	349	214	356	195	m34	164	75	m#225	m#480	m634
Internal Link Dist (ft)		2060		2257			808			1957	
Turn Bay Length (ft)						250		225	450		400
Base Capacity (vph)	831	1344	1020	1540	687	201	1603	885	416	2081	1877
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.76	0.61	0.71	0.65	0.11	0.39	0.36	1.23	0.96	0.90

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	357	565	1253	1918	510
Future Volume (vph)	140	357	565	1253	1918	510
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		5				440
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4834	2595	
Travel Time (s)	44.4			65.9	39.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	388	614	1362	2085	554
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	388	614	1362	2085	554
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

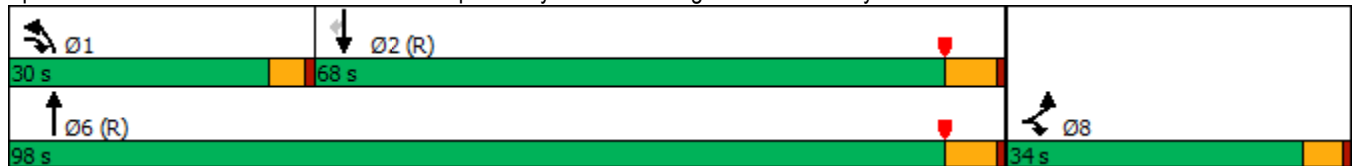


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effct Green (s)	30.0	59.8	25.8	94.0	64.2	64.2
Actuated g/C Ratio	0.23	0.45	0.20	0.71	0.49	0.49
v/c Ratio	0.38	0.31	0.92	0.54	1.21	0.56
Control Delay	46.4	23.4	65.9	10.7	125.8	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	23.4	65.9	10.7	125.8	4.8
LOS	D	C	E	B	F	A
Approach Delay	29.9			27.9	100.4	
Approach LOS	C			C	F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 77 (58%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.21
 Intersection Signal Delay: 65.2
 Intersection LOS: E
 Intersection Capacity Utilization 86.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	152	388	614	1362	2085	554
v/c Ratio	0.38	0.31	0.92	0.54	1.21	0.56
Control Delay	46.4	23.4	65.9	10.7	125.8	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	23.4	65.9	10.7	125.8	4.8
Queue Length 50th (ft)	111	115	231	481	~1182	63
Queue Length 95th (ft)	178	157	#365	97	m#1289	m61
Internal Link Dist (ft)	2848		4754		2515	
Turn Bay Length (ft)	290		290		386	
Base Capacity (vph)	402	1269	676	2520	1720	995
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.31	0.91	0.54	1.21	0.56

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	94	680	1218	72	490	1355
Future Volume (vph)	94	680	1218	72	490	1355
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.882	0.850		0.850		
Flt Protected	0.989				0.950	
Satd. Flow (prot)	3152	1441	3539	1583	3433	3539
Flt Permitted	0.989				0.950	
Satd. Flow (perm)	3152	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	350	350		55		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4834
Travel Time (s)	10.9		27.3			65.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	102	739	1324	78	533	1473
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	472	369	1324	78	533	1473
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings

4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	14.7	14.7	79.1	79.1	26.2	109.3
Actuated g/C Ratio	0.11	0.11	0.60	0.60	0.20	0.83
v/c Ratio	0.71	0.78	0.62	0.08	0.78	0.50
Control Delay	20.2	18.8	36.1	18.1	45.7	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	18.8	36.1	18.1	45.7	6.2
LOS	C	B	D	B	D	A
Approach Delay	19.6		35.1			16.7
Approach LOS	B		D			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 23.3
 Intersection LOS: C
 Intersection Capacity Utilization 68.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023
























Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	472	369	1324	78	533	1473
v/c Ratio	0.71	0.78	0.62	0.08	0.78	0.50
Control Delay	20.2	18.8	36.1	18.1	45.7	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	18.8	36.1	18.1	45.7	6.2
Queue Length 50th (ft)	51	16	537	35	235	288
Queue Length 95th (ft)	96	125	695	82	m218	m159
Internal Link Dist (ft)	558		1922			4754
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1092	639	2120	970	721	2929
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.58	0.62	0.08	0.74	0.50

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	125	0	430	10	1060	181	289	1580	0
Future Volume (vph)	0	0	0	125	0	430	10	1060	181	289	1580	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	100		100	100		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor					0.99		1.00		0.95	0.99		
Frt						0.850			0.850			
Flt Protected					0.950		0.950			0.950		
Satd. Flow (prot)	0	0	0	1770	1625	1531	1770	3539	1583	3433	3539	0
Flt Permitted					0.950		0.950			0.950		
Satd. Flow (perm)	0	0	0	1770	1613	1531	1761	3539	1506	3407	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						467			45			
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		183			612			1314			3196	
Travel Time (s)		5.0			11.9			19.9			48.4	
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	136	0	467	11	1152	197	314	1717	0
Shared Lane Traffic (%)				100%								
Lane Group Flow (vph)	0	0	0	0	136	467	11	1152	197	314	1717	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)				50	50	50	50	50	50	50	50	
Trailing Detector (ft)				0	0	0	0	0	0	0	0	
Detector 1 Position(ft)				0	0	0	0	0	0	0	0	
Detector 1 Size(ft)				50	50	50	50	50	50	50	50	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type				Split	NA	custom	Prot	NA	pm+ov	Prot	NA	
Protected Phases				3	3	9!	5	2!	3	1	6	
Permitted Phases									2			
Detector Phase				3	3	9	5	2	3	1	6	
Switch Phase												

Lanes, Volumes, Timings
 5: Railroad Avenue & 13th Street

01/24/2023

Lane Group	Ø8	Ø10
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	8	10
Permitted Phases		
Detector Phase		
Switch Phase		

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/24/2023

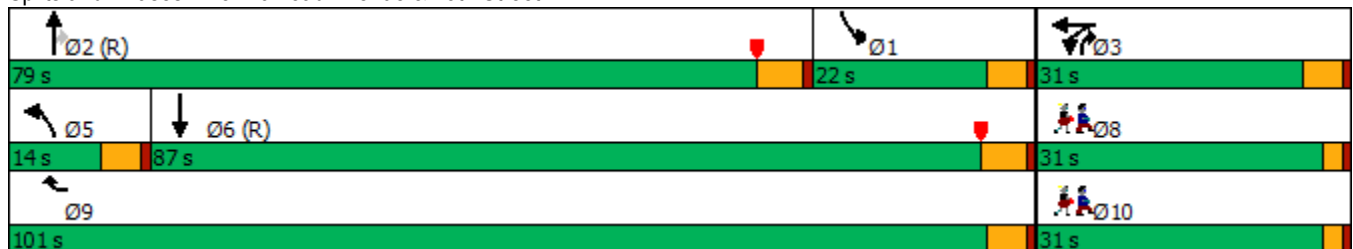


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)				10.0	10.0	9.0	9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				15.0	15.0	14.0	14.0	23.5	15.0	14.0	25.0	
Total Split (s)				31.0	31.0	101.0	14.0	79.0	31.0	22.0	87.0	
Total Split (%)				23.5%	23.5%	76.5%	10.6%	59.8%	23.5%	16.7%	65.9%	
Maximum Green (s)				26.0	26.0	96.0	9.0	73.5	26.0	17.0	81.5	
Yellow Time (s)				4.0	4.0	4.0	4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				-1.0	-1.0	-1.0	-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)				4.0	4.0	4.0	4.5	3.5	4.0	4.5	3.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None	None	None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)					17.3	106.7	9.5	85.2	102.0	17.5	104.4	
Actuated g/C Ratio					0.13	0.81	0.07	0.65	0.77	0.13	0.79	
v/c Ratio					0.64	0.35	0.09	0.50	0.17	0.69	0.61	
Control Delay					48.1	14.4	67.7	20.4	4.4	64.9	7.5	
Queue Delay					0.0	0.8	0.0	0.0	0.0	0.0	0.0	
Total Delay					48.1	15.2	67.7	20.4	4.4	64.9	7.5	
LOS					D	B	E	C	A	E	A	
Approach Delay					22.6			18.5			16.4	
Approach LOS					C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 18.1 Intersection LOS: B
 Intersection Capacity Utilization 71.7% ICU Level of Service C
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & 13th Street



Lane Group	Ø8	Ø10
Minimum Initial (s)	7.0	4.0
Minimum Split (s)	31.0	16.0
Total Split (s)	31.0	31.0
Total Split (%)	23%	23%
Maximum Green (s)	28.0	28.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	21.0	6.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

5: Railroad Avenue & 13th Street

01/24/2023



Lane Group	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	136	467	11	1152	197	314	1717
v/c Ratio	0.64	0.35	0.09	0.50	0.17	0.69	0.61
Control Delay	48.1	14.4	67.7	20.4	4.4	64.9	7.5
Queue Delay	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Total Delay	48.1	15.2	67.7	20.4	4.4	64.9	7.5
Queue Length 50th (ft)	54	243	10	389	48	143	186
Queue Length 95th (ft)	97	345	m20	461	56	193	638
Internal Link Dist (ft)	532			1234			3116
Turn Bay Length (ft)			100		100	100	
Base Capacity (vph)	332	1327	127	2283	1232	455	2798
Starvation Cap Reductn	0	552	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.60	0.09	0.50	0.16	0.69	0.61

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations	↔↔	↗	↔↔	↕↕	↕↕	↗			
Traffic Volume (vph)	423	100	290	848	1223	482			
Future Volume (vph)	423	100	290	848	1223	482			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		109				302			
Link Speed (mph)	35			35	45				
Link Distance (ft)	374			1566	1314				
Travel Time (s)	7.3			30.5	19.9				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	460	109	315	922	1329	524			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	460	109	315	922	1329	524			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	24			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	52.0	30.0	20.0	30.0	30.0

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023

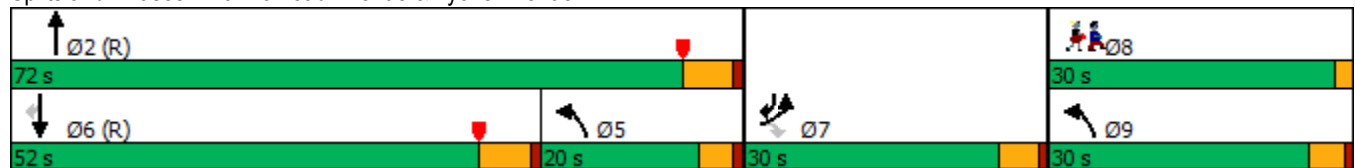


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	39.4%	22.7%	15%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	46.0	25.0	15.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effect Green (s)	24.5	24.5	23.0	86.2	68.5	93.0			
Actuated g/C Ratio	0.19	0.19	0.17	0.65	0.52	0.70			
v/c Ratio	0.72	0.29	0.53	0.40	0.72	0.44			
Control Delay	91.2	45.8	21.7	15.1	30.4	4.1			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	91.2	45.8	21.7	15.1	30.4	4.1			
LOS	F	D	C	B	C	A			
Approach Delay	82.5			16.8	23.0				
Approach LOS	F			B	C				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 103 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 30.2
 Intersection LOS: C
 Intersection Capacity Utilization 64.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	460	109	315	922	1329	524
v/c Ratio	0.72	0.29	0.53	0.40	0.72	0.44
Control Delay	91.2	45.8	21.7	15.1	30.4	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.2	45.8	21.7	15.1	30.4	4.1
Queue Length 50th (ft)	215	66	61	172	341	0
Queue Length 95th (ft)	273	122	78	208	570	236
Internal Link Dist (ft)	294			1486	1234	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	685	403	1092	2310	1836	1222
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.27	0.29	0.40	0.72	0.43

Intersection Summary

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

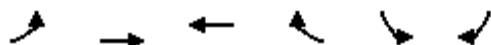
01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1120	570	1028	1243	0	
Future Volume (vph)	0	1120	570	1028	1243	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.97			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1117			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1645		1196		
Travel Time (s)		6.2	28.0		23.3		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1217	620	1117	1351	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1217	620	1117	1351	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		62.0	15.0	70.0	70.0	47.0	
Total Split (%)		47.0%	11.4%	53.0%	53.0%	36%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023

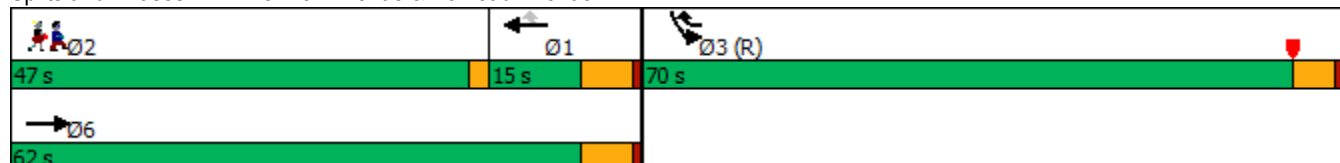


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		56.0	9.0	64.0	64.0		45.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		58.0	58.0	124.0	66.0		
Actuated g/C Ratio		0.44	0.44	0.94	0.50		
v/c Ratio		0.78	0.76	0.42	0.79		
Control Delay		36.0	16.3	2.2	8.3		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		36.0	16.3	2.2	8.3		
LOS		D	B	A	A		
Approach Delay		36.0	7.2		8.3		
Approach LOS		D	A		A		

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 20 (15%), Referenced to phase 3:SBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 15.7
 Intersection LOS: B
 Intersection Capacity Utilization 73.1%
 ICU Level of Service D
 Analysis Period (min) 15

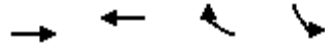
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1217	620	1117	1351
v/c Ratio	0.78	0.76	0.42	0.79
Control Delay	36.0	16.3	2.2	8.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	36.0	16.3	2.2	8.3
Queue Length 50th (ft)	461	115	37	30
Queue Length 95th (ft)	552	144	47	77
Internal Link Dist (ft)	282	1565		1116
Turn Bay Length (ft)				
Base Capacity (vph)	1555	818	2655	1716
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.78	0.76	0.42	0.79
Intersection Summary				

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↗	↑↑↑	↑↑↑		↘	↗
Traffic Volume (vph)	140	1502	1279	30	330	110
Future Volume (vph)	140	1502	1279	30	330	110
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.997			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5070	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5070	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			4			120
Link Speed (mph)		40	40		30	
Link Distance (ft)		1545	3086		2703	
Travel Time (s)		26.3	52.6		61.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	1633	1390	33	359	120
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	1633	1423	0	359	120
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	25.0	98.0	73.0		34.0	34.0

Lanes, Volumes, Timings
 8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	18.9%	74.2%	55.3%		25.8%	25.8%
Maximum Green (s)	20.5	92.0	67.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	21.0	94.8	69.8		29.2	29.2
Actuated g/C Ratio	0.16	0.72	0.53		0.22	0.22
v/c Ratio	0.54	0.45	0.53		0.92	0.27
Control Delay	58.9	9.8	10.0		62.8	7.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	58.9	9.8	10.0		62.8	7.3
LOS	E	A	A		E	A
Approach Delay		14.0	10.0		48.9	
Approach LOS		B	A		D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 50 (38%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 17.0
 Intersection LOS: B
 Intersection Capacity Utilization 61.4%
 ICU Level of Service B
 Analysis Period (min) 15

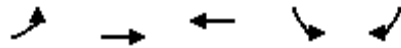
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	152	1633	1423	359	120
v/c Ratio	0.54	0.45	0.53	0.92	0.27
Control Delay	58.9	9.8	10.0	62.8	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	9.8	10.0	62.8	7.3
Queue Length 50th (ft)	128	238	147	253	9
Queue Length 95th (ft)	m163	253	164	#478	m34
Internal Link Dist (ft)		1465	3006	2623	
Turn Bay Length (ft)	150				
Base Capacity (vph)	281	3653	2684	402	452
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.45	0.53	0.89	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	1282	10	810	739	216	10	130	110	554	870	270
Future Volume (vph)	190	1282	10	810	739	216	10	130	110	554	870	270
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		350
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4907	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4907	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			235			161		59	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3086			633			398			2854	
Travel Time (s)		52.6			10.8			9.0			64.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	1393	11	880	803	235	11	141	120	602	946	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	1393	11	880	803	235	11	141	120	602	1239	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	45.0	45.0	25.0	45.0	45.0	20.0	20.0	20.0	42.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

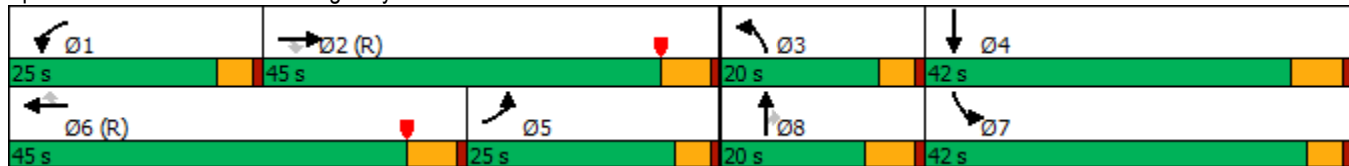


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	34.1%	34.1%	18.9%	34.1%	34.1%	15.2%	15.2%	15.2%	31.8%	31.8%	
Maximum Green (s)	20.5	39.0	39.0	20.5	39.0	39.0	15.5	14.0	14.0	37.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	41.0	41.0	21.0	41.0	41.0	6.5	12.6	10.6	41.4	53.6	
Actuated g/C Ratio	0.16	0.31	0.31	0.16	0.31	0.31	0.05	0.10	0.08	0.31	0.41	
v/c Ratio	0.38	0.88	0.02	1.61	0.51	0.36	0.07	0.42	0.44	1.08	0.61	
Control Delay	60.3	58.4	0.1	319.2	38.6	5.7	60.5	59.6	7.9	82.0	13.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.3	58.4	0.1	319.2	38.6	5.7	60.5	59.6	7.9	82.0	13.0	
LOS	E	E	A	F	D	A	E	E	A	F	B	
Approach Delay		58.2			163.3			36.8			35.6	
Approach LOS		E			F			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 121 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.61
 Intersection Signal Delay: 85.5
 Intersection LOS: F
 Intersection Capacity Utilization 95.5%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023





















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	207	1393	11	880	803	235	11	141	120	602	1239
v/c Ratio	0.38	0.88	0.02	1.61	0.51	0.36	0.07	0.42	0.44	1.08	0.61
Control Delay	60.3	58.4	0.1	319.2	38.6	5.7	60.5	59.6	7.9	82.0	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	58.4	0.1	319.2	38.6	5.7	60.5	59.6	7.9	82.0	13.0
Queue Length 50th (ft)	88	422	0	~556	206	0	4	61	0	~585	173
Queue Length 95th (ft)	m123	489	m0	#686	249	60	14	94	26	m#746	m342
Internal Link Dist (ft)		3006			553			318			2774
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1579	568	546	1579	653	416	428	311	555	2028
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.88	0.02	1.61	0.51	0.36	0.03	0.33	0.39	1.08	0.61

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	371	1625	10	887	0	0	0	0	10	10	798
Future Volume (vph)	0	371	1625	10	887	0	0	0	0	10	10	798
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.897	0.850									0.850
Fl _t Protected				0.950							0.976	
Satd. Flow (prot)	0	3041	1441	1770	3539	0	0	0	0	0	1818	1583
Fl _t Permitted				0.950							0.976	
Satd. Flow (perm)	0	3041	1441	1770	3539	0	0	0	0	0	1818	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		633			469			446			465	
Travel Time (s)		10.8			8.0			10.1			10.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	403	1766	11	964	0	0	0	0	11	11	867
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1286	883	11	964	0	0	0	0	0	22	867
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	83.7%
ICU Level of Service	E
Analysis Period (min)	15

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	371	1625	10	887	0	0	0	0	10	10	798
Future Vol, veh/h	0	371	1625	10	887	0	0	0	0	10	10	798
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082378240	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	403	1766	11	964	0	0	0	0	11	11	867

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	403	0	0		1188	1389	-
Stage 1	-	-	-	-	-	-		986	986	-
Stage 2	-	-	-	-	-	-		202	403	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	1152	-	0		181	141	0
Stage 1	0	-	-	-	-	0		322	324	0
Stage 2	0	-	-	-	-	0		812	598	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1152	-	-		179	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		179	0	-
Stage 1	-	-	-	-	-	-		322	0	-
Stage 2	-	-	-	-	-	-		804	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	27.9
HCM LOS			D

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1152	-	179	-
HCM Lane V/C Ratio	-	-	0.009	-	0.121	-
HCM Control Delay (s)	-	-	8.2	-	27.9	0
HCM Lane LOS	-	-	A	-	D	A
HCM 95th %tile Q(veh)	-	-	0	-	0.4	-

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	390	0	0	60	0	10
Future Volume (vph)	390	0	0	60	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Flt						0.865
Flt Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	469			639	290	
Travel Time (s)	8.0			10.9	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	424	0	0	65	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	424	0	0	65	0	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	83.7%
Analysis Period (min)	15
	ICU Level of Service E

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	390	0	0	60	0	10
Future Vol, veh/h	390	0	0	60	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	424	0	0	65	0	11



















Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	-	-	-	212
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	0	0	-	794
Stage 1	-	0	0	-	-
Stage 2	-	0	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	794
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	794	-	-
HCM Lane V/C Ratio	0.014	-	-
HCM Control Delay (s)	9.6	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

Lanes, Volumes, Timings
12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	1229	0	0	811	582	270	10	279	0	0	0
Future Volume (vph)	180	1229	0	0	811	582	270	10	279	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.937				0.850			
Flt Protected	0.950						0.950	0.956				
Satd. Flow (prot)	1770	3539	0	0	4765	0	1681	1692	1583	0	0	0
Flt Permitted	0.950						0.950	0.956				
Satd. Flow (perm)	1770	3539	0	0	4765	0	1681	1692	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					212				85			
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		722			1900			440			464	
Travel Time (s)		12.3			32.4			10.0			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	1336	0	0	882	633	293	11	303	0	0	0
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	196	1336	0	0	1515	0	152	152	303	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

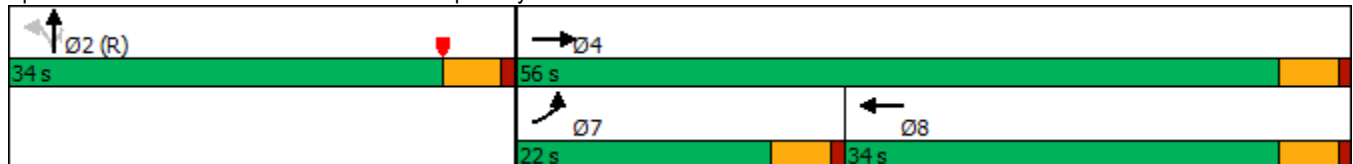


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			5.0		10.0	10.0	10.0			
Minimum Split (s)	15.0	23.0			23.0		33.0	33.0	33.0			
Total Split (s)	22.0	56.0			34.0		34.0	34.0	34.0			
Total Split (%)	24.4%	62.2%			37.8%		37.8%	37.8%	37.8%			
Maximum Green (s)	17.0	51.0			29.0		29.0	29.0	29.0			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.4	49.6			30.2		30.4	30.4	30.4			
Actuated g/C Ratio	0.16	0.55			0.34		0.34	0.34	0.34			
v/c Ratio	0.69	0.69			0.93dr		0.27	0.27	0.51			
Control Delay	48.6	16.6			31.0		24.1	24.0	21.0			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	48.6	16.6			31.0		24.1	24.0	21.0			
LOS	D	B			C		C	C	C			
Approach Delay		20.7			31.0			22.5				
Approach LOS		C			C			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 25.2
 Intersection LOS: C
 Intersection Capacity Utilization 59.6%
 ICU Level of Service B
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

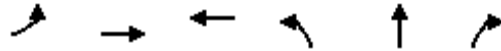
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	196	1336	1515	152	152	303
v/c Ratio	0.69	0.69	0.93dr	0.27	0.27	0.51
Control Delay	48.6	16.6	31.0	24.1	24.0	21.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	16.6	31.0	24.1	24.0	21.0
Queue Length 50th (ft)	106	258	253	67	67	99
Queue Length 95th (ft)	174	330	#356	118	118	180
Internal Link Dist (ft)		642	1820		360	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	334	2005	1740	567	571	590
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.67	0.87	0.27	0.27	0.51

Intersection Summary































95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			  			 		 	 	
Traffic Volume (vph)	140	888	130	250	803	127	200	240	200	152	400	270
Future Volume (vph)	140	888	130	250	803	127	200	240	200	152	400	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.980				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116		25				217			112
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1900			5304			887				1679
Travel Time (s)		32.4			90.4			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	965	141	272	873	138	217	261	217	165	435	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	965	141	272	1011	0	217	261	217	165	435	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

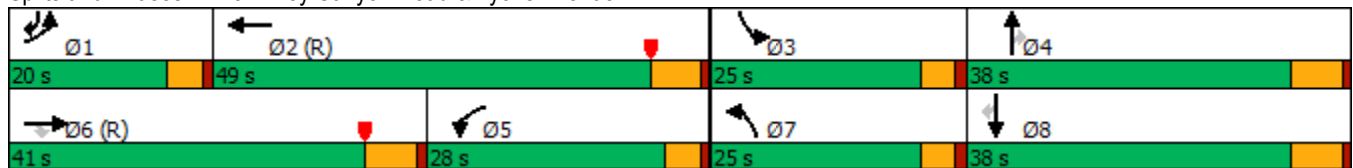
01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	41.0	41.0	28.0	49.0		25.0	38.0	38.0	25.0	38.0	20.0
Total Split (%)	15.2%	31.1%	31.1%	21.2%	37.1%		18.9%	28.8%	28.8%	18.9%	28.8%	15.2%
Maximum Green (s)	15.5	35.0	35.0	23.5	43.0		20.5	32.0	32.0	20.5	32.0	15.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	12.3	47.9	47.9	24.0	59.6		20.1	26.3	26.3	17.8	24.0	40.3
Actuated g/C Ratio	0.09	0.36	0.36	0.18	0.45		0.15	0.20	0.20	0.13	0.18	0.31
v/c Ratio	0.51	0.81	0.23	0.91	0.45		0.86	0.40	0.46	0.74	0.70	0.52
Control Delay	62.7	45.0	9.3	67.1	10.2		85.3	47.6	8.8	74.4	56.6	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	45.0	9.3	67.1	10.2		85.3	47.6	8.8	74.4	56.6	25.2
LOS	E	D	A	E	B		F	D	A	E	E	C
Approach Delay		43.1			22.2			47.3			49.6	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 38.7
 Intersection LOS: D
 Intersection Capacity Utilization 73.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	965	141	272	1011	217	261	217	165	435	293
v/c Ratio	0.51	0.81	0.23	0.91	0.45	0.86	0.40	0.46	0.74	0.70	0.52
Control Delay	62.7	45.0	9.3	67.1	10.2	85.3	47.6	8.8	74.4	56.6	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	45.0	9.3	67.1	10.2	85.3	47.6	8.8	74.4	56.6	25.2
Queue Length 50th (ft)	64	394	14	229	167	182	103	0	136	185	126
Queue Length 95th (ft)	98	#550	65	#400	164	#318	142	68	213	233	195
Internal Link Dist (ft)		1820			5224		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	389	1197	609	300	2264	262	850	541	262	881	603
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.81	0.23	0.91	0.45	0.83	0.31	0.40	0.63	0.49	0.49































Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 		 		 
Traffic Volume (vph)	200	1090	60	127	1089	387	110	120	122	502	90	230
Future Volume (vph)	200	1090	60	127	1089	387	110	120	122	502	90	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			227			133			250
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5304			2371			465				790
Travel Time (s)		103.3			46.2			9.1				12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1185	65	138	1184	421	120	130	133	546	98	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	217	1185	65	138	1184	421	120	130	133	546	98	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

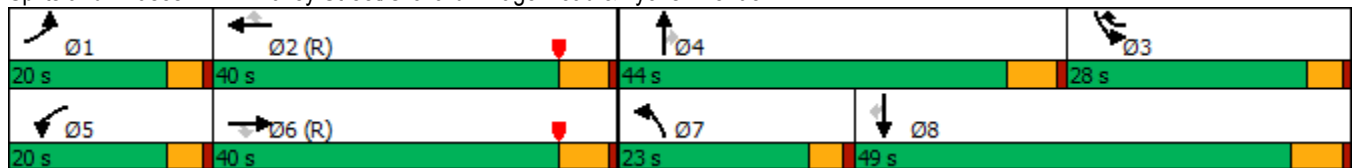


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	14.7	57.9	57.9	17.0	60.2	88.9	14.9	12.5	12.5	28.7	26.2	26.2
Actuated g/C Ratio	0.11	0.44	0.44	0.13	0.46	0.67	0.11	0.09	0.09	0.22	0.20	0.20
v/c Ratio	0.61	0.82	0.09	0.65	0.67	0.34	0.65	0.40	0.53	0.73	0.27	0.50
Control Delay	57.0	59.1	6.7	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	59.1	6.7	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
LOS	E	E	A	E	D	A	E	E	B	D	D	A
Approach Delay		56.5			31.6			48.4			40.4	
Approach LOS		E			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 42.9
 Intersection LOS: D
 Intersection Capacity Utilization 68.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	217	1185	65	138	1184	421	120	130	133	546	98	250
v/c Ratio	0.61	0.82	0.09	0.65	0.67	0.34	0.65	0.40	0.53	0.73	0.27	0.50
Control Delay	57.0	59.1	6.7	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	59.1	6.7	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
Queue Length 50th (ft)	100	547	3	101	550	61	99	56	0	226	72	0
Queue Length 95th (ft)	m129	#766	m16	m110	m627	m186	162	87	62	272	119	69
Internal Link Dist (ft)		5224			2291			385			710	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	402	1448	755	229	1775	1250	237	1036	508	754	613	686
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.82	0.09	0.60	0.67	0.34	0.51	0.13	0.26	0.72	0.16	0.36

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	593	950	60	732	30	580	110	40	40	170	190
Future Volume (vph)	130	593	950	60	732	30	580	110	40	40	170	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1616	3539	1468	1637	3539	1356	3132	1863	1471	1671	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			383			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2371			962			528				401
Travel Time (s)		46.2			18.7			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	645	1033	65	796	33	630	120	43	43	185	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	645	1033	65	796	33	630	120	43	43	185	207
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

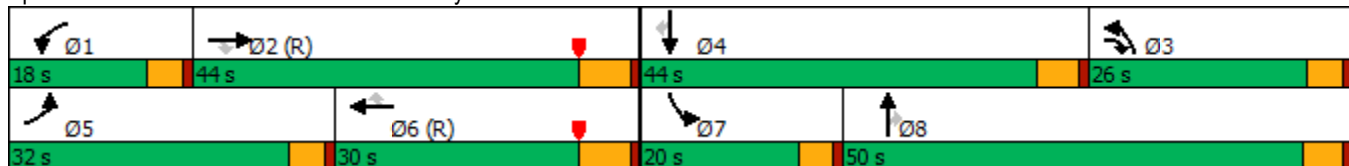


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	32.0	44.0	26.0	18.0	30.0	30.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	24.2%	33.3%	19.7%	13.6%	22.7%	22.7%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	27.5	38.0	21.5	13.5	24.0	24.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	24.0		24.0		24.0		32.0		32.0		32.0	
Pedestrian Calls (#/hr)	27		27		27		43		43		43	
Act Effct Green (s)	17.1	45.4	72.7	10.8	36.9	36.9	27.3	54.8	54.8	9.2	34.7	34.7
Actuated g/C Ratio	0.13	0.34	0.55	0.08	0.28	0.28	0.21	0.42	0.42	0.07	0.26	0.26
v/c Ratio	0.66	0.53	1.04	0.49	0.80	0.07	0.92	0.16	0.06	0.36	0.39	0.44
Control Delay	69.2	28.2	55.0	79.3	43.8	0.5	71.2	26.4	0.2	66.1	41.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2	28.2	55.0	79.3	43.8	0.5	71.2	26.4	0.2	66.1	41.0	15.5
LOS	E	C	E	E	D	A	E	C	A	E	D	B
Approach Delay	46.6		44.8		60.6		31.3					
Approach LOS	D		D		E		C					

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 49 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 47.3 Intersection LOS: D
 Intersection Capacity Utilization 100.1% ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	141	645	1033	65	796	33	630	120	43	43	185	207
v/c Ratio	0.66	0.53	1.04	0.49	0.80	0.07	0.92	0.16	0.06	0.36	0.39	0.44
Control Delay	69.2	28.2	55.0	79.3	43.8	0.5	71.2	26.4	0.2	66.1	41.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2	28.2	55.0	79.3	43.8	0.5	71.2	26.4	0.2	66.1	41.0	15.5
Queue Length 50th (ft)	104	231	~624	55	365	0	~324	65	0	36	123	42
Queue Length 95th (ft)	m140	229	#895	96	#490	1	#444	114	0	74	191	113
Internal Link Dist (ft)		2291			882			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	350	1217	993	175	990	501	687	773	690	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.53	1.04	0.37	0.80	0.07	0.92	0.16	0.06	0.21	0.34	0.40

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	77	190	17	44	0	420	23	35	0	13	92
Future Volume (vph)	163	77	190	17	44	0	420	23	35	0	13	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.910				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3221	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	3433	3221	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			207					38				132
Link Speed (mph)		45			30			45				30
Link Distance (ft)		612			324			505				392
Travel Time (s)		9.3			7.4			7.7				8.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	84	207	18	48	0	457	25	38	0	14	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	84	207	18	48	0	457	63	0	0	14	100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Over	Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	20.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	20.0	32.0	57.0	12.0	24.0		57.0	88.0			31.0	20.0
Total Split (%)	15.2%	24.2%	43.2%	9.1%	18.2%		43.2%	66.7%			23.5%	15.2%
Maximum Green (s)	16.0	27.0	52.0	8.0	19.0		52.0	83.0			26.0	16.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	12.6	19.3	52.0	6.8	10.4		52.0	98.0			41.0	12.6
Actuated g/C Ratio	0.10	0.15	0.39	0.05	0.08		0.39	0.74			0.31	0.10
v/c Ratio	0.54	0.31	0.17	0.20	0.33		0.34	0.03			0.01	0.37
Control Delay	68.1	57.7	0.3	64.7	63.6		28.9	2.9			35.3	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	68.1	57.7	0.3	64.7	63.6		28.9	2.9			35.3	7.6
LOS	E	E	A	E	E		C	A			D	A
Approach Delay		36.3			63.9			25.7			11.0	
Approach LOS		D			E			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 10 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 30.7
 Intersection LOS: C
 Intersection Capacity Utilization 38.3%
 ICU Level of Service A
 Analysis Period (min) 15

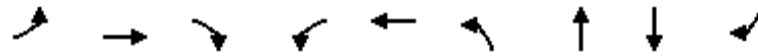
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	177	84	207	18	48	457	63	14	100
v/c Ratio	0.54	0.31	0.17	0.20	0.33	0.34	0.03	0.01	0.37
Control Delay	68.1	57.7	0.3	64.7	63.6	28.9	2.9	35.3	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.1	57.7	0.3	64.7	63.6	28.9	2.9	35.3	7.6
Queue Length 50th (ft)	83	72	0	15	40	139	2	4	0
Queue Length 95th (ft)	m121	m119	1	41	81	183	10	14	27
Internal Link Dist (ft)		532			244		425	312	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	416	381	1223	107	268	1352	2401	1099	307
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.22	0.17	0.17	0.18	0.34	0.03	0.01	0.33

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	30	10	30	140	20	124	40	324	199	40	171	10
Future Volume (vph)	30	10	30	140	20	124	40	324	199	40	171	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	200		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.942			0.941			0.952			0.994	
Flt Protected		0.979			0.976			0.996			0.991	
Satd. Flow (prot)	0	1718	0	0	1711	0	0	1766	0	0	1835	0
Flt Permitted		0.979			0.976			0.996			0.991	
Satd. Flow (perm)	0	1718	0	0	1711	0	0	1766	0	0	1835	0
Link Speed (mph)		25			25			30			25	
Link Distance (ft)		391			842			164			505	
Travel Time (s)		10.7			23.0			3.7			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	11	33	152	22	135	43	352	216	43	186	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	0	0	309	0	0	611	0	0	240	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	63.8%
ICU Level of Service	B
Analysis Period (min)	15

HCM 6th Roundabout
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023

Intersection				
Intersection Delay, s/veh	7.4			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	77	309	611	240
Demand Flow Rate, veh/h	79	315	623	245
Vehicles Circulating, veh/h	389	437	89	221
Vehicles Exiting, veh/h	77	275	379	531
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.8	8.2	8.2	5.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	79	315	623	245
Cap Entry Lane, veh/h	928	884	1260	1101
Entry HV Adj Factor	0.972	0.980	0.981	0.981
Flow Entry, veh/h	77	309	611	240
Cap Entry, veh/h	902	866	1236	1080
V/C Ratio	0.085	0.356	0.494	0.222
Control Delay, s/veh	4.8	8.2	8.2	5.4
LOS	A	A	A	A
95th %tile Queue, veh	0	2	3	1

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Lane Configurations										
Traffic Volume (vph)	70	133	431	140	84	267				
Future Volume (vph)	70	133	431	140	84	267				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	100	0		0	0					
Storage Lanes	1	1		0	1					
Taper Length (ft)	25				25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95				
Frt		0.850	0.967							
Flt Protected	0.950				0.950					
Satd. Flow (prot)	1770	1583	1801	0	1770	3539				
Flt Permitted	0.950				0.950					
Satd. Flow (perm)	1770	1583	1801	0	1770	3539				
Right Turn on Red		Yes		Yes						
Satd. Flow (RTOR)		145	13							
Link Speed (mph)	30		45			45				
Link Distance (ft)	1101		354			164				
Travel Time (s)	25.0		5.4			2.5				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Adj. Flow (vph)	76	145	468	152	91	290				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	76	145	620	0	91	290				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Right	Left	Left				
Median Width(ft)	12		12			12				
Link Offset(ft)	0		0			0				
Crosswalk Width(ft)	16		16			16				
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)	15	9		9	15					
Number of Detectors	1	1	2		1	2				
Detector Template	Left	Right	Thru		Left	Thru				
Leading Detector (ft)	20	20	100		20	100				
Trailing Detector (ft)	0	0	0		0	0				
Detector 1 Position(ft)	0	0	0		0	0				
Detector 1 Size(ft)	20	20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0				
Detector 2 Position(ft)			94			94				
Detector 2 Size(ft)			6			6				
Detector 2 Type			Cl+Ex			Cl+Ex				
Detector 2 Channel										
Detector 2 Extend (s)			0.0			0.0				
Turn Type	Prot	Perm	NA		Prot	NA				
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8
Permitted Phases		7 8								

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023

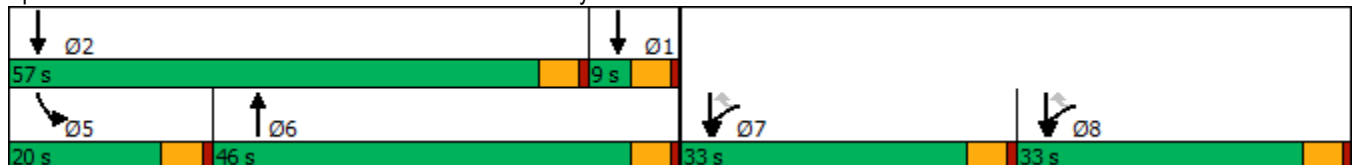


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		9.0	23.0	33.0	33.0
Total Split (s)			46.0		20.0		9.0	57.0	33.0	33.0
Total Split (%)			34.8%		15.2%		7%	43%	25%	25%
Maximum Green (s)			41.0		15.0		4.0	52.0	28.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lag	Lead	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Min	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	20.5	20.5	41.5		9.7	84.1				
Actuated g/C Ratio	0.24	0.24	0.49		0.12	1.00				
v/c Ratio	0.18	0.29	0.69		0.44	0.08				
Control Delay	27.8	6.6	23.5		43.8	0.0				
Queue Delay	0.0	0.0	0.0		0.0	0.0				
Total Delay	27.8	6.6	23.5		43.8	0.0				
LOS	C	A	C		D	A				
Approach Delay	13.9		23.5			10.5				
Approach LOS	B		C			B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 84.1
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 17.7
 Intersection LOS: B
 Intersection Capacity Utilization 52.2%
 ICU Level of Service A
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	76	145	620	91	290
v/c Ratio	0.18	0.29	0.69	0.44	0.08
Control Delay	27.8	6.6	23.5	43.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	6.6	23.5	43.8	0.0
Queue Length 50th (ft)	33	0	244	46	0
Queue Length 95th (ft)	71	44	#467	98	0
Internal Link Dist (ft)	1021		274		84
Turn Bay Length (ft)	100				
Base Capacity (vph)	891	869	896	319	3539
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.17	0.69	0.29	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
19: Valle Del Oro & Dockweiler Drive

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	327	20	390	551	10	10	10	270	10	10	10
Future Volume (vph)	10	327	20	390	551	10	10	10	270	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	100		100	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.874			0.955	
Flt Protected	0.950			0.950				0.998			0.984	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1625	0	0	1750	0
Flt Permitted	0.312			0.485				0.993			0.890	
Satd. Flow (perm)	581	1863	1583	903	1863	1583	0	1617	0	0	1583	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			22			8		293			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5199			3882			2703			372	
Travel Time (s)		118.2			88.2			61.4			8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	355	22	424	599	11	11	11	293	11	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	355	22	424	599	11	0	315	0	0	33	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		6			

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

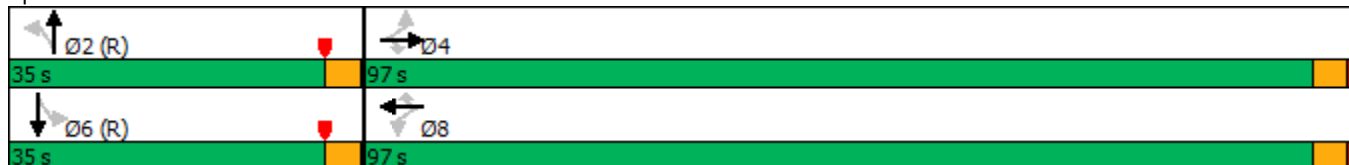


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	97.0	97.0	97.0	97.0	97.0	97.0	35.0	35.0		35.0	35.0	
Total Split (%)	73.5%	73.5%	73.5%	73.5%	73.5%	73.5%	26.5%	26.5%		26.5%	26.5%	
Maximum Green (s)	93.0	93.0	93.0	93.0	93.0	93.0	31.0	31.0		31.0	31.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	78.7	78.7	78.7	78.7	78.7	78.7		45.3			45.3	
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.60	0.60		0.34			0.34	
v/c Ratio	0.03	0.32	0.02	0.79	0.54	0.01		0.42			0.06	
Control Delay	7.0	13.1	2.2	24.2	12.9	0.6		3.5			28.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	7.0	13.1	2.2	24.2	12.9	0.6		3.5			28.1	
LOS	A	B	A	C	B	A		A			C	
Approach Delay		12.3			17.4			3.5			28.1	
Approach LOS		B			B			A			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 14.0
 Intersection LOS: B
 Intersection Capacity Utilization 66.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 19: Valle Del Oro & Dockweiler Drive



Queues

19: Valle Del Oro & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	355	22	424	599	11	315	33
v/c Ratio	0.03	0.32	0.02	0.79	0.54	0.01	0.42	0.06
Control Delay	7.0	13.1	2.2	24.2	12.9	0.6	3.5	28.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.0	13.1	2.2	24.2	12.9	0.6	3.5	28.1
Queue Length 50th (ft)	3	133	0	231	218	1	13	13
Queue Length 95th (ft)	9	142	8	329	212	m0	34	43
Internal Link Dist (ft)		5119			3802		2623	292
Turn Bay Length (ft)	100		100	100		100		
Base Capacity (vph)	409	1312	1121	636	1312	1117	747	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.27	0.02	0.67	0.46	0.01	0.42	0.06

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	417	319	269	318	1374	592
Future Volume (vph)	417	319	269	318	1374	592
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.974	0.850				0.850
Flt Protected	0.960		0.950			
Satd. Flow (prot)	3379	1441	1770	3539	3539	1583
Flt Permitted	0.960		0.950			
Satd. Flow (perm)	3379	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	18	250				290
Link Speed (mph)	30			50	50	
Link Distance (ft)	3882			2854	2872	
Travel Time (s)	88.2			38.9	39.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	453	347	292	346	1493	643
Shared Lane Traffic (%)		28%				
Lane Group Flow (vph)	550	250	292	346	1493	643
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	21.0	21.0	30.0	30.0
Total Split (s)	35.0	35.0	31.0	97.0	66.0	66.0
Total Split (%)	26.5%	26.5%	23.5%	73.5%	50.0%	50.0%
Maximum Green (s)	30.0	30.0	26.0	92.0	61.0	61.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	25.9	25.9	30.1	96.1	61.0	61.0
Actuated g/C Ratio	0.20	0.20	0.23	0.73	0.46	0.46
v/c Ratio	0.81	0.52	0.72	0.13	0.91	0.72
Control Delay	56.6	14.1	36.8	3.6	36.8	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	14.1	36.8	3.6	36.8	19.7
LOS	E	B	D	A	D	B
Approach Delay	43.3			18.8	31.6	
Approach LOS	D			B	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 31.9
 Intersection LOS: C
 Intersection Capacity Utilization 80.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	550	250	292	346	1493	643
v/c Ratio	0.81	0.52	0.72	0.13	0.91	0.72
Control Delay	56.6	14.1	36.8	3.6	36.8	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	14.1	36.8	3.6	36.8	19.7
Queue Length 50th (ft)	228	54	188	18	470	242
Queue Length 95th (ft)	286	100	#362	53	m548	m290
Internal Link Dist (ft)	3802			2774	2792	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	781	520	403	2576	1635	887
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.48	0.72	0.13	0.91	0.72

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

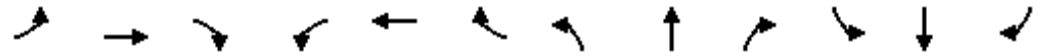
01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	47	14	380	38	680	28	413	214	550	1591	69
Future Volume (vph)	19	47	14	380	38	680	28	413	214	550	1591	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.729			0.722			0.950			0.950		
Satd. Flow (perm)	1358	3539	1583	1345	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			715			233			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		715			720			2872			794	
Travel Time (s)		10.8			10.9			39.2			10.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	51	15	413	41	739	30	449	233	598	1729	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	51	15	413	41	739	30	449	233	598	1729	75
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8			6			2

Lanes, Volumes, Timings

21: Sierra Highway & Placerita Canyon Road

01/24/2023

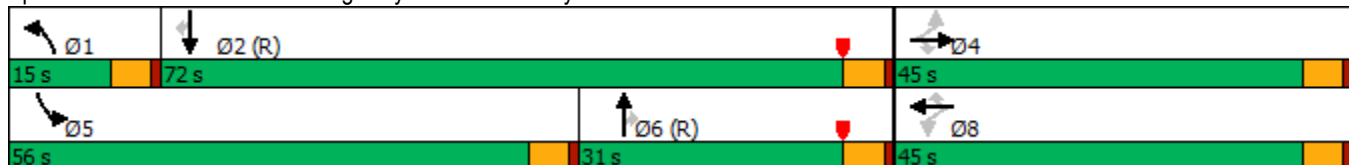


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.0	21.0	21.0	37.0	37.0	37.0	15.0	21.0	21.0	15.0	39.0	39.0
Total Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	15.0	31.0	31.0	56.0	72.0	72.0
Total Split (%)	34.1%	34.1%	34.1%	34.1%	34.1%	34.1%	11.4%	23.5%	23.5%	42.4%	54.5%	54.5%
Maximum Green (s)	40.0	40.0	40.0	40.0	40.0	40.0	10.0	26.0	26.0	51.0	67.0	67.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	40.0	40.0	40.0	40.0	40.0	40.0	10.0	29.1	29.1	47.9	73.0	73.0
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30	0.30	0.08	0.22	0.22	0.36	0.55	0.55
v/c Ratio	0.05	0.05	0.03	1.01	0.04	0.76	0.22	0.57	0.44	0.93	0.88	0.08
Control Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.6	49.3	24.2	53.2	28.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Total Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.6	49.3	24.2	53.2	30.0	3.8
LOS	C	C	A	F	C	A	E	D	C	D	C	A
Approach Delay		27.2			39.2			41.7			35.0	
Approach LOS		C			D			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 37.0
 Intersection LOS: D
 Intersection Capacity Utilization 92.5%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023














Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	51	15	413	41	739	30	449	233	598	1729	75
v/c Ratio	0.05	0.05	0.03	1.01	0.04	0.76	0.22	0.57	0.44	0.93	0.88	0.08
Control Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.6	49.3	24.2	53.2	28.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Total Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.6	49.3	24.2	53.2	30.0	3.8
Queue Length 50th (ft)	13	16	0	~363	13	15	17	211	100	474	733	11
Queue Length 95th (ft)	34	32	0	#578	27	149	m37	270	169	#683	#918	m14
Internal Link Dist (ft)		635			640			2792			714	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	411	1072	548	407	1072	978	134	781	530	683	1957	901
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	79	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.05	0.03	1.01	0.04	0.76	0.22	0.57	0.44	0.88	0.92	0.08

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	39	40	907	324	1210	2231
Future Volume (vph)	39	40	907	324	1210	2231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		0	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Frt		0.850	0.961			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3401	0	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3401	0	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		43	45			
Link Speed (mph)	30		50			50
Link Distance (ft)	717		794			675
Travel Time (s)	16.3		10.8			9.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	43	986	352	1315	2425
Shared Lane Traffic (%)						
Lane Group Flow (vph)	42	43	1338	0	1315	2425
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

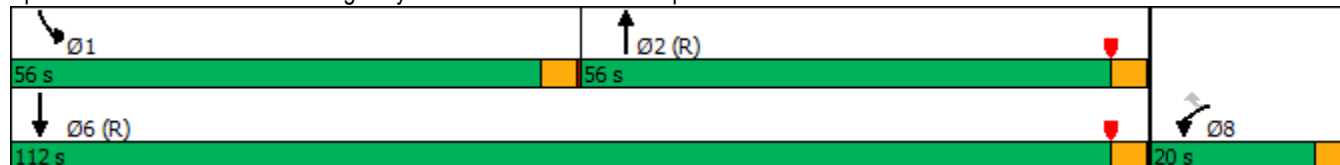


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		8.0	20.0
Total Split (s)	20.0	20.0	56.0		56.0	112.0
Total Split (%)	15.2%	15.2%	42.4%		42.4%	84.8%
Maximum Green (s)	16.0	16.0	52.0		52.0	108.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	8.5	8.5	57.2		56.2	118.2
Actuated g/C Ratio	0.06	0.06	0.43		0.43	0.90
v/c Ratio	0.37	0.30	0.89		0.90	0.77
Control Delay	67.4	21.6	37.7		44.7	5.4
Queue Delay	0.0	0.0	0.0		0.0	0.5
Total Delay	67.4	21.6	37.7		44.7	5.8
LOS	E	C	D		D	A
Approach Delay	44.2		37.7			19.5
Approach LOS	D		D			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 24.6
 Intersection LOS: C
 Intersection Capacity Utilization 83.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR-14 Southbound Ramps



Queues

22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	42	43	1338	1315	2425
v/c Ratio	0.37	0.30	0.89	0.90	0.77
Control Delay	67.4	21.6	37.7	44.7	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.5
Total Delay	67.4	21.6	37.7	44.7	5.8
Queue Length 50th (ft)	35	0	412	507	297
Queue Length 95th (ft)	74	38	#707	637	467
Internal Link Dist (ft)	637		714		595
Turn Bay Length (ft)				160	
Base Capacity (vph)	214	229	1498	1463	3167
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	297
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.19	0.89	0.90	0.84

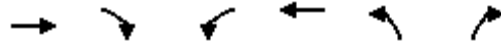
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	220	0	0	790	448	100
Future Volume (vph)	220	0	0	790	448	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	720			392	651	
Travel Time (s)	10.9			5.9	14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	0	0	859	487	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	0	0	859	487	109
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	53.3%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
 23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023

Intersection						
Int Delay, s/veh	46.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	220	0	0	790	448	100
Future Vol, veh/h	220	0	0	790	448	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	239	0	0	859	487	109

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	669 120
Stage 1	-	-	-	-	239 -
Stage 2	-	-	-	-	430 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	~ 391 909
Stage 1	-	0	0	-	778 -
Stage 2	-	0	0	-	624 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	~ 391 909
Mov Cap-2 Maneuver	-	-	-	-	~ 391 -
Stage 1	-	-	-	-	778 -
Stage 2	-	-	-	-	624 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	132.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	391	909	-	-
HCM Lane V/C Ratio	1.245	0.12	-	-
HCM Control Delay (s)	160	9.5	-	-
HCM Lane LOS	F	A	-	-
HCM 95th %tile Q(veh)	20.8	0.4	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	820	1800	360	390	1320	430	450	1969	650	410	1530	230
Future Volume (vph)	820	1800	360	390	1320	430	450	1969	650	410	1530	230
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	300		230
Storage Lanes	3		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62			295			299			99
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			1975			1020	
Travel Time (s)		13.2			11.3			29.9			15.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	25.0	39.0	26.0	22.0	36.0	36.0	26.0	45.0	45.0	26.0	45.0	25.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

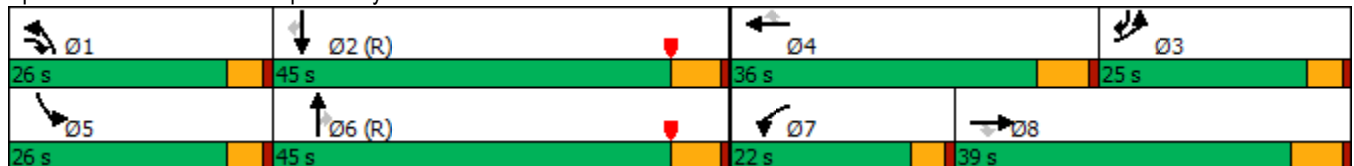


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	29.5%	19.7%	16.7%	27.3%	27.3%	19.7%	34.1%	34.1%	19.7%	34.1%	18.9%
Maximum Green (s)	20.5	33.0	21.5	17.5	30.0	30.0	21.5	39.0	39.0	21.5	39.0	20.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	21.0	35.4	60.3	17.6	32.0	32.0	20.9	43.0	43.0	20.0	42.1	63.1
Actuated g/C Ratio	0.16	0.27	0.46	0.13	0.24	0.24	0.16	0.33	0.33	0.15	0.32	0.48
v/c Ratio	1.12	1.14	0.52	0.92	0.92	0.77	0.90	1.02	0.99	0.86	0.81	0.31
Control Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.7	38.6	24.1	71.2	45.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.7	38.6	24.1	71.2	45.5	7.5
LOS	F	F	C	F	E	C	E	D	C	E	D	A
Approach Delay		105.3			57.2			41.0			46.3	
Approach LOS		F			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 55 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 64.0
 Intersection LOS: E
 Intersection Capacity Utilization 90.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
v/c Ratio	1.12	1.14	0.52	0.92	0.92	0.77	0.90	1.02	0.99	0.86	0.81	0.31
Control Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.7	38.6	24.1	71.2	45.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.7	38.6	24.1	71.2	45.5	7.5
Queue Length 50th (ft)	~311	~572	194	187	350	142	230	~591	~516	192	385	40
Queue Length 95th (ft)	#400	#647	290	#281	#417	285	m196	m293	m101	251	433	70
Internal Link Dist (ft)		790			665			1895			940	
Turn Bay Length (ft)	270		265	280		340	300			300		230
Base Capacity (vph)	793	1716	768	468	1553	607	572	2088	717	572	2043	808
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	1.14	0.51	0.91	0.92	0.77	0.85	1.02	0.99	0.78	0.81	0.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔↔	↕↕↕	↔↔
Traffic Volume (vph)	1040	1620	10	395	990	160	20	2139	619	220	1550	590
Future Volume (vph)	1040	1620	10	395	990	160	20	2139	619	220	1550	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Fr _t		0.999				0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5080	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5080	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				124			112			562
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			3555			1975	
Travel Time (s)		32.4			35.4			53.9			29.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1130	1761	11	429	1076	174	22	2325	673	239	1685	641
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1130	1772	0	429	1076	174	22	2325	673	239	1685	641
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			48			48	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	40.0	48.0		22.0	30.0	20.0	18.0	42.0	22.0	20.0	44.0	40.0
Total Split (%)	30.3%	36.4%		16.7%	22.7%	15.2%	13.6%	31.8%	16.7%	15.2%	33.3%	30.3%
Maximum Green (s)	35.5	42.0		17.5	24.0	15.5	13.5	36.0	17.5	15.5	38.0	35.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

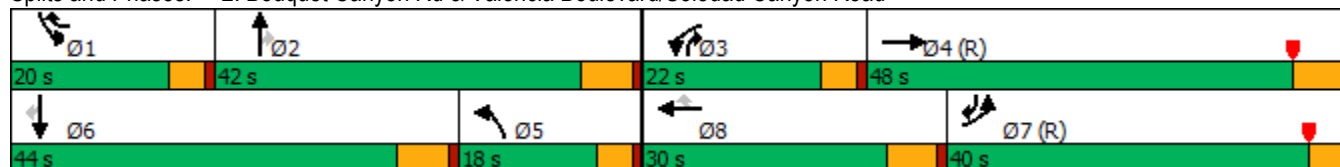


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	None	None	None	Max	None	None	None	C-Max
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effect Green (s)	36.0	44.8		17.2	26.0	40.3	10.9	39.7	60.9	14.3	47.2	87.2
Actuated g/C Ratio	0.27	0.34		0.13	0.20	0.31	0.08	0.30	0.46	0.11	0.36	0.66
v/c Ratio	0.83	1.03		0.66	1.07	0.31	0.15	1.52	0.85	0.64	0.93	0.32
Control Delay	51.5	71.5		59.9	100.4	6.9	53.4	266.1	28.5	48.2	51.8	2.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	71.5		59.9	100.4	6.9	53.4	266.1	28.5	48.2	51.8	2.3
LOS	D	E		E	F	A	D	F	C	D	D	A
Approach Delay		63.7			80.4			211.6				39.1
Approach LOS		E			F			F				D

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 92 (70%), Referenced to phase 4:EBT and 7:EBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.52
 Intersection Signal Delay: 104.2 Intersection LOS: F
 Intersection Capacity Utilization 100.0% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1130	1772	429	1076	174	22	2325	673	239	1685	641
v/c Ratio	0.83	1.03	0.66	1.07	0.31	0.15	1.52	0.85	0.64	0.93	0.32
Control Delay	51.5	71.5	59.9	100.4	6.9	53.4	266.1	28.5	48.2	51.8	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	71.5	59.9	100.4	6.9	53.4	266.1	28.5	48.2	51.8	2.3
Queue Length 50th (ft)	324	~603	124	~374	15	17	~1030	460	105	~611	42
Queue Length 95th (ft)	380	#701	163	#469	41	m18	m#909	m452	m130	#705	m45
Internal Link Dist (ft)		2060		2257			3475			1895	
Turn Bay Length (ft)											
Base Capacity (vph)	1360	1726	680	1001	588	187	1530	799	416	1818	2031
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	1.03	0.63	1.07	0.30	0.12	1.52	0.84	0.57	0.93	0.32

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	740	941	817	1958	1795	450
Future Volume (vph)	740	941	817	1958	1795	450
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		7				414
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4671	3555	
Travel Time (s)	44.4			63.7	53.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	804	1023	888	2128	1951	489
Shared Lane Traffic (%)						
Lane Group Flow (vph)	804	1023	888	2128	1951	489
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

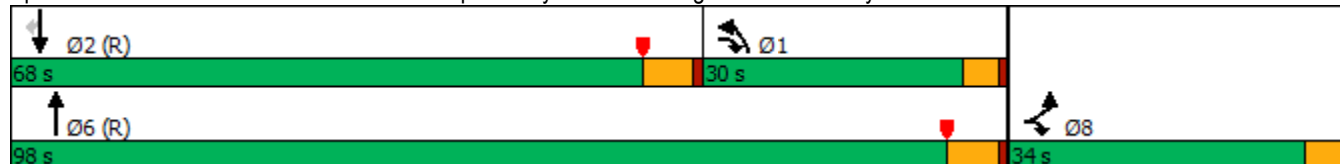


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	30.0	60.0	26.0	94.0	64.0	64.0
Actuated g/C Ratio	0.23	0.45	0.20	0.71	0.48	0.48
v/c Ratio	2.00	0.81	1.31	0.84	1.14	0.50
Control Delay	486.5	36.8	182.9	9.3	91.9	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	486.5	36.8	182.9	9.3	91.9	3.1
LOS	F	D	F	A	F	A
Approach Delay	234.7			60.4	74.1	
Approach LOS	F			E	E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.00
 Intersection Signal Delay: 108.8
 Intersection LOS: F
 Intersection Capacity Utilization 123.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	804	1023	888	2128	1951	489
v/c Ratio	2.00	0.81	1.31	0.84	1.14	0.50
Control Delay	486.5	36.8	182.9	9.3	91.9	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	486.5	36.8	182.9	9.3	91.9	3.1
Queue Length 50th (ft)	~1072	418	~513	233	~1052	36
Queue Length 95th (ft)	#1319	520	m#574	m282	#1192	m46
Internal Link Dist (ft)	2848			4591	3475	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	402	1270	676	2520	1715	980
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.00	0.81	1.31	0.84	1.14	0.50

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	103	790	1465	104	890	1915
Future Volume (vph)	103	790	1465	104	890	1915
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.881	0.850		0.850		
Flt Protected	0.990				0.950	
Satd. Flow (prot)	3152	1441	3539	1583	3433	3539
Flt Permitted	0.990				0.950	
Satd. Flow (perm)	3152	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	343	343		66		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4671
Travel Time (s)	10.9		27.3			63.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	859	1592	113	967	2082
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	542	429	1592	113	967	2082
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	20.5	20.5	59.0	59.0	40.5	103.5
Actuated g/C Ratio	0.16	0.16	0.45	0.45	0.31	0.78
v/c Ratio	0.69	0.84	1.01	0.15	0.92	0.75
Control Delay	22.5	25.7	57.0	17.5	50.4	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	25.7	57.0	17.5	50.4	8.1
LOS	C	C	E	B	D	A
Approach Delay	23.9		54.4			21.5
Approach LOS	C		D			C

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 37 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 31.7
 Intersection LOS: C
 Intersection Capacity Utilization 87.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	542	429	1592	113	967	2082
v/c Ratio	0.69	0.84	1.01	0.15	0.92	0.75
Control Delay	22.5	25.7	57.0	17.5	50.4	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	25.7	57.0	17.5	50.4	8.1
Queue Length 50th (ft)	83	78	~463	29	372	155
Queue Length 95th (ft)	124	202	#873	m68	m#555	m706
Internal Link Dist (ft)	558		1922			4591
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1087	634	1581	744	1052	2773
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.68	1.01	0.15	0.92	0.75

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	251	0	439	10	1560	296	398	1610	0
Future Volume (vph)	0	0	0	251	0	439	10	1560	296	398	1610	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	140		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt						0.850			0.850			
Flt Protected				0.950	0.950		0.950			0.950		
Satd. Flow (prot)	0	0	0	1681	1681	1583	1770	3539	1583	3433	3539	0
Flt Permitted				0.950	0.950		0.950			0.950		
Satd. Flow (perm)	0	0	0	1681	1681	1583	1770	3539	1583	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						477			21			
Link Speed (mph)		25			25			45				45
Link Distance (ft)		337			628			1217				3340
Travel Time (s)		9.2			17.1			18.4				50.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	273	0	477	11	1696	322	433	1750	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	136	137	477	11	1696	322	433	1750	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2	1	1	2	
Detector Template				Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)				20	100	20	20	100	20	20	100	
Trailing Detector (ft)				0	0	0	0	0	0	0	0	
Detector 1 Position(ft)				0	0	0	0	0	0	0	0	
Detector 1 Size(ft)				20	6	20	20	6	20	20	6	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Split	NA	custom	Prot	NA	pm+ov	Prot	NA	
Protected Phases				3	3	9!	5	2!	3	1	6	
Permitted Phases									2			

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/24/2023

Lane Group	Ø8	Ø10
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	8	10
Permitted Phases		

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/24/2023

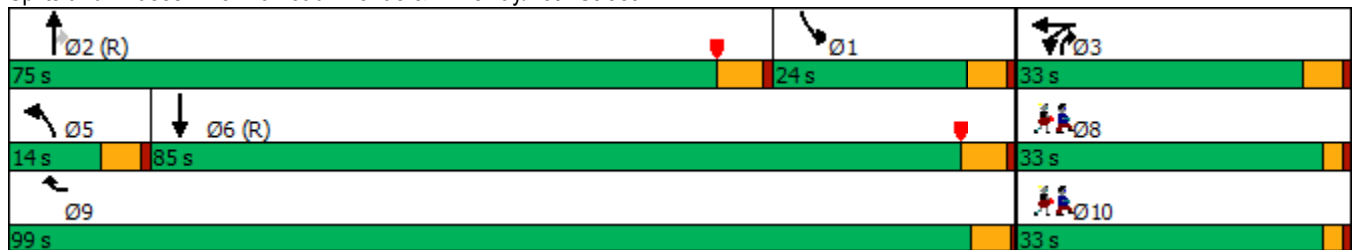


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				3	3	9	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)				10.0	10.0	4.0	9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				33.0	33.0	14.0	14.0	23.5	33.0	14.0	23.5	
Total Split (s)				33.0	33.0	99.0	14.0	75.0	33.0	24.0	85.0	
Total Split (%)				25.0%	25.0%	75.0%	10.6%	56.8%	25.0%	18.2%	64.4%	
Maximum Green (s)				28.0	28.0	94.5	9.0	69.5	28.0	19.0	79.5	
Yellow Time (s)				4.0	4.0	4.0	4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0	1.0	0.5	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0	5.0	4.5	5.0	5.5	5.0	5.0	5.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None	None	None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				17.6	17.6	104.9	9.0	79.9	103.0	19.0	101.1	
Actuated g/C Ratio				0.13	0.13	0.79	0.07	0.61	0.78	0.14	0.77	
v/c Ratio				0.61	0.61	0.35	0.09	0.79	0.26	0.88	0.65	
Control Delay				64.8	65.0	0.9	59.1	16.5	2.4	76.5	11.6	
Queue Delay				0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	
Total Delay				64.8	65.0	1.2	59.1	16.5	2.4	76.5	11.6	
LOS				E	E	A	E	B	A	E	B	
Approach Delay					24.4			14.5			24.5	
Approach LOS					C			B			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 20.4 Intersection LOS: C
 Intersection Capacity Utilization 78.6% ICU Level of Service D
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/24/2023

Lane Group	Ø8	Ø10
Detector Phase		
Switch Phase		
Minimum Initial (s)	4.0	4.0
Minimum Split (s)	31.0	16.0
Total Split (s)	33.0	33.0
Total Split (%)	25%	25%
Maximum Green (s)	30.0	30.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	21.0	6.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

5: Railroad Avenue & Driveway/13th Street

01/24/2023



Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	136	137	477	11	1696	322	433	1750
v/c Ratio	0.61	0.61	0.35	0.09	0.79	0.26	0.88	0.65
Control Delay	64.8	65.0	0.9	59.1	16.5	2.4	76.5	11.6
Queue Delay	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	64.8	65.0	1.2	59.1	16.5	2.4	76.5	11.6
Queue Length 50th (ft)	118	120	4	9	315	15	204	529
Queue Length 95th (ft)	184	187	9	m12	604	54	#287	892
Internal Link Dist (ft)		548			1137			3260
Turn Bay Length (ft)	110			100		570	140	
Base Capacity (vph)	356	356	1355	120	2141	1233	494	2709
Starvation Cap Reductn	0	0	306	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.38	0.45	0.09	0.79	0.26	0.88	0.65

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations	↔↔	↗	↔↔	↕↕	↕↕	↗			
Traffic Volume (vph)	551	120	210	1405	908	803			
Future Volume (vph)	551	120	210	1405	908	803			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		130				519			
Link Speed (mph)	35			35	45				
Link Distance (ft)	1347			1246	1217				
Travel Time (s)	26.2			24.3	18.4				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	599	130	228	1527	987	873			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	599	130	228	1527	987	873			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	34			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	42.0	30.0	30.0	30.0	30.0

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023

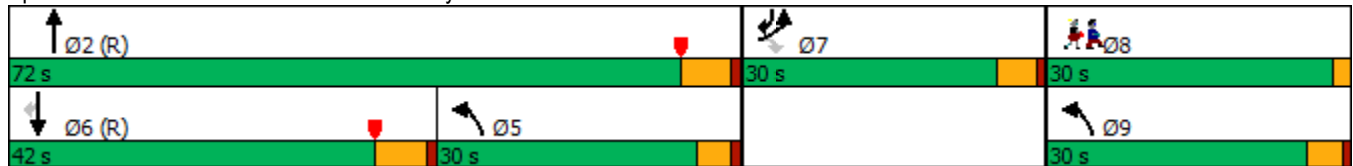


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	31.8%	22.7%	23%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	36.0	25.0	25.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effct Green (s)	31.3	31.3	23.4	79.9	61.2	92.6			
Actuated g/C Ratio	0.24	0.24	0.18	0.61	0.46	0.70			
v/c Ratio	0.74	0.27	0.37	0.71	0.60	0.69			
Control Delay	64.4	21.1	24.8	28.0	24.2	7.8			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	64.4	21.1	24.8	28.0	24.2	7.8			
LOS	E	C	C	C	C	A			
Approach Delay	56.6			27.6	16.5				
Approach LOS	E			C	B				

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	27.7
Intersection LOS:	C
Intersection Capacity Utilization	62.4%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023



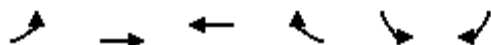
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	599	130	228	1527	987	873
v/c Ratio	0.74	0.27	0.37	0.71	0.60	0.69
Control Delay	64.4	21.1	24.8	28.0	24.2	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.4	21.1	24.8	28.0	24.2	7.8
Queue Length 50th (ft)	159	29	52	592	172	66
Queue Length 95th (ft)	#332	88	53	442	380	479
Internal Link Dist (ft)	1267			1166	1137	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	814	474	1352	2142	1641	1265
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.27	0.17	0.71	0.60	0.69

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1520	960	1365	828	0	
Future Volume (vph)	0	1520	960	1365	828	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.98			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1084			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1913		1540		
Travel Time (s)		6.2	32.6		30.0		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1652	1043	1484	900	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1652	1043	1484	900	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		82.0	38.0	50.0	50.0	44.0	
Total Split (%)		62.1%	28.8%	37.9%	37.9%	33%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		76.0	32.0	44.0	44.0		42.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		78.0	78.0	124.0	46.0		
Actuated g/C Ratio		0.59	0.59	0.94	0.35		
v/c Ratio		0.79	0.95	0.56	0.75		
Control Delay		24.3	32.1	3.5	19.7		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		24.3	32.1	3.5	19.7		
LOS		C	C	A	B		
Approach Delay		24.3	15.3		19.7		
Approach LOS		C	B		B		

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 32 (24%), Referenced to phase 3:SBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 19.0
 Intersection LOS: B
 Intersection Capacity Utilization 80.8%
 ICU Level of Service D
 Analysis Period (min) 15

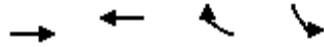
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1652	1043	1484	900
v/c Ratio	0.79	0.95	0.56	0.75
Control Delay	24.3	32.1	3.5	19.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.3	32.1	3.5	19.7
Queue Length 50th (ft)	543	374	115	200
Queue Length 95th (ft)	643	#1155	89	101
Internal Link Dist (ft)	282	1833		1460
Turn Bay Length (ft)				
Base Capacity (vph)	2091	1100	2642	1196
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.79	0.95	0.56	0.75

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗↗	↖↖↖		↘	↘
Traffic Volume (vph)	240	2019	1290	90	60	130
Future Volume (vph)	240	2019	1290	90	60	130
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	3			2	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.990			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5034	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5034	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			11			141
Link Speed (mph)		40	40		30	
Link Distance (ft)		1403	3070		2619	
Travel Time (s)		23.9	52.3		59.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	2195	1402	98	65	141
Shared Lane Traffic (%)						
Lane Group Flow (vph)	261	2195	1500	0	65	141
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	35.0	98.0	63.0		34.0	34.0

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023

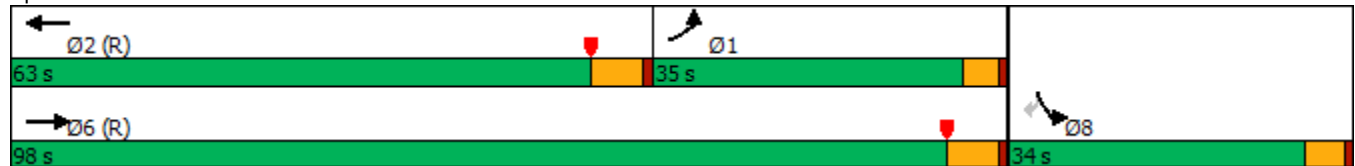


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	26.5%	74.2%	47.7%		25.8%	25.8%
Maximum Green (s)	30.5	92.0	57.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	31.0	112.8	77.8		11.2	11.2
Actuated g/C Ratio	0.23	0.85	0.59		0.08	0.08
v/c Ratio	0.63	0.51	0.51		0.43	0.54
Control Delay	54.6	3.2	4.6		61.9	15.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	54.6	3.2	4.6		61.9	15.2
LOS	D	A	A		E	B
Approach Delay	8.7		4.6		29.9	
Approach LOS	A		A		C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 53 (40%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 8.3
 Intersection Capacity Utilization 53.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

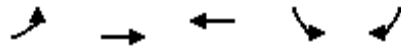
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023








































Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	261	2195	1500	65	141
v/c Ratio	0.63	0.51	0.51	0.43	0.54
Control Delay	54.6	3.2	4.6	61.9	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.6	3.2	4.6	61.9	15.2
Queue Length 50th (ft)	219	173	75	52	12
Queue Length 95th (ft)	m280	202	86	m59	m22
Internal Link Dist (ft)		1323	2990	2539	
Turn Bay Length (ft)	150				
Base Capacity (vph)	415	4344	2970	402	468
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.63	0.51	0.51	0.16	0.30

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	  	  
Traffic Volume (vph)	370	1709	10	240	1120	814	50	1490	260	247	290	200
Future Volume (vph)	370	1709	10	240	1120	814	50	1490	260	247	290	200
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		300
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.939	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4775	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4775	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			273			162		132	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3070			687			398			2905	
Travel Time (s)		52.3			11.7			9.0			66.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	1858	11	261	1217	885	54	1620	283	268	315	217
Shared Lane Traffic (%)												
Lane Group Flow (vph)	402	1858	11	261	1217	885	54	1620	283	268	532	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	50.0	50.0	20.0	45.0	45.0	20.0	42.0	42.0	20.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

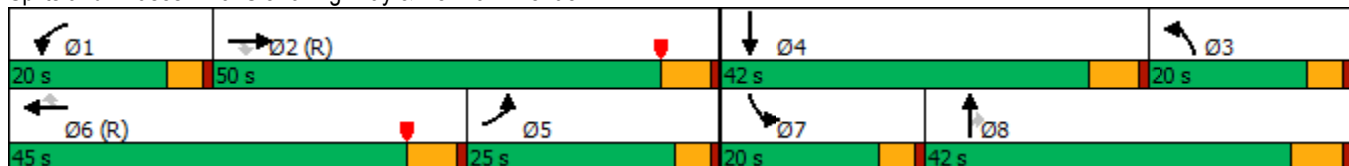


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	37.9%	37.9%	15.2%	34.1%	34.1%	15.2%	31.8%	31.8%	15.2%	31.8%	
Maximum Green (s)	20.5	44.0	44.0	15.5	39.0	39.0	15.5	36.0	36.0	15.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	47.3	47.3	14.7	41.0	41.0	28.4	38.0	36.0	16.0	27.6	
Actuated g/C Ratio	0.16	0.36	0.36	0.11	0.31	0.31	0.22	0.29	0.27	0.12	0.21	
v/c Ratio	0.74	1.02	0.02	0.68	0.77	1.30	0.07	1.59	0.52	1.25	0.48	
Control Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	303.3	20.4	186.4	31.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	303.3	20.4	186.4	31.1	
LOS	E	F	A	E	D	F	D	F	C	F	C	
Approach Delay		79.6			95.7			255.1			83.1	
Approach LOS		E			F			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.59
 Intersection Signal Delay: 131.6
 Intersection LOS: F
 Intersection Capacity Utilization 112.1%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	402	1858	11	261	1217	885	54	1620	283	268	532
v/c Ratio	0.74	1.02	0.02	0.68	0.77	1.30	0.07	1.59	0.52	1.25	0.48
Control Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	303.3	20.4	186.4	31.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	303.3	20.4	186.4	31.1
Queue Length 50th (ft)	181	~624	0	111	345	~803	18	~1039	84	~279	91
Queue Length 95th (ft)	243	#751	m0	158	403	#1059	37	#1178	175	m#470	m160
Internal Link Dist (ft)		2990			607			318			2825
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1821	662	416	1579	679	790	1018	549	214	1609
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	1.02	0.02	0.63	0.77	1.30	0.07	1.59	0.52	1.25	0.33

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 	 	 	 						 	 
Traffic Volume (vph)	0	999	1357	20	1954	0	0	0	0	10	0	410
Future Volume (vph)	0	999	1357	20	1954	0	0	0	0	10	0	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.942	0.850									0.850
Fl _t Protected				0.950							0.950	
Satd. Flow (prot)	0	3194	1441	1770	3539	0	0	0	0	0	1770	1583
Fl _t Permitted				0.950							0.950	
Satd. Flow (perm)	0	3194	1441	1770	3539	0	0	0	0	0	1770	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		687			492			504			602	
Travel Time (s)		11.7			8.4			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1086	1475	22	2124	0	0	0	0	11	0	446
Shared Lane Traffic (%)			46%									
Lane Group Flow (vph)	0	1765	796	22	2124	0	0	0	0	0	11	446
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	86.1%						ICU Level of Service E					
Analysis Period (min)	15											

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	999	1357	20	1954	0	0	0	0	10	0	410
Future Vol, veh/h	0	999	1357	20	1954	0	0	0	0	10	0	410
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082488832	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1086	1475	22	2124	0	0	0	0	11	0	446

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	1086	0	0		2711	3254	-
Stage 1	-	-	-	-	-	-		2168	2168	-
Stage 2	-	-	-	-	-	-		543	1086	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	638	-	0		17	9	0
Stage 1	0	-	-	-	-	0		73	85	0
Stage 2	0	-	-	-	-	0		546	291	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	638	-	-		16	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		16	0	-
Stage 1	-	-	-	-	-	-		73	0	-
Stage 2	-	-	-	-	-	-		527	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	\$ 429.9
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	638	-	16	-
HCM Lane V/C Ratio	-	-	0.034	-	0.679	-
HCM Control Delay (s)	-	-	10.8	-	\$ 429.9	0
HCM Lane LOS	-	-	B	-	F	A
HCM 95th %tile Q(veh)	-	-	0.1	-	1.7	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	980	0	0	110	0	10
Future Volume (vph)	980	0	0	110	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr t						0.865
Flt Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	492			551	676	
Travel Time (s)	8.4			9.4	15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1065	0	0	120	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1065	0	0	120	0	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	86.1% ICU Level of Service E
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	980	0	0	110	0	10
Future Vol, veh/h	980	0	0	110	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1065	0	0	120	0	11




















Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	-	-	533
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.319
Pot Cap-1 Maneuver	-	0	0	492
Stage 1	-	0	0	-
Stage 2	-	0	0	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	492
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	492	-	-
HCM Lane V/C Ratio	0.022	-	-
HCM Control Delay (s)	12.5	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Lanes, Volumes, Timings
12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	1210	0	0	869	739	480	0	425	0	0	0
Future Volume (vph)	220	1210	0	0	869	739	480	0	425	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.931				0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1770	3539	0	0	4734	0	1681	1681	1583	0	0	0
Flt Permitted	0.950						0.950	0.950				
Satd. Flow (perm)	1770	3539	0	0	4734	0	1681	1681	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					261				73			
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		1093			1835			601			382	
Travel Time (s)		18.6			31.3			13.7			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	1315	0	0	945	803	522	0	462	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	239	1315	0	0	1748	0	261	261	462	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

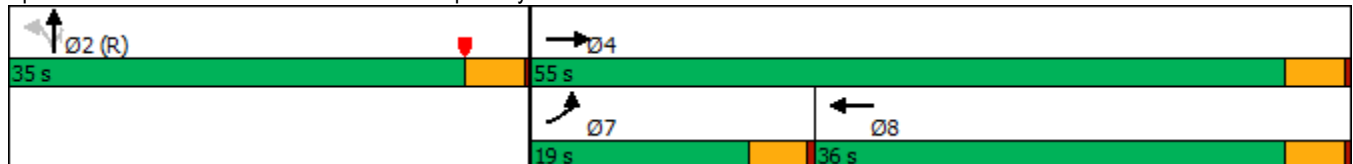


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			10.0		10.0	10.0	10.0			
Minimum Split (s)	14.5	22.5			22.5		32.5	32.5	32.5			
Total Split (s)	19.0	55.0			36.0		35.0	35.0	35.0			
Total Split (%)	21.1%	61.1%			40.0%		38.9%	38.9%	38.9%			
Maximum Green (s)	14.5	50.5			31.5		30.5	30.5	30.5			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	0.5	0.5			0.5		0.5	0.5	0.5			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	4.5			4.5		4.5	4.5	4.5			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.1	50.5			31.9		30.5	30.5	30.5			
Actuated g/C Ratio	0.16	0.56			0.35		0.34	0.34	0.34			
v/c Ratio	0.86	0.66			1.09dr		0.46	0.46	0.79			
Control Delay	66.6	15.9			36.5		26.5	26.5	34.1			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	66.6	15.9			36.5		26.5	26.5	34.1			
LOS	E	B			D		C	C	C			
Approach Delay		23.7			36.5			30.1				
Approach LOS		C			D			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 30.4
 Intersection LOS: C
 Intersection Capacity Utilization 70.1%
 ICU Level of Service C
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

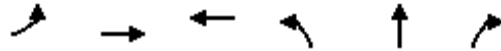
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	239	1315	1748	261	261	462
v/c Ratio	0.86	0.66	1.09dr	0.46	0.46	0.79
Control Delay	66.6	15.9	36.5	26.5	26.5	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	15.9	36.5	26.5	26.5	34.1
Queue Length 50th (ft)	133	256	308	121	121	200
Queue Length 95th (ft)	#260	327	#423	195	195	#359
Internal Link Dist (ft)		1013	1755		521	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	285	1985	1846	569	569	584
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.66	0.95	0.46	0.46	0.79

Intersection Summary
































95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			  			 		 	 	 
Traffic Volume (vph)	440	1185	250	190	1278	192	130	490	310	379	440	270
Future Volume (vph)	440	1185	250	190	1278	192	130	490	310	379	440	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.980				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173		22				293			122
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1835			5346			887				1679
Travel Time (s)		31.3			91.1			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	478	1288	272	207	1389	209	141	533	337	412	478	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	478	1288	272	207	1598	0	141	533	337	412	478	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/24/2023

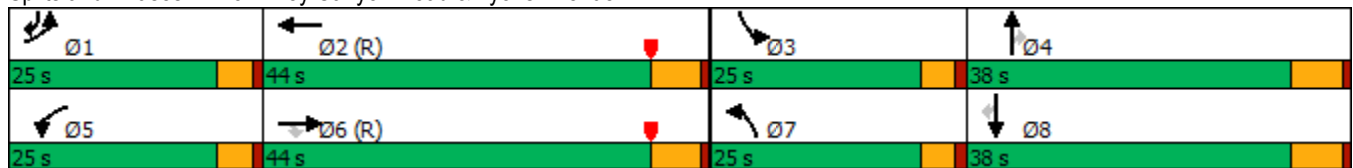


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	25.0	44.0	44.0	25.0	44.0		25.0	38.0	38.0	25.0	38.0	25.0
Total Split (%)	18.9%	33.3%	33.3%	18.9%	33.3%		18.9%	28.8%	28.8%	18.9%	28.8%	18.9%
Maximum Green (s)	20.5	38.0	38.0	20.5	38.0		20.5	32.0	32.0	20.5	32.0	20.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	23.2	45.5	45.5	20.4	42.6		16.6	29.2	29.2	21.0	33.6	60.8
Actuated g/C Ratio	0.18	0.34	0.34	0.15	0.32		0.13	0.22	0.22	0.16	0.25	0.46
v/c Ratio	0.85	1.13	0.44	0.81	0.98		0.68	0.73	0.61	1.57	0.55	0.37
Control Delay	67.8	111.0	15.4	89.9	27.0		71.3	53.7	12.4	311.6	45.3	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	111.0	15.4	89.9	27.0		71.3	53.7	12.4	311.6	45.3	14.5
LOS	E	F	B	F	C		E	D	B	F	D	B
Approach Delay		88.1			34.2			42.4			130.4	
Approach LOS		F			C			D			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.57
 Intersection Signal Delay: 72.6
 Intersection LOS: E
 Intersection Capacity Utilization 91.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023

































Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	478	1288	272	207	1598	141	533	337	412	478	293
v/c Ratio	0.85	1.13	0.44	0.81	0.98	0.68	0.73	0.61	1.57	0.55	0.37
Control Delay	67.8	111.0	15.4	89.9	27.0	71.3	53.7	12.4	311.6	45.3	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	111.0	15.4	89.9	27.0	71.3	53.7	12.4	311.6	45.3	14.5
Queue Length 50th (ft)	203	~713	62	166	~554	117	222	30	~499	186	86
Queue Length 95th (ft)	#315	#875	150	m186	m69	184	276	123	#704	244	163
Internal Link Dist (ft)		1755			5266		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	562	1137	622	271	1624	262	850	598	262	881	795
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	1.13	0.44	0.76	0.98	0.54	0.63	0.56	1.57	0.54	0.37

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 		 	 	
Traffic Volume (vph)	280	1363	120	112	1490	642	100	160	99	569	150	220
Future Volume (vph)	280	1363	120	112	1490	642	100	160	99	569	150	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			275			112			239
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5346			2329			465				345
Travel Time (s)		104.1			45.4			9.1				5.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	1482	130	122	1620	698	109	174	108	618	163	239
Shared Lane Traffic (%)												
Lane Group Flow (vph)	304	1482	130	122	1620	698	109	174	108	618	163	239
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

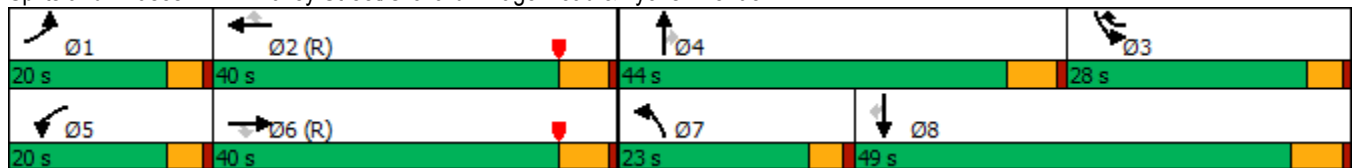


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	18.5	51.7	51.7	15.5	48.7	83.4	14.3	14.1	14.1	34.7	34.5	34.5
Actuated g/C Ratio	0.14	0.39	0.39	0.12	0.37	0.63	0.11	0.11	0.11	0.26	0.26	0.26
v/c Ratio	0.68	1.15	0.19	0.63	1.13	0.58	0.61	0.48	0.44	0.69	0.35	0.41
Control Delay	37.0	111.3	14.8	44.3	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	111.3	14.8	44.3	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
LOS	D	F	B	D	F	B	E	E	B	D	D	A
Approach Delay		92.9			77.3			50.0			37.1	
Approach LOS		F			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 2 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.15
 Intersection Signal Delay: 73.6
 Intersection LOS: E
 Intersection Capacity Utilization 83.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	304	1482	130	122	1620	698	109	174	108	618	163	239
v/c Ratio	0.68	1.15	0.19	0.63	1.13	0.58	0.61	0.48	0.44	0.69	0.35	0.41
Control Delay	37.0	111.3	14.8	44.3	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	111.3	14.8	44.3	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
Queue Length 50th (ft)	128	~806	35	94	~868	271	90	75	0	245	114	0
Queue Length 95th (ft)	m103	m#788	m32	m80	m#891	m238	149	110	51	297	175	63
Internal Link Dist (ft)		5266			2249			385			265	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	459	1292	689	218	1436	1201	237	1036	493	902	613	679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	1.15	0.19	0.56	1.13	0.58	0.46	0.17	0.22	0.69	0.27	0.35

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	681	1560	50	913	20	970	100	60	20	120	110
Future Volume (vph)	100	681	1560	50	913	20	970	100	60	20	120	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1625	3539	1468	1639	3539	1356	3117	1863	1471	1670	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			469			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2329			1347			528				401
Travel Time (s)		45.4			26.2			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	740	1696	54	992	22	1054	109	65	22	130	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	740	1696	54	992	22	1054	109	65	22	130	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

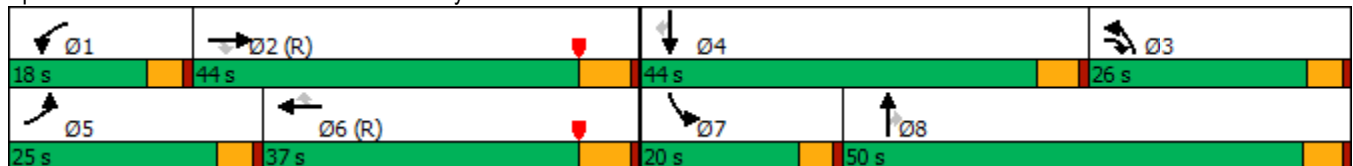


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	25.0	44.0	26.0	18.0	37.0	37.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	18.9%	33.3%	19.7%	13.6%	28.0%	28.0%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	20.5	38.0	21.5	13.5	31.0	31.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	24.0		24.0		24.0		32.0		32.0		32.0	
Pedestrian Calls (#/hr)	27		27		27		43		43		43	
Act Effct Green (s)	14.5	45.9	73.8	10.2	39.5	39.5	27.9	58.4	58.4	7.8	34.1	34.1
Actuated g/C Ratio	0.11	0.35	0.56	0.08	0.30	0.30	0.21	0.44	0.44	0.06	0.26	0.26
v/c Ratio	0.60	0.60	1.63	0.43	0.94	0.04	1.50	0.13	0.09	0.22	0.28	0.26
Control Delay	79.6	23.6	305.9	64.6	56.7	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.6	23.6	305.9	64.6	56.7	0.1	268.6	24.1	0.2	63.7	38.6	4.8
LOS	E	C	F	E	E	A	F	C	A	E	D	A
Approach Delay	214.1		55.9		232.7		25.7					
Approach LOS	F		E		F		C					

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 47 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.63
 Intersection Signal Delay: 175.5 Intersection LOS: F
 Intersection Capacity Utilization 137.2% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	109	740	1696	54	992	22	1054	109	65	22	130	120
v/c Ratio	0.60	0.60	1.63	0.43	0.94	0.04	1.50	0.13	0.09	0.22	0.28	0.26
Control Delay	79.6	23.6	305.9	64.6	56.7	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.6	23.6	305.9	64.6	56.7	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Length 50th (ft)	90	203	~2137	43	461	0	~712	58	0	18	84	0
Queue Length 95th (ft)	m113	m155	m#2024	m67	#644	m0	#846	102	0	47	138	33
Internal Link Dist (ft)		2249			1267			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	262	1230	1041	175	1059	524	702	823	726	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.60	1.63	0.31	0.94	0.04	1.50	0.13	0.09	0.11	0.24	0.23

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	59	510	31	77	0	450	18	27	0	23	163
Future Volume (vph)	125	59	510	31	77	0	450	18	27	0	23	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.911				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3224	0	0	3539	1583
Flt Permitted	0.950			0.950			0.740					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	2674	3224	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			554					29				177
Link Speed (mph)		45			30			45				30
Link Distance (ft)		628			561			423				495
Travel Time (s)		9.5			12.8			6.4				11.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	64	554	34	84	0	489	20	29	0	25	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	64	554	34	84	0	489	49	0	0	25	177
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Over	Prot	NA		pm+pt	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases							2					

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023

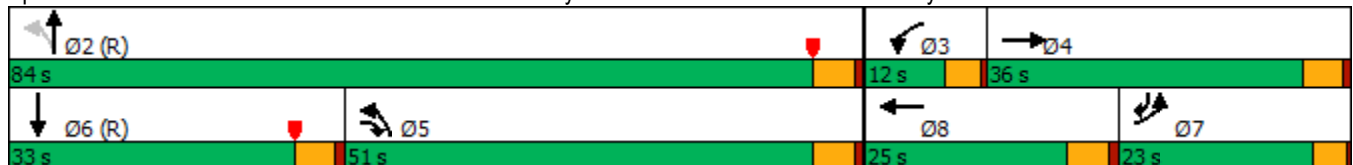


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	15.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	23.0	36.0	51.0	12.0	25.0		51.0	84.0			33.0	23.0
Total Split (%)	17.4%	27.3%	38.6%	9.1%	18.9%		38.6%	63.6%			25.0%	17.4%
Maximum Green (s)	19.0	31.0	46.0	8.0	20.0		46.0	79.0			28.0	19.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	10.6	19.4	46.0	7.2	12.0		95.4	95.4			44.4	10.6
Actuated g/C Ratio	0.08	0.15	0.35	0.05	0.09		0.72	0.72			0.34	0.08
v/c Ratio	0.49	0.23	0.42	0.35	0.50		0.22	0.02			0.02	0.61
Control Delay	61.6	50.3	0.8	70.0	67.0		6.9	3.3			31.6	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	61.6	50.3	0.8	70.0	67.0		6.9	3.3			31.6	17.3
LOS	E	D	A	E	E		A	A			C	B
Approach Delay		16.0			67.9			6.6			19.1	
Approach LOS		B			E			A			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 17.0
 Intersection LOS: B
 Intersection Capacity Utilization 42.9%
 ICU Level of Service A
 Analysis Period (min) 15

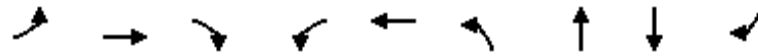
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	136	64	554	34	84	489	49	25	177
v/c Ratio	0.49	0.23	0.42	0.35	0.50	0.22	0.02	0.02	0.61
Control Delay	61.6	50.3	0.8	70.0	67.0	6.9	3.3	31.6	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	50.3	0.8	70.0	67.0	6.9	3.3	31.6	17.3
Queue Length 50th (ft)	63	58	0	28	70	60	2	7	0
Queue Length 95th (ft)	m84	m83	m0	65	122	98	9	20	71
Internal Link Dist (ft)		548			481		343	415	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	494	437	1332	107	282	2197	2339	1191	379
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.15	0.42	0.32	0.30	0.22	0.02	0.02	0.47

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	120	20	180	169	10	43	20	332	178	150	404	10
Future Volume (vph)	120	20	180	169	10	43	20	332	178	150	404	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	180		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.924			0.974			0.955			0.998	
Flt Protected		0.982			0.963			0.998			0.987	
Satd. Flow (prot)	0	1690	0	0	1747	0	0	1775	0	0	1835	0
Flt Permitted		0.982			0.963			0.998			0.987	
Satd. Flow (perm)	0	1690	0	0	1747	0	0	1775	0	0	1835	0
Link Speed (mph)		25			25			30			25	
Link Distance (ft)		391			842			206			423	
Travel Time (s)		10.7			23.0			4.7			11.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	22	196	184	11	47	22	361	193	163	439	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	348	0	0	242	0	0	576	0	0	613	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	93.1%
ICU Level of Service	F
Analysis Period (min)	15

HCM 6th Roundabout
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023

Intersection				
Intersection Delay, s/veh	11.9			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	348	242	576	613
Demand Flow Rate, veh/h	355	247	587	625
Vehicles Circulating, veh/h	802	523	321	221
Vehicles Exiting, veh/h	44	385	836	549
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	17.0	8.1	11.8	10.4
Approach LOS	C	A	B	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	355	247	587	625
Cap Entry Lane, veh/h	609	809	995	1101
Entry HV Adj Factor	0.979	0.979	0.981	0.981
Flow Entry, veh/h	348	242	576	613
Cap Entry, veh/h	596	792	976	1081
V/C Ratio	0.583	0.305	0.590	0.567
Control Delay, s/veh	17.0	8.1	11.8	10.4
LOS	C	A	B	B
95th %tile Queue, veh	4	1	4	4

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Lane Configurations										
Traffic Volume (vph)	160	173	357	140	203	551				
Future Volume (vph)	160	173	357	140	203	551				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	150	0		0	0					
Storage Lanes	1	1		0	1					
Taper Length (ft)	25				25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95				
Frt		0.850	0.962							
Flt Protected	0.950				0.950					
Satd. Flow (prot)	1770	1583	1792	0	1770	3539				
Flt Permitted	0.950				0.950					
Satd. Flow (perm)	1770	1583	1792	0	1770	3539				
Right Turn on Red		Yes		Yes						
Satd. Flow (RTOR)		188	14							
Link Speed (mph)	30		45			45				
Link Distance (ft)	1067		195			206				
Travel Time (s)	24.3		3.0			3.1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Adj. Flow (vph)	174	188	388	152	221	599				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	174	188	540	0	221	599				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Right	Left	Left				
Median Width(ft)	12		12			12				
Link Offset(ft)	0		0			0				
Crosswalk Width(ft)	16		16			16				
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)	15	9		9	15					
Number of Detectors	1	1	2		1	2				
Detector Template	Left	Right	Thru		Left	Thru				
Leading Detector (ft)	20	20	100		20	100				
Trailing Detector (ft)	0	0	0		0	0				
Detector 1 Position(ft)	0	0	0		0	0				
Detector 1 Size(ft)	20	20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0				
Detector 2 Position(ft)			94			94				
Detector 2 Size(ft)			6			6				
Detector 2 Type			Cl+Ex			Cl+Ex				
Detector 2 Channel										
Detector 2 Extend (s)			0.0			0.0				
Turn Type	Prot	Perm	NA		Prot	NA				
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8
Permitted Phases		7 8								

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023



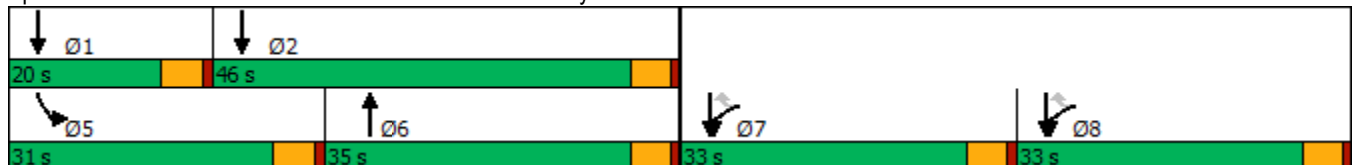
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		20.0	23.0	33.0	33.0
Total Split (s)			35.0		31.0		20.0	46.0	33.0	33.0
Total Split (%)			26.5%		23.5%		15%	35%	25%	25%
Maximum Green (s)			30.0		26.0		15.0	41.0	28.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Ped	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	30.0	30.0	30.5		16.7	92.4				
Actuated g/C Ratio	0.32	0.32	0.33		0.18	1.00				
v/c Ratio	0.30	0.29	0.90		0.69	0.17				
Control Delay	25.2	4.8	51.3		48.3	0.1				
Queue Delay	0.0	0.0	0.0		0.0	0.0				
Total Delay	25.2	4.8	51.3		48.3	0.1				
LOS	C	A	D		D	A				
Approach Delay	14.6		51.3			13.1				
Approach LOS	B		D			B				

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	92.4
Natural Cycle:	130
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	25.4
Intersection LOS:	C
Intersection Capacity Utilization:	59.9%
ICU Level of Service:	B
Analysis Period (min):	15

! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	174	188	540	221	599
v/c Ratio	0.30	0.29	0.90	0.69	0.17
Control Delay	25.2	4.8	51.3	48.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	4.8	51.3	48.3	0.1
Queue Length 50th (ft)	74	0	287	120	0
Queue Length 95th (ft)	140	45	#645	222	0
Internal Link Dist (ft)	987		115		126
Turn Bay Length (ft)	150				
Base Capacity (vph)	933	923	600	505	3472
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.20	0.90	0.44	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.













Lanes, Volumes, Timings
19: Valle Del Oro & Dockweiler Drive

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	671	30	380	447	10	20	10	410	0	10	10
Future Volume (vph)	10	671	30	380	447	10	20	10	410	0	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	100		100	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.874			0.932	
Flt Protected	0.950			0.950				0.998				
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1625	0	0	1736	0
Flt Permitted	0.448			0.319				0.987				
Satd. Flow (perm)	835	1863	1583	594	1863	1583	0	1607	0	0	1736	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			25			11		313			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5381			3919			2619			300	
Travel Time (s)		122.3			89.1			59.5			6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	729	33	413	486	11	22	11	446	0	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	729	33	413	486	11	0	479	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		6			

Lanes, Volumes, Timings
19: Valle Del Oro & Dockweiler Drive

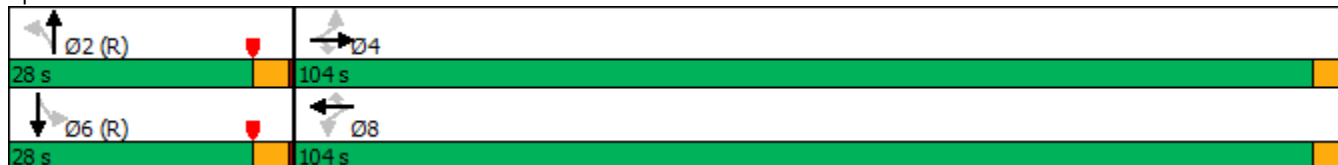
01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	104.0	104.0	104.0	104.0	104.0	104.0	28.0	28.0		28.0	28.0	
Total Split (%)	78.8%	78.8%	78.8%	78.8%	78.8%	78.8%	21.2%	21.2%		21.2%	21.2%	
Maximum Green (s)	100.0	100.0	100.0	100.0	100.0	100.0	24.0	24.0		24.0	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	100.0	100.0	100.0	100.0	100.0	100.0		24.0			24.0	
Actuated g/C Ratio	0.76	0.76	0.76	0.76	0.76	0.76		0.18			0.18	
v/c Ratio	0.02	0.52	0.03	0.92	0.34	0.01		0.87			0.07	
Control Delay	4.0	7.9	1.9	39.9	4.8	0.6		30.6			29.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	4.0	7.9	1.9	39.9	4.8	0.6		30.6			29.5	
LOS	A	A	A	D	A	A		C			C	
Approach Delay		7.6			20.6			30.6			29.5	
Approach LOS		A			C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 18.3
 Intersection LOS: B
 Intersection Capacity Utilization 100.0%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 19: Valle Del Oro & Dockweiler Drive



Queues

19: Valle Del Oro & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	729	33	413	486	11	479	22
v/c Ratio	0.02	0.52	0.03	0.92	0.34	0.01	0.87	0.07
Control Delay	4.0	7.9	1.9	39.9	4.8	0.6	30.6	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	7.9	1.9	39.9	4.8	0.6	30.6	29.5
Queue Length 50th (ft)	2	216	2	141	105	0	88	8
Queue Length 95th (ft)	7	292	9	m#431	m136	m1	#317	33
Internal Link Dist (ft)		5301			3839		2539	220
Turn Bay Length (ft)	100		100	100		100		
Base Capacity (vph)	632	1411	1205	450	1411	1201	548	324
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.52	0.03	0.92	0.34	0.01	0.87	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙↘	↗	↘	↑↑	↑↑	↗
Traffic Volume (vph)	831	240	288	2266	498	609
Future Volume (vph)	831	240	288	2266	498	609
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.996	0.850				0.850
Flt Protected	0.954		0.950			
Satd. Flow (prot)	3434	1441	1770	3539	3539	1583
Flt Permitted	0.954		0.950			
Satd. Flow (perm)	3434	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	2	170				662
Link Speed (mph)	30			50	50	
Link Distance (ft)	3919			2905	621	
Travel Time (s)	89.1			39.6	8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	903	261	313	2463	541	662
Shared Lane Traffic (%)		10%				
Lane Group Flow (vph)	929	235	313	2463	541	662
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	15.0	21.0	30.0	30.0
Total Split (s)	38.0	38.0	33.0	94.0	61.0	61.0
Total Split (%)	28.8%	28.8%	25.0%	71.2%	46.2%	46.2%
Maximum Green (s)	33.0	33.0	28.0	89.0	56.0	56.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	33.0	33.0	26.1	89.0	57.9	57.9
Actuated g/C Ratio	0.25	0.25	0.20	0.67	0.44	0.44
v/c Ratio	1.08	0.48	0.89	1.03	0.35	0.62
Control Delay	97.8	16.0	55.7	42.8	30.8	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.8	16.0	55.7	42.8	30.8	15.0
LOS	F	B	E	D	C	B
Approach Delay	81.3			44.2	22.1	
Approach LOS	F			D	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 47.4
 Intersection LOS: D
 Intersection Capacity Utilization 97.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	929	235	313	2463	541	662
v/c Ratio	1.08	0.48	0.89	1.03	0.35	0.62
Control Delay	97.8	16.0	55.7	42.8	30.8	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.8	16.0	55.7	42.8	30.8	15.0
Queue Length 50th (ft)	~460	57	265	~752	120	56
Queue Length 95th (ft)	m#590	m127	m190	m311	241	300
Internal Link Dist (ft)	3839			2825	541	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	860	487	375	2386	1551	1065
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.48	0.83	1.03	0.35	0.62

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	62	18	90	36	560	16	2203	898	280	964	35
Future Volume (vph)	45	62	18	90	36	560	16	2203	898	280	964	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.730			0.711			0.950			0.950		
Satd. Flow (perm)	1360	3539	1583	1324	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			58			238			275			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		816			677			2247			787	
Travel Time (s)		12.4			10.3			30.6			10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	67	20	98	39	609	17	2395	976	304	1048	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	67	20	98	39	609	17	2395	976	304	1048	38
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5		2
Permitted Phases	4		4	8		8		6		6		2

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	20.0	20.0	20.0	37.0	37.0	37.0	15.0	20.0	20.0	15.0	39.0	39.0
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	22.0	66.0	66.0	26.0	70.0	70.0
Total Split (%)	30.3%	30.3%	30.3%	30.3%	30.3%	30.3%	16.7%	50.0%	50.0%	19.7%	53.0%	53.0%
Maximum Green (s)	35.0	35.0	35.0	35.0	35.0	35.0	17.0	61.0	61.0	21.0	65.0	65.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	35.0	35.0	35.0	35.0	35.0	35.0	10.0	61.0	61.0	21.0	81.0	81.0
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27	0.27	0.08	0.46	0.46	0.16	0.61	0.61
v/c Ratio	0.14	0.07	0.04	0.28	0.04	1.03	0.13	1.46	1.11	1.08	0.48	0.04
Control Delay	38.4	36.7	0.2	41.2	36.3	72.7	59.2	238.7	76.4	124.5	16.5	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	17.6	0.0	1.1	0.0	0.0	0.0	0.0
Total Delay	38.4	36.7	0.2	41.2	36.3	90.3	59.2	239.8	76.4	124.5	16.5	2.3
LOS	D	D	A	D	D	F	E	F	E	F	B	A
Approach Delay		31.9			81.0			191.8			39.8	
Approach LOS		C			F			F			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.46
 Intersection Signal Delay: 136.0
 Intersection LOS: F
 Intersection Capacity Utilization 116.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	67	20	98	39	609	17	2395	976	304	1048	38
v/c Ratio	0.14	0.07	0.04	0.28	0.04	1.03	0.13	1.46	1.11	1.08	0.48	0.04
Control Delay	38.4	36.7	0.2	41.2	36.3	72.7	59.2	238.7	76.4	124.5	16.5	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	17.6	0.0	1.1	0.0	0.0	0.0	0.0
Total Delay	38.4	36.7	0.2	41.2	36.3	90.3	59.2	239.8	76.4	124.5	16.5	2.3
Queue Length 50th (ft)	32	22	0	67	13	~394	14	~1485	~819	~291	245	1
Queue Length 95th (ft)	67	42	0	119	28	#629	m13	m#1389	m#511	#484	382	m13
Internal Link Dist (ft)		736			597			2167			707	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	360	938	462	351	938	594	227	1635	879	281	2171	993
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	28	0	427	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.07	0.04	0.28	0.04	1.08	0.07	1.98	1.11	1.08	0.48	0.04

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	105	40	2861	78	790	1034
Future Volume (vph)	105	40	2861	78	790	1034
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		0	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Frt		0.850	0.996			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3525	0	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3525	0	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		43	4			
Link Speed (mph)	30		50			50
Link Distance (ft)	615		787			1009
Travel Time (s)	14.0		10.7			13.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	43	3110	85	859	1124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	43	3195	0	859	1124
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023

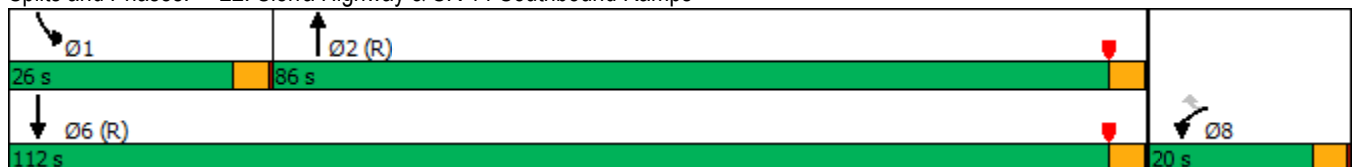


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		8.0	20.0
Total Split (s)	20.0	20.0	86.0		26.0	112.0
Total Split (%)	15.2%	15.2%	65.2%		19.7%	84.8%
Maximum Green (s)	16.0	16.0	82.0		22.0	108.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	13.2	13.2	82.0		24.8	110.8
Actuated g/C Ratio	0.10	0.10	0.62		0.19	0.84
v/c Ratio	0.64	0.22	1.46		1.33	0.38
Control Delay	73.5	17.5	228.4		201.5	3.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	73.5	17.5	228.4		201.5	3.1
LOS	E	B	F		F	A
Approach Delay	58.2		228.4			89.0
Approach LOS	E		F			F

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.46
 Intersection Signal Delay: 171.6
 Intersection LOS: F
 Intersection Capacity Utilization 119.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR 14 Southbound Ramps



Queues

22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	114	43	3195	859	1124
v/c Ratio	0.64	0.22	1.46	1.33	0.38
Control Delay	73.5	17.5	228.4	201.5	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	73.5	17.5	228.4	201.5	3.1
Queue Length 50th (ft)	95	0	~1945	~498	95
Queue Length 95th (ft)	158	36	m#1224	#654	131
Internal Link Dist (ft)	535		707		929
Turn Bay Length (ft)				160	
Base Capacity (vph)	214	229	2191	644	2970
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.19	1.46	1.33	0.38

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

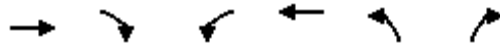
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	290	0	0	330	236	190
Future Volume (vph)	290	0	0	330	236	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	677			645	774	
Travel Time (s)	10.3			9.8	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	0	0	359	257	207
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	359	257	207
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	28.9%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
 23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023

Intersection						
Int Delay, s/veh	6.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	290	0	0	330	236	190
Future Vol, veh/h	290	0	0	330	236	190
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	315	0	0	359	257	207

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	495 158
Stage 1	-	-	-	-	315 -
Stage 2	-	-	-	-	180 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	504 859
Stage 1	-	0	0	-	713 -
Stage 2	-	0	0	-	833 -
Platoon blocked, %	-			-	
Mov Cap-1 Maneuver	-	-	-	-	504 859
Mov Cap-2 Maneuver	-	-	-	-	504 -
Stage 1	-	-	-	-	713 -
Stage 2	-	-	-	-	833 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	504	859	-	-
HCM Lane V/C Ratio	0.509	0.24	-	-
HCM Control Delay (s)	19.3	10.5	-	-
HCM Lane LOS	C	B	-	-
HCM 95th %tile Q(veh)	2.8	0.9	-	-

***Future with Project
with DDEP Conditions (Roundabout)
with Mitigation***

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	880	250	670	1840	70	450	642	170	210	2569	450
Future Volume (vph)	140	880	250	670	1840	70	450	642	170	210	2569	450
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	0		230
Storage Lanes	3		2	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	0.88	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	2787	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	2787	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			136			186			112
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			2037			1105	
Travel Time (s)		13.2			11.3			30.9			16.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	21.0	36.0	22.0	21.0	36.0	36.0	22.0	45.0	45.0	30.0	53.0	21.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

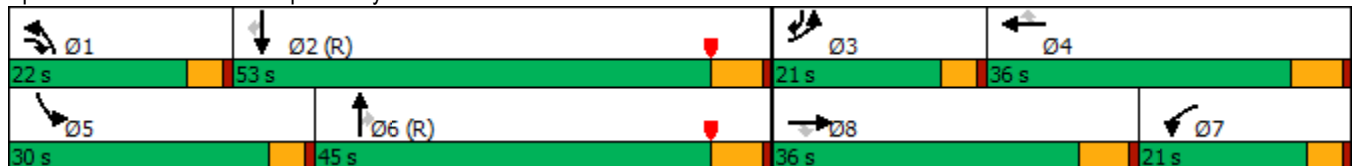


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	15.9%	27.3%	16.7%	15.9%	27.3%	27.3%	16.7%	34.1%	34.1%	22.7%	40.2%	15.9%
Maximum Green (s)	16.5	30.0	17.5	16.5	30.0	30.0	17.5	39.0	39.0	25.5	47.0	16.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	7.9	29.2	47.2	19.8	41.1	41.1	18.0	54.3	54.3	12.7	49.0	60.9
Actuated g/C Ratio	0.06	0.22	0.36	0.15	0.31	0.31	0.14	0.41	0.41	0.10	0.37	0.46
v/c Ratio	0.51	0.67	0.25	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.17	0.62
Control Delay	65.9	49.4	10.1	239.5	66.2	0.5	105.1	19.8	4.8	68.7	120.8	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	10.1	239.5	66.2	0.5	105.1	19.8	4.8	68.7	120.8	23.8
LOS	E	D	B	F	E	A	F	B	A	E	F	C
Approach Delay		43.5			109.4			48.2			103.9	
Approach LOS		D			F			D			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 127 (96%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.42
 Intersection Signal Delay: 88.0
 Intersection LOS: F
 Intersection Capacity Utilization 95.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
v/c Ratio	0.51	0.67	0.25	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.17	0.62
Control Delay	65.9	49.4	10.1	239.5	66.2	0.5	105.1	19.8	4.8	68.7	120.8	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	10.1	239.5	66.2	0.5	105.1	19.8	4.8	68.7	120.8	23.8
Queue Length 50th (ft)	45	218	34	~438	~500	0	~234	99	15	98	~828	240
Queue Length 95th (ft)	69	252	57	#589	#621	0	#350	128	38	139	#895	348
Internal Link Dist (ft)		790			665			1957			1025	
Turn Bay Length (ft)	270		265	280		340	300					230
Base Capacity (vph)	642	1553	1069	513	1993	586	468	2636	760	676	2378	892
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.62	0.25	1.42	1.00	0.13	1.04	0.26	0.24	0.34	1.17	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔	↕↕↕	↔↔
Traffic Volume (vph)	360	900	40	569	1000	410	20	572	291	470	1829	1560
Future Volume (vph)	360	900	40	569	1000	410	20	572	291	470	1829	1560
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		225	450		400
Storage Lanes	3		0	3		1	1		1	1		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.86	1.00	0.97	0.91	0.88
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5055	0	4990	5085	1583	1770	6408	1583	3433	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5055	0	4990	5085	1583	1770	6408	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				99			112			477
Link Speed (mph)		45		45			45			45		45
Link Distance (ft)		2140		2337			888			2037		
Travel Time (s)		32.4		35.4			13.5			30.9		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	978	43	618	1087	446	22	622	316	511	1988	1696
Shared Lane Traffic (%)												
Lane Group Flow (vph)	391	1021	0	618	1087	446	22	622	316	511	1988	1696
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36		36			36			36		36
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	26.0	39.0		31.0	44.0	20.0	19.0	42.0	31.0	20.0	43.0	26.0

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

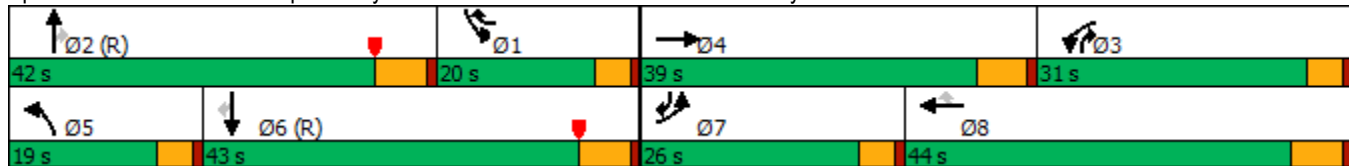


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	19.7%	29.5%		23.5%	33.3%	15.2%	14.4%	31.8%	23.5%	15.2%	32.6%	19.7%
Maximum Green (s)	21.5	33.0		26.5	38.0	15.5	14.5	36.0	26.5	15.5	37.0	21.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	22.0	33.4		25.0	36.4	52.4	7.7	41.6	70.6	16.0	54.0	80.0
Actuated g/C Ratio	0.17	0.25		0.19	0.28	0.40	0.06	0.32	0.53	0.12	0.41	0.61
v/c Ratio	0.47	0.80		0.65	0.78	0.65	0.21	0.31	0.35	1.23	0.96	0.90
Control Delay	51.9	51.1		53.0	48.1	18.8	52.5	28.5	5.6	149.9	38.0	9.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	51.1		53.0	48.1	18.8	52.5	28.5	5.6	149.9	38.0	9.7
LOS	D	D		D	D	B	D	C	A	F	D	A
Approach Delay		51.3			43.4			21.5			40.2	
Approach LOS		D			D			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.23
 Intersection Signal Delay: 40.7
 Intersection LOS: D
 Intersection Capacity Utilization 87.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	391	1021	618	1087	446	22	622	316	511	1988	1696
v/c Ratio	0.47	0.80	0.65	0.78	0.65	0.21	0.31	0.35	1.23	0.96	0.90
Control Delay	51.9	51.1	53.0	48.1	18.8	52.5	28.5	5.6	149.9	38.0	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	51.1	53.0	48.1	18.8	52.5	28.5	5.6	149.9	38.0	9.7
Queue Length 50th (ft)	108	294	177	313	140	18	144	49	~272	~655	175
Queue Length 95th (ft)	143	349	214	356	195	m34	123	75	m#221	m#456	m117
Internal Link Dist (ft)		2060		2257			808			1957	
Turn Bay Length (ft)						250		225	450		400
Base Capacity (vph)	831	1344	1020	1540	687	201	2020	885	416	2081	1877
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.76	0.61	0.71	0.65	0.11	0.31	0.36	1.23	0.96	0.90

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	357	565	1253	1918	510
Future Volume (vph)	140	357	565	1253	1918	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.91	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		5				554
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4834	2595	
Travel Time (s)	44.4			65.9	39.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	388	614	1362	2085	554
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	388	614	1362	2085	554
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

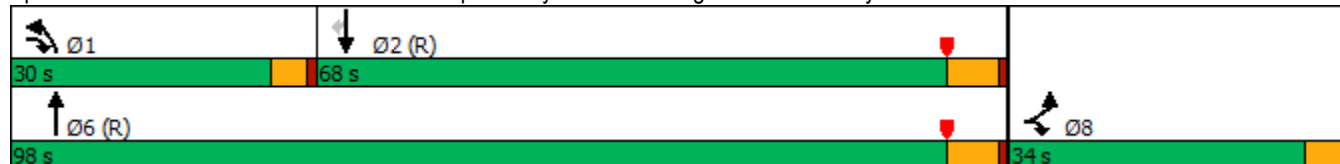


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effct Green (s)	30.6	60.5	25.8	93.4	63.5	63.5
Actuated g/C Ratio	0.23	0.46	0.20	0.71	0.48	0.48
v/c Ratio	0.37	0.30	0.92	0.54	0.85	0.53
Control Delay	46.0	23.1	65.9	11.4	25.0	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.0	23.1	65.9	11.4	25.0	3.3
LOS	D	C	E	B	C	A
Approach Delay	29.6			28.4	20.4	
Approach LOS	C			C	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 77 (58%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 24.4
 Intersection LOS: C
 Intersection Capacity Utilization 70.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	152	388	614	1362	2085	554
v/c Ratio	0.37	0.30	0.92	0.54	0.85	0.53
Control Delay	46.0	23.1	65.9	11.4	25.0	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.0	23.1	65.9	11.4	25.0	3.3
Queue Length 50th (ft)	111	115	231	481	694	46
Queue Length 95th (ft)	178	157	#365	97	m732	m42
Internal Link Dist (ft)	2848			4754	2515	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	411	1282	676	2520	2465	1052
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.30	0.91	0.54	0.85	0.53

Intersection Summary

















95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	94	680	1218	72	490	1355
Future Volume (vph)	94	680	1218	72	490	1355
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.882	0.850		0.850		
Flt Protected	0.989				0.950	
Satd. Flow (prot)	3152	1441	3539	1583	3433	3539
Flt Permitted	0.989				0.950	
Satd. Flow (perm)	3152	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	350	350		55		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4834
Travel Time (s)	10.9		27.3			65.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	102	739	1324	78	533	1473
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	472	369	1324	78	533	1473
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	14.7	14.7	79.1	79.1	26.2	109.3
Actuated g/C Ratio	0.11	0.11	0.60	0.60	0.20	0.83
v/c Ratio	0.71	0.78	0.62	0.08	0.78	0.50
Control Delay	20.2	18.8	36.1	18.1	52.7	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	18.8	36.1	18.1	52.7	5.8
LOS	C	B	D	B	D	A
Approach Delay	19.6		35.1			18.3
Approach LOS	B		D			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 24.1
 Intersection LOS: C
 Intersection Capacity Utilization 68.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	472	369	1324	78	533	1473
v/c Ratio	0.71	0.78	0.62	0.08	0.78	0.50
Control Delay	20.2	18.8	36.1	18.1	52.7	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	18.8	36.1	18.1	52.7	5.8
Queue Length 50th (ft)	51	16	537	35	235	176
Queue Length 95th (ft)	96	125	695	82	m294	188
Internal Link Dist (ft)	558		1922			4754
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1092	639	2120	970	721	2929
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.58	0.62	0.08	0.74	0.50

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↖	↗	↘	↑↑	↗	↖↖	↑↑	
Traffic Volume (vph)	0	0	0	125	0	430	10	1060	181	289	1580	0
Future Volume (vph)	0	0	0	125	0	430	10	1060	181	289	1580	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	100		100	100		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor					0.99		1.00		0.95	0.99		
Frt						0.850			0.850			
Flt Protected					0.950		0.950			0.950		
Satd. Flow (prot)	0	0	0	1770	1625	1531	1770	3539	1583	3433	3539	0
Flt Permitted					0.950		0.950			0.950		
Satd. Flow (perm)	0	0	0	1770	1613	1531	1761	3539	1506	3407	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						467			45			
Link Speed (mph)		25			35			45				45
Link Distance (ft)		183			612			1314				3196
Travel Time (s)		5.0			11.9			19.9				48.4
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	136	0	467	11	1152	197	314	1717	0
Shared Lane Traffic (%)				100%								
Lane Group Flow (vph)	0	0	0	0	136	467	11	1152	197	314	1717	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)				50	50	50	50	50	50	50	50	
Trailing Detector (ft)				0	0	0	0	0	0	0	0	
Detector 1 Position(ft)				0	0	0	0	0	0	0	0	
Detector 1 Size(ft)				50	50	50	50	50	50	50	50	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type				Split	NA	custom	Prot	NA	pm+ov	Prot	NA	
Protected Phases				3	3	9!	5	2!	3	1	6	
Permitted Phases									2			
Detector Phase				3	3	9	5	2	3	1	6	
Switch Phase												

Lanes, Volumes, Timings
 5: Railroad Avenue & 13th Street

01/24/2023

Lane Group	Ø8	Ø10
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	8	10
Permitted Phases		
Detector Phase		
Switch Phase		

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/24/2023

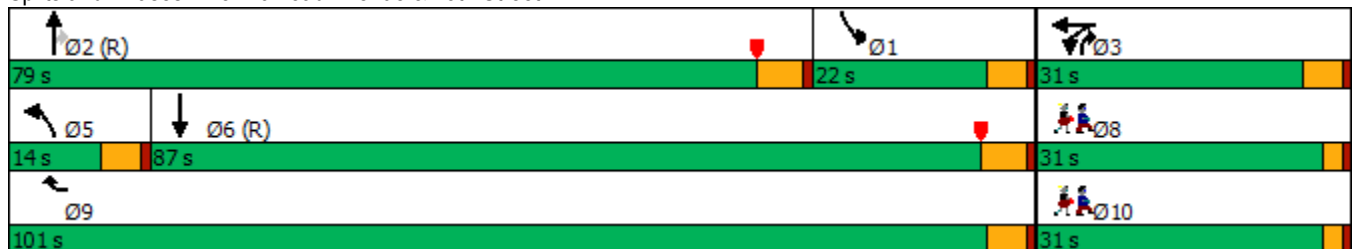


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)				10.0	10.0	9.0	9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				15.0	15.0	14.0	14.0	23.5	15.0	14.0	25.0	
Total Split (s)				31.0	31.0	101.0	14.0	79.0	31.0	22.0	87.0	
Total Split (%)				23.5%	23.5%	76.5%	10.6%	59.8%	23.5%	16.7%	65.9%	
Maximum Green (s)				26.0	26.0	96.0	9.0	73.5	26.0	17.0	81.5	
Yellow Time (s)				4.0	4.0	4.0	4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				-1.0	-1.0	-1.0	-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)				4.0	4.0	4.0	4.5	3.5	4.0	4.5	3.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None	None	None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)					17.3	106.7	9.5	85.2	102.0	17.5	104.4	
Actuated g/C Ratio					0.13	0.81	0.07	0.65	0.77	0.13	0.79	
v/c Ratio					0.64	0.35	0.09	0.50	0.17	0.69	0.61	
Control Delay					48.1	14.4	67.7	20.4	4.4	68.1	8.7	
Queue Delay					0.0	0.8	0.0	0.0	0.0	0.0	0.0	
Total Delay					48.1	15.2	67.7	20.4	4.4	68.1	8.7	
LOS					D	B	E	C	A	E	A	
Approach Delay					22.6			18.5			17.8	
Approach LOS					C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 18.8 Intersection LOS: B
 Intersection Capacity Utilization 71.7% ICU Level of Service C
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & 13th Street



Lane Group	Ø8	Ø10
Minimum Initial (s)	7.0	4.0
Minimum Split (s)	31.0	16.0
Total Split (s)	31.0	31.0
Total Split (%)	23%	23%
Maximum Green (s)	28.0	28.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	21.0	6.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

5: Railroad Avenue & 13th Street

01/24/2023



Lane Group	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	136	467	11	1152	197	314	1717
v/c Ratio	0.64	0.35	0.09	0.50	0.17	0.69	0.61
Control Delay	48.1	14.4	67.7	20.4	4.4	68.1	8.7
Queue Delay	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Total Delay	48.1	15.2	67.7	20.4	4.4	68.1	8.7
Queue Length 50th (ft)	54	243	10	389	48	143	335
Queue Length 95th (ft)	97	345	m20	461	56	193	654
Internal Link Dist (ft)	532			1234			3116
Turn Bay Length (ft)			100		100	100	
Base Capacity (vph)	332	1327	127	2283	1232	455	2798
Starvation Cap Reductn	0	552	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.60	0.09	0.50	0.16	0.69	0.61

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	423	100	290	848	1223	482			
Future Volume (vph)	423	100	290	848	1223	482			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		109				302			
Link Speed (mph)	35			35	45				
Link Distance (ft)	374			1566	1314				
Travel Time (s)	7.3			30.5	19.9				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	460	109	315	922	1329	524			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	460	109	315	922	1329	524			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	24			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	52.0	30.0	20.0	30.0	30.0

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023

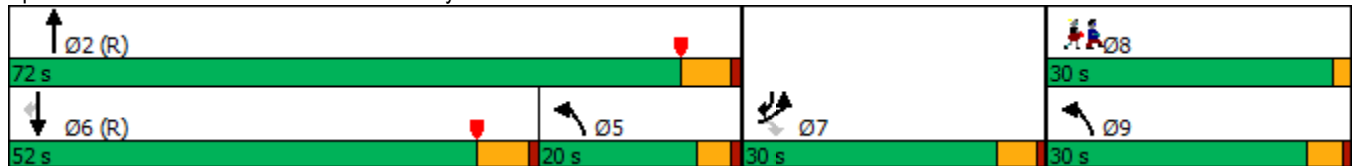


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	39.4%	22.7%	15%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	46.0	25.0	15.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effect Green (s)	24.5	24.5	23.0	86.2	68.5	93.0			
Actuated g/C Ratio	0.19	0.19	0.17	0.65	0.52	0.70			
v/c Ratio	0.72	0.29	0.53	0.40	0.72	0.44			
Control Delay	91.6	46.2	21.7	15.1	28.8	4.2			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	91.6	46.2	21.7	15.1	28.8	4.2			
LOS	F	D	C	B	C	A			
Approach Delay	82.9			16.8	21.8				
Approach LOS	F			B	C				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 103 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 29.6
 Intersection LOS: C
 Intersection Capacity Utilization 64.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023

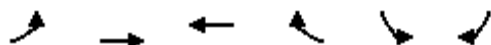


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	460	109	315	922	1329	524
v/c Ratio	0.72	0.29	0.53	0.40	0.72	0.44
Control Delay	91.6	46.2	21.7	15.1	28.8	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.6	46.2	21.7	15.1	28.8	4.2
Queue Length 50th (ft)	215	69	61	172	288	0
Queue Length 95th (ft)	273	123	78	208	570	245
Internal Link Dist (ft)	294			1486	1234	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	685	403	1092	2310	1836	1222
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.27	0.29	0.40	0.72	0.43

Intersection Summary

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1120	570	1028	1243	0	
Future Volume (vph)	0	1120	570	1028	1243	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.97			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1117			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1645		1196		
Travel Time (s)		6.2	28.0		23.3		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1217	620	1117	1351	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1217	620	1117	1351	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		62.0	15.0	70.0	70.0	47.0	
Total Split (%)		47.0%	11.4%	53.0%	53.0%	36%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023

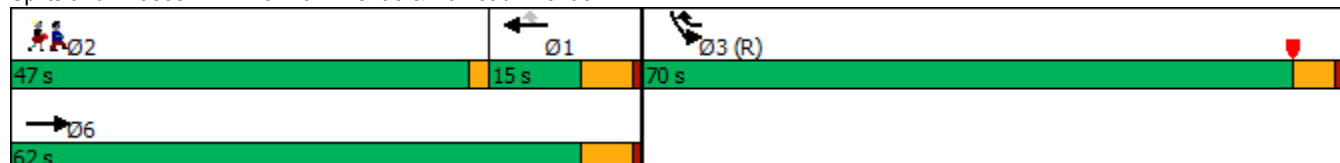


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		56.0	9.0	64.0	64.0		45.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		58.0	58.0	124.0	66.0		
Actuated g/C Ratio		0.44	0.44	0.94	0.50		
v/c Ratio		0.78	0.76	0.42	0.79		
Control Delay		36.0	16.3	2.2	8.9		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		36.0	16.3	2.2	8.9		
LOS		D	B	A	A		
Approach Delay		36.0	7.2		8.9		
Approach LOS		D	A		A		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	20 (15%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.79
Intersection Signal Delay:	15.9
Intersection LOS:	B
Intersection Capacity Utilization:	73.1%
ICU Level of Service:	D
Analysis Period (min):	15

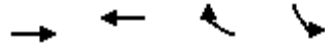
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1217	620	1117	1351
v/c Ratio	0.78	0.76	0.42	0.79
Control Delay	36.0	16.3	2.2	8.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	36.0	16.3	2.2	8.9
Queue Length 50th (ft)	461	115	37	64
Queue Length 95th (ft)	552	144	47	77
Internal Link Dist (ft)	282	1565		1116
Turn Bay Length (ft)				
Base Capacity (vph)	1555	818	2655	1716
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.78	0.76	0.42	0.79
Intersection Summary				

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗↗	↖↖↖		↘	↘
Traffic Volume (vph)	140	1502	1279	30	330	110
Future Volume (vph)	140	1502	1279	30	330	110
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.997			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5070	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5070	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			4			120
Link Speed (mph)		40	40		30	
Link Distance (ft)		1545	3086		2703	
Travel Time (s)		26.3	52.6		61.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	1633	1390	33	359	120
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	1633	1423	0	359	120
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	25.0	98.0	73.0		34.0	34.0

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	18.9%	74.2%	55.3%		25.8%	25.8%
Maximum Green (s)	20.5	92.0	67.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	21.0	94.8	69.8		29.2	29.2
Actuated g/C Ratio	0.16	0.72	0.53		0.22	0.22
v/c Ratio	0.54	0.45	0.53		0.92	0.27
Control Delay	58.9	9.8	10.0		62.8	7.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	58.9	9.8	10.0		62.8	7.4
LOS	E	A	A		E	A
Approach Delay		14.0	10.0		48.9	
Approach LOS		B	A		D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 50 (38%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 17.0
 Intersection LOS: B
 Intersection Capacity Utilization 61.4%
 ICU Level of Service B
 Analysis Period (min) 15

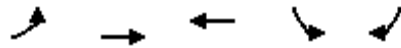
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	152	1633	1423	359	120
v/c Ratio	0.54	0.45	0.53	0.92	0.27
Control Delay	58.9	9.8	10.0	62.8	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	9.8	10.0	62.8	7.4
Queue Length 50th (ft)	128	238	147	253	9
Queue Length 95th (ft)	m163	253	164	#478	m34
Internal Link Dist (ft)		1465	3006	2623	
Turn Bay Length (ft)	150				
Base Capacity (vph)	281	3653	2684	402	452
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.45	0.53	0.89	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
9: Sierra Highway & Newhall Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	1282	10	810	739	216	10	130	110	554	870	270
Future Volume (vph)	190	1282	10	810	739	216	10	130	110	554	870	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		350
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	1770	4907	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	1770	4907	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			235			161		59	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3086			633			398			2854	
Travel Time (s)		52.6			10.8			9.0			64.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	1393	11	880	803	235	11	141	120	602	946	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	1393	11	880	803	235	11	141	120	602	1239	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	45.0	45.0	25.0	45.0	45.0	20.0	20.0	20.0	42.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

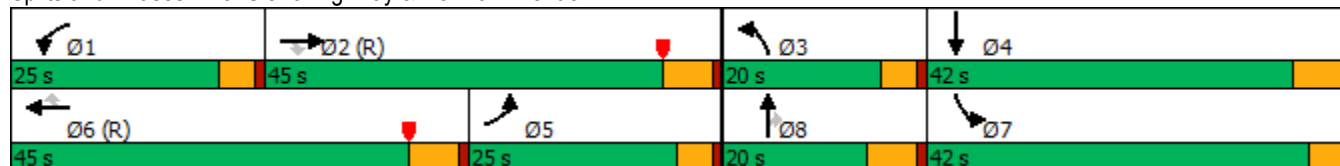


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	34.1%	34.1%	18.9%	34.1%	34.1%	15.2%	15.2%	15.2%	31.8%	31.8%	
Maximum Green (s)	20.5	39.0	39.0	20.5	39.0	39.0	15.5	14.0	14.0	37.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	41.0	41.0	21.0	41.0	41.0	6.5	11.0	9.0	43.0	53.6	
Actuated g/C Ratio	0.16	0.31	0.31	0.16	0.31	0.31	0.05	0.08	0.07	0.33	0.41	
v/c Ratio	0.38	0.88	0.02	1.61	0.51	0.36	0.07	0.33	0.47	1.05	0.61	
Control Delay	60.3	58.4	0.1	319.2	38.6	5.7	60.5	58.8	9.0	67.7	13.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.3	58.4	0.1	319.2	38.6	5.7	60.5	58.8	9.0	67.7	13.0	
LOS	E	E	A	F	D	A	E	E	A	E	B	
Approach Delay		58.2			163.3			36.9			30.9	
Approach LOS		E			F			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 121 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.61
 Intersection Signal Delay: 84.0
 Intersection LOS: F
 Intersection Capacity Utilization 95.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023





















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	207	1393	11	880	803	235	11	141	120	602	1239
v/c Ratio	0.38	0.88	0.02	1.61	0.51	0.36	0.07	0.33	0.47	1.05	0.61
Control Delay	60.3	58.4	0.1	319.2	38.6	5.7	60.5	58.8	9.0	67.7	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	58.4	0.1	319.2	38.6	5.7	60.5	58.8	9.0	67.7	13.0
Queue Length 50th (ft)	88	422	0	~556	206	0	4	42	0	~565	173
Queue Length 95th (ft)	m123	489	m0	#686	249	60	14	65	26	m#715	m342
Internal Link Dist (ft)		3006			553			318			2774
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1579	568	546	1579	653	416	616	311	576	2028
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.88	0.02	1.61	0.51	0.36	0.03	0.23	0.39	1.05	0.61

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	371	1625	10	887	0	0	0	0	10	10	798
Future Volume (vph)	0	371	1625	10	887	0	0	0	0	10	10	798
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.897	0.850									0.850
Fl _t Protected				0.950							0.976	
Satd. Flow (prot)	0	3041	1441	1770	3539	0	0	0	0	0	1818	1583
Fl _t Permitted				0.950							0.976	
Satd. Flow (perm)	0	3041	1441	1770	3539	0	0	0	0	0	1818	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		633			469			446			465	
Travel Time (s)		10.8			8.0			10.1			10.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	403	1766	11	964	0	0	0	0	11	11	867
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1286	883	11	964	0	0	0	0	0	22	867
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	83.7%
ICU Level of Service	E
Analysis Period (min)	15

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	371	1625	10	887	0	0	0	0	10	10	798
Future Vol, veh/h	0	371	1625	10	887	0	0	0	0	10	10	798
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082378240	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	403	1766	11	964	0	0	0	0	11	11	867

Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	403	0	0	-	-	-	1188	1389	-
Stage 1	-	-	-	-	-	-	-	-	-	986	986	-
Stage 2	-	-	-	-	-	-	-	-	-	202	403	-
Critical Hdwy	-	-	-	4.14	-	-	-	-	-	6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-	-	-	-	3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	1152	-	0	-	-	-	181	141	0
Stage 1	0	-	-	-	-	0	-	-	-	322	324	0
Stage 2	0	-	-	-	-	0	-	-	-	812	598	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1152	-	-	-	-	-	179	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	179	0	-
Stage 1	-	-	-	-	-	-	-	-	-	322	0	-
Stage 2	-	-	-	-	-	-	-	-	-	804	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	27.9
HCM LOS			D

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1152	-	179	-
HCM Lane V/C Ratio	-	-	0.009	-	0.121	-
HCM Control Delay (s)	-	-	8.2	-	27.9	0
HCM Lane LOS	-	-	A	-	D	A
HCM 95th %tile Q(veh)	-	-	0	-	0.4	-

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	390	0	0	60	0	10
Future Volume (vph)	390	0	0	60	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr t						0.865
Flt Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	469			639	290	
Travel Time (s)	8.0			10.9	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	424	0	0	65	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	424	0	0	65	0	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	83.7%
Analysis Period (min)	15
	ICU Level of Service E

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	390	0	0	60	0	10
Future Vol, veh/h	390	0	0	60	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	424	0	0	65	0	11

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	-	-	-	212
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	0	0	-	794
Stage 1	-	0	0	-	-
Stage 2	-	0	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	794
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	794	-	-
HCM Lane V/C Ratio	0.014	-	-
HCM Control Delay (s)	9.6	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	1229	0	0	811	582	270	10	279	0	0	0
Future Volume (vph)	180	1229	0	0	811	582	270	10	279	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.937				0.850			
Flt Protected	0.950						0.950	0.956				
Satd. Flow (prot)	1770	3539	0	0	4765	0	1681	1692	1583	0	0	0
Flt Permitted	0.950						0.950	0.956				
Satd. Flow (perm)	1770	3539	0	0	4765	0	1681	1692	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					212				85			
Link Speed (mph)		40			40			30				30
Link Distance (ft)		722			1900			440				464
Travel Time (s)		12.3			32.4			10.0				10.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	1336	0	0	882	633	293	11	303	0	0	0
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	196	1336	0	0	1515	0	152	152	303	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

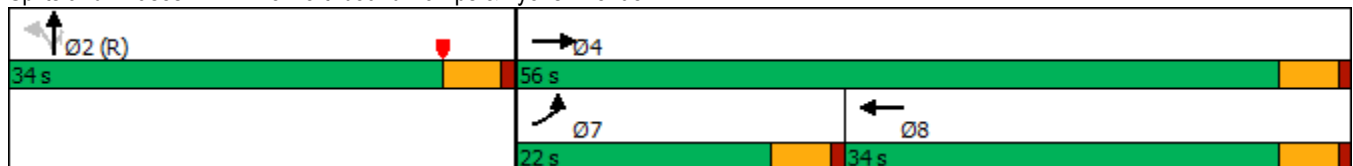


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			5.0		10.0	10.0	10.0			
Minimum Split (s)	15.0	23.0			23.0		33.0	33.0	33.0			
Total Split (s)	22.0	56.0			34.0		34.0	34.0	34.0			
Total Split (%)	24.4%	62.2%			37.8%		37.8%	37.8%	37.8%			
Maximum Green (s)	17.0	51.0			29.0		29.0	29.0	29.0			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.4	49.6			30.2		30.4	30.4	30.4			
Actuated g/C Ratio	0.16	0.55			0.34		0.34	0.34	0.34			
v/c Ratio	0.69	0.69			0.93dr		0.27	0.27	0.51			
Control Delay	48.6	16.6			31.0		24.1	24.0	21.0			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	48.6	16.6			31.0		24.1	24.0	21.0			
LOS	D	B			C		C	C	C			
Approach Delay		20.7			31.0			22.5				
Approach LOS		C			C			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 25.2
 Intersection LOS: C
 Intersection Capacity Utilization 59.6%
 ICU Level of Service B
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

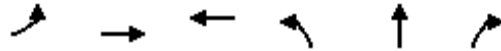
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	196	1336	1515	152	152	303
v/c Ratio	0.69	0.69	0.93dr	0.27	0.27	0.51
Control Delay	48.6	16.6	31.0	24.1	24.0	21.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	16.6	31.0	24.1	24.0	21.0
Queue Length 50th (ft)	106	258	253	67	67	99
Queue Length 95th (ft)	174	330	#356	118	118	180
Internal Link Dist (ft)		642	1820		360	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	334	2005	1740	567	571	590
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.67	0.87	0.27	0.27	0.51

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	888	130	250	803	127	200	240	200	152	400	270
Future Volume (vph)	140	888	130	250	803	127	200	240	200	152	400	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	2		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	0.97	0.95	1.00
Fr _t			0.850		0.980				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4984	0	1652	3303	1478	3204	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4984	0	1652	3303	1478	3204	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116		25				217			112
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1900			5304			887				1679
Travel Time (s)		32.4			90.4			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	965	141	272	873	138	217	261	217	165	435	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	965	141	272	1011	0	217	261	217	165	435	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			20				20
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/24/2023

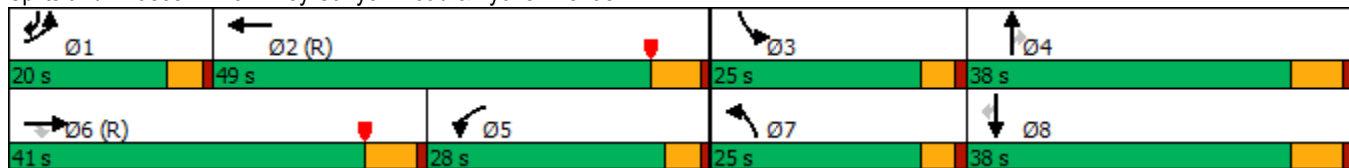


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	41.0	41.0	28.0	49.0		25.0	38.0	38.0	25.0	38.0	20.0
Total Split (%)	15.2%	31.1%	31.1%	21.2%	37.1%		18.9%	28.8%	28.8%	18.9%	28.8%	15.2%
Maximum Green (s)	15.5	35.0	35.0	23.5	43.0		20.5	32.0	32.0	20.5	32.0	15.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	12.3	47.9	47.9	24.0	59.6		20.1	31.5	31.5	12.6	24.0	40.3
Actuated g/C Ratio	0.09	0.36	0.36	0.18	0.45		0.15	0.24	0.24	0.10	0.18	0.31
v/c Ratio	0.51	0.81	0.23	0.91	0.45		0.86	0.33	0.42	0.54	0.70	0.52
Control Delay	62.7	45.0	9.3	67.1	10.2		85.3	42.3	7.5	63.2	56.6	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	45.0	9.3	67.1	10.2		85.3	42.3	7.5	63.2	56.6	25.2
LOS	E	D	A	E	B		F	D	A	E	E	C
Approach Delay		43.1			22.2			44.8			47.5	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 37.9 Intersection LOS: D
 Intersection Capacity Utilization 73.9% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	965	141	272	1011	217	261	217	165	435	293
v/c Ratio	0.51	0.81	0.23	0.91	0.45	0.86	0.33	0.42	0.54	0.70	0.52
Control Delay	62.7	45.0	9.3	67.1	10.2	85.3	42.3	7.5	63.2	56.6	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	45.0	9.3	67.1	10.2	85.3	42.3	7.5	63.2	56.6	25.2
Queue Length 50th (ft)	64	394	14	229	167	182	96	0	70	185	126
Queue Length 95th (ft)	98	#550	65	#400	164	#318	135	64	105	233	195
Internal Link Dist (ft)		1820			5224		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	389	1197	609	300	2264	262	851	541	509	881	603
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.81	0.23	0.91	0.45	0.83	0.31	0.40	0.32	0.49	0.49
































Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			 			 		 	 	
Traffic Volume (vph)	200	1090	60	127	1089	387	110	120	122	502	90	230
Future Volume (vph)	200	1090	60	127	1089	387	110	120	122	502	90	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	4746	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	4746	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			227			133			250
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5304			2371			465				790
Travel Time (s)		103.3			46.2			9.1				12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1185	65	138	1184	421	120	130	133	546	98	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	217	1185	65	138	1184	421	120	130	133	546	98	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

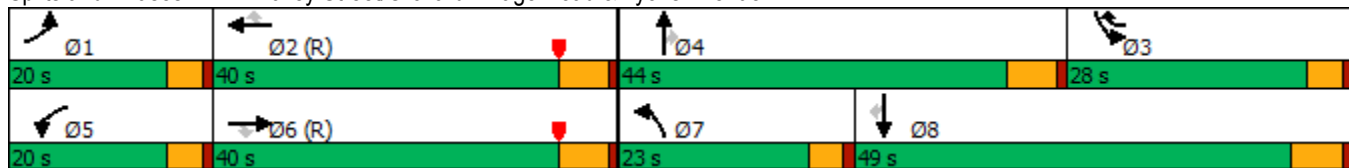


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	14.7	57.9	57.9	17.0	60.2	88.9	14.9	12.5	12.5	28.7	26.2	26.2
Actuated g/C Ratio	0.11	0.44	0.44	0.13	0.46	0.67	0.11	0.09	0.09	0.22	0.20	0.20
v/c Ratio	0.61	0.57	0.09	0.65	0.67	0.34	0.65	0.40	0.53	0.73	0.27	0.50
Control Delay	57.2	52.2	6.8	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	52.2	6.8	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
LOS	E	D	A	E	D	A	E	E	B	D	D	A
Approach Delay		50.9			31.6			48.4			40.4	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 41.1
 Intersection LOS: D
 Intersection Capacity Utilization 66.8%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	217	1185	65	138	1184	421	120	130	133	546	98	250
v/c Ratio	0.61	0.57	0.09	0.65	0.67	0.34	0.65	0.40	0.53	0.73	0.27	0.50
Control Delay	57.2	52.2	6.8	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	52.2	6.8	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
Queue Length 50th (ft)	100	371	3	101	550	61	99	56	0	226	72	0
Queue Length 95th (ft)	m127	438	m17	m110	m627	m186	162	87	62	272	119	69
Internal Link Dist (ft)		5224			2291			385			710	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	402	2081	755	229	1775	1250	237	1036	508	754	613	686
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.57	0.09	0.60	0.67	0.34	0.51	0.13	0.26	0.72	0.16	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	593	950	60	732	30	580	110	40	40	170	190
Future Volume (vph)	130	593	950	60	732	30	580	110	40	40	170	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1617	3539	1468	1637	3539	1356	3132	1863	1471	1671	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			383			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2371			962			528				401
Travel Time (s)		46.2			18.7			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	645	1033	65	796	33	630	120	43	43	185	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	645	1033	65	796	33	630	120	43	43	185	207
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22			22	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

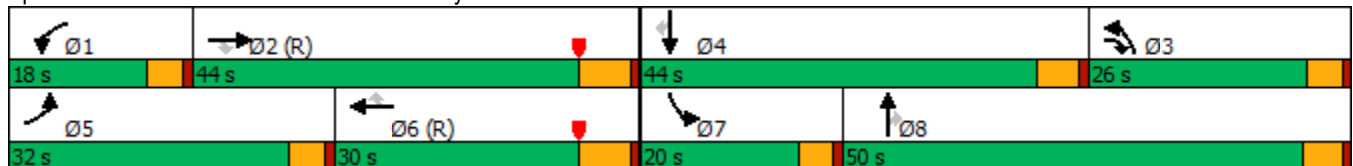


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	32.0	44.0	26.0	18.0	30.0	30.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	24.2%	33.3%	19.7%	13.6%	22.7%	22.7%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	27.5	38.0	21.5	13.5	24.0	24.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		32.0	32.0		32.0	32.0
Pedestrian Calls (#/hr)		27			27	27		43	43		43	43
Act Effct Green (s)	17.1	45.4	72.7	10.8	36.9	36.9	27.3	54.8	54.8	9.2	34.7	34.7
Actuated g/C Ratio	0.13	0.34	0.55	0.08	0.28	0.28	0.21	0.42	0.42	0.07	0.26	0.26
v/c Ratio	0.66	0.53	1.04	0.49	0.80	0.07	0.92	0.16	0.06	0.36	0.39	0.44
Control Delay	65.2	31.1	60.3	78.1	45.0	0.5	71.2	26.4	0.2	66.1	41.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.2	31.1	60.3	78.1	45.0	0.5	71.2	26.4	0.2	66.1	41.0	15.5
LOS	E	C	E	E	D	A	E	C	A	E	D	B
Approach Delay		50.3			45.7			60.6			31.3	
Approach LOS		D			D			E			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 49 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 49.2
 Intersection LOS: D
 Intersection Capacity Utilization 100.1%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	141	645	1033	65	796	33	630	120	43	43	185	207
v/c Ratio	0.66	0.53	1.04	0.49	0.80	0.07	0.92	0.16	0.06	0.36	0.39	0.44
Control Delay	65.2	31.1	60.3	78.1	45.0	0.5	71.2	26.4	0.2	66.1	41.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.2	31.1	60.3	78.1	45.0	0.5	71.2	26.4	0.2	66.1	41.0	15.5
Queue Length 50th (ft)	90	296	~623	53	373	0	~324	65	0	36	123	42
Queue Length 95th (ft)	m160	246	#911	96	#490	1	#444	114	0	74	191	113
Internal Link Dist (ft)		2291			882			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	350	1217	993	175	990	501	687	773	690	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.53	1.04	0.37	0.80	0.07	0.92	0.16	0.06	0.21	0.34	0.40

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	77	190	17	44	0	420	23	35	0	13	92
Future Volume (vph)	163	77	190	17	44	0	420	23	35	0	13	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.910				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3221	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	3433	3221	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			207					38				132
Link Speed (mph)		45			30			45				30
Link Distance (ft)		612			324			505				392
Travel Time (s)		9.3			7.4			7.7				8.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	84	207	18	48	0	457	25	38	0	14	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	84	207	18	48	0	457	63	0	0	14	100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Over	Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	20.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	20.0	32.0	57.0	12.0	24.0		57.0	88.0			31.0	20.0
Total Split (%)	15.2%	24.2%	43.2%	9.1%	18.2%		43.2%	66.7%			23.5%	15.2%
Maximum Green (s)	16.0	27.0	52.0	8.0	19.0		52.0	83.0			26.0	16.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	12.6	19.3	52.0	6.8	10.4		52.0	98.0			41.0	12.6
Actuated g/C Ratio	0.10	0.15	0.39	0.05	0.08		0.39	0.74			0.31	0.10
v/c Ratio	0.54	0.31	0.17	0.20	0.33		0.34	0.03			0.01	0.37
Control Delay	68.1	57.7	0.3	64.7	63.6		28.9	2.9			35.3	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	68.1	57.7	0.3	64.7	63.6		28.9	2.9			35.3	7.6
LOS	E	E	A	E	E		C	A			D	A
Approach Delay		36.3			63.9			25.7			11.0	
Approach LOS		D			E			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 10 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 30.7
 Intersection LOS: C
 Intersection Capacity Utilization 38.3%
 ICU Level of Service A
 Analysis Period (min) 15

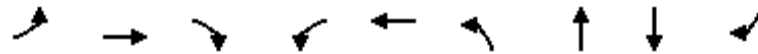
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	177	84	207	18	48	457	63	14	100
v/c Ratio	0.54	0.31	0.17	0.20	0.33	0.34	0.03	0.01	0.37
Control Delay	68.1	57.7	0.3	64.7	63.6	28.9	2.9	35.3	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.1	57.7	0.3	64.7	63.6	28.9	2.9	35.3	7.6
Queue Length 50th (ft)	83	72	0	15	40	139	2	4	0
Queue Length 95th (ft)	m121	m119	1	41	81	183	10	14	27
Internal Link Dist (ft)		532			244		425	312	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	416	381	1223	107	268	1352	2401	1099	307
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.22	0.17	0.17	0.18	0.34	0.03	0.01	0.33

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	30	10	30	140	20	124	40	324	199	40	171	10
Future Volume (vph)	30	10	30	140	20	124	40	324	199	40	171	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	200		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.942			0.941			0.952			0.994	
Flt Protected		0.979			0.976			0.996			0.991	
Satd. Flow (prot)	0	1718	0	0	1711	0	0	1766	0	0	1835	0
Flt Permitted		0.979			0.976			0.996			0.991	
Satd. Flow (perm)	0	1718	0	0	1711	0	0	1766	0	0	1835	0
Link Speed (mph)		25			25			30			25	
Link Distance (ft)		391			842			164			505	
Travel Time (s)		10.7			23.0			3.7			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	11	33	152	22	135	43	352	216	43	186	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	0	0	309	0	0	611	0	0	240	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	63.8%
ICU Level of Service	B
Analysis Period (min)	15

HCM 6th Roundabout
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023

Intersection				
Intersection Delay, s/veh	7.4			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	77	309	611	240
Demand Flow Rate, veh/h	79	315	623	245
Vehicles Circulating, veh/h	389	437	89	221
Vehicles Exiting, veh/h	77	275	379	531
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.8	8.2	8.2	5.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	79	315	623	245
Cap Entry Lane, veh/h	928	884	1260	1101
Entry HV Adj Factor	0.972	0.980	0.981	0.981
Flow Entry, veh/h	77	309	611	240
Cap Entry, veh/h	902	866	1236	1080
V/C Ratio	0.085	0.356	0.494	0.222
Control Delay, s/veh	4.8	8.2	8.2	5.4
LOS	A	A	A	A
95th %tile Queue, veh	0	2	3	1

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Lane Configurations										
Traffic Volume (vph)	70	133	431	140	84	267				
Future Volume (vph)	70	133	431	140	84	267				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	100	0		0	0					
Storage Lanes	1	1		0	1					
Taper Length (ft)	25				25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95				
Frt		0.850	0.967							
Flt Protected	0.950				0.950					
Satd. Flow (prot)	1770	1583	1801	0	1770	3539				
Flt Permitted	0.950				0.950					
Satd. Flow (perm)	1770	1583	1801	0	1770	3539				
Right Turn on Red		Yes		Yes						
Satd. Flow (RTOR)		145	13							
Link Speed (mph)	30		45			45				
Link Distance (ft)	1101		354			164				
Travel Time (s)	25.0		5.4			2.5				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Adj. Flow (vph)	76	145	468	152	91	290				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	76	145	620	0	91	290				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Right	Left	Left				
Median Width(ft)	12		12			12				
Link Offset(ft)	0		0			0				
Crosswalk Width(ft)	16		16			16				
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)	15	9		9	15					
Number of Detectors	1	1	2		1	2				
Detector Template	Left	Right	Thru		Left	Thru				
Leading Detector (ft)	20	20	100		20	100				
Trailing Detector (ft)	0	0	0		0	0				
Detector 1 Position(ft)	0	0	0		0	0				
Detector 1 Size(ft)	20	20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0				
Detector 2 Position(ft)			94			94				
Detector 2 Size(ft)			6			6				
Detector 2 Type			Cl+Ex			Cl+Ex				
Detector 2 Channel										
Detector 2 Extend (s)			0.0			0.0				
Turn Type	Prot	Perm	NA		Prot	NA				
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8
Permitted Phases		7 8								

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023

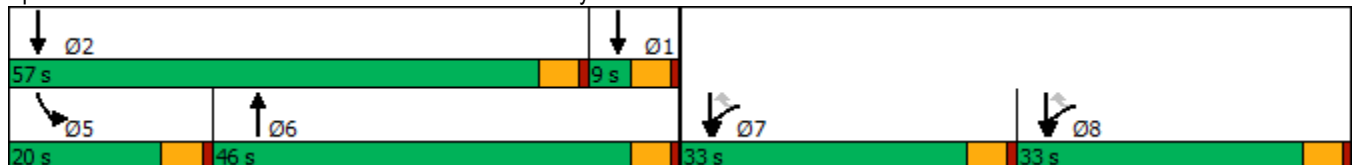


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		9.0	23.0	33.0	33.0
Total Split (s)			46.0		20.0		9.0	57.0	33.0	33.0
Total Split (%)			34.8%		15.2%		7%	43%	25%	25%
Maximum Green (s)			41.0		15.0		4.0	52.0	28.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lag	Lead	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Min	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	20.5	20.5	41.5		9.7	84.1				
Actuated g/C Ratio	0.24	0.24	0.49		0.12	1.00				
v/c Ratio	0.18	0.29	0.69		0.44	0.08				
Control Delay	27.8	6.6	23.5		43.8	0.0				
Queue Delay	0.0	0.0	0.0		0.0	0.0				
Total Delay	27.8	6.6	23.5		43.8	0.0				
LOS	C	A	C		D	A				
Approach Delay	13.9		23.5			10.5				
Approach LOS	B		C			B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 84.1
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 17.7
 Intersection LOS: B
 Intersection Capacity Utilization 52.2%
 ICU Level of Service A
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	76	145	620	91	290
v/c Ratio	0.18	0.29	0.69	0.44	0.08
Control Delay	27.8	6.6	23.5	43.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	6.6	23.5	43.8	0.0
Queue Length 50th (ft)	33	0	244	46	0
Queue Length 95th (ft)	71	44	#467	98	0
Internal Link Dist (ft)	1021		274		84
Turn Bay Length (ft)	100				
Base Capacity (vph)	891	869	896	319	3539
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.17	0.69	0.29	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
19: Valle Del Oro & Dockweiler Drive

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	327	20	390	551	10	10	10	270	10	10	10
Future Volume (vph)	10	327	20	390	551	10	10	10	270	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	100		100	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.874			0.955	
Flt Protected	0.950			0.950				0.998			0.984	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1625	0	0	1750	0
Flt Permitted	0.312			0.485				0.993			0.890	
Satd. Flow (perm)	581	1863	1583	903	1863	1583	0	1617	0	0	1583	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			22			8		293			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5199			3882			2703			372	
Travel Time (s)		118.2			88.2			61.4			8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	355	22	424	599	11	11	11	293	11	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	355	22	424	599	11	0	315	0	0	33	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		6			

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

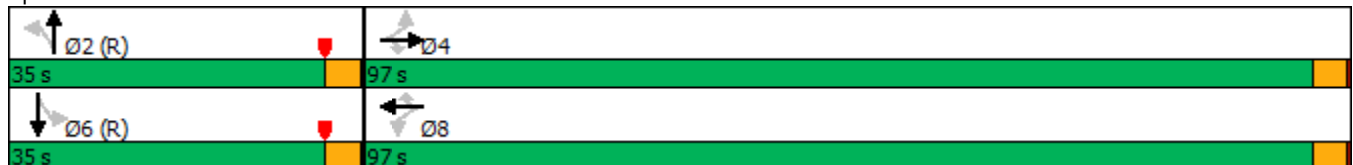


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	97.0	97.0	97.0	97.0	97.0	97.0	35.0	35.0		35.0	35.0	
Total Split (%)	73.5%	73.5%	73.5%	73.5%	73.5%	73.5%	26.5%	26.5%		26.5%	26.5%	
Maximum Green (s)	93.0	93.0	93.0	93.0	93.0	93.0	31.0	31.0		31.0	31.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	78.7	78.7	78.7	78.7	78.7	78.7		45.3			45.3	
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.60	0.60		0.34			0.34	
v/c Ratio	0.03	0.32	0.02	0.79	0.54	0.01		0.42			0.06	
Control Delay	7.0	13.1	2.2	24.2	12.9	0.6		3.5			28.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	7.0	13.1	2.2	24.2	12.9	0.6		3.5			28.1	
LOS	A	B	A	C	B	A		A			C	
Approach Delay		12.3			17.4			3.5			28.1	
Approach LOS		B			B			A			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 14.0
 Intersection LOS: B
 Intersection Capacity Utilization 66.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 19: Valle Del Oro & Dockweiler Drive



Queues

19: Valle Del Oro & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	355	22	424	599	11	315	33
v/c Ratio	0.03	0.32	0.02	0.79	0.54	0.01	0.42	0.06
Control Delay	7.0	13.1	2.2	24.2	12.9	0.6	3.5	28.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.0	13.1	2.2	24.2	12.9	0.6	3.5	28.1
Queue Length 50th (ft)	3	133	0	231	218	1	13	13
Queue Length 95th (ft)	9	142	8	328	214	m0	34	43
Internal Link Dist (ft)		5119			3802		2623	292
Turn Bay Length (ft)	100		100	100		100		
Base Capacity (vph)	409	1312	1121	636	1312	1117	747	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.27	0.02	0.67	0.46	0.01	0.42	0.06

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	417	319	269	318	1374	592
Future Volume (vph)	417	319	269	318	1374	592
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.974	0.850				0.850
Flt Protected	0.960		0.950			
Satd. Flow (prot)	3379	1441	1770	3539	3539	1583
Flt Permitted	0.960		0.950			
Satd. Flow (perm)	3379	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	18	250				290
Link Speed (mph)	30			50	50	
Link Distance (ft)	3882			2854	2872	
Travel Time (s)	88.2			38.9	39.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	453	347	292	346	1493	643
Shared Lane Traffic (%)		28%				
Lane Group Flow (vph)	550	250	292	346	1493	643
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	21.0	21.0	30.0	30.0
Total Split (s)	35.0	35.0	31.0	97.0	66.0	66.0
Total Split (%)	26.5%	26.5%	23.5%	73.5%	50.0%	50.0%
Maximum Green (s)	30.0	30.0	26.0	92.0	61.0	61.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	25.9	25.9	30.1	96.1	61.0	61.0
Actuated g/C Ratio	0.20	0.20	0.23	0.73	0.46	0.46
v/c Ratio	0.81	0.52	0.72	0.13	0.91	0.72
Control Delay	56.6	14.1	36.2	3.6	36.8	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	14.1	36.2	3.6	36.8	19.7
LOS	E	B	D	A	D	B
Approach Delay	43.3			18.5	31.6	
Approach LOS	D			B	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 31.9
 Intersection LOS: C
 Intersection Capacity Utilization 80.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	550	250	292	346	1493	643
v/c Ratio	0.81	0.52	0.72	0.13	0.91	0.72
Control Delay	56.6	14.1	36.2	3.6	36.8	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	14.1	36.2	3.6	36.8	19.7
Queue Length 50th (ft)	228	54	187	18	470	242
Queue Length 95th (ft)	286	100	#369	53	m548	m290
Internal Link Dist (ft)	3802			2774	2792	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	781	520	403	2576	1635	887
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.48	0.72	0.13	0.91	0.72

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	47	14	380	38	680	28	413	214	550	1591	69
Future Volume (vph)	19	47	14	380	38	680	28	413	214	550	1591	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.729			0.722			0.950			0.950		
Satd. Flow (perm)	1358	3539	1583	1345	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			715			233			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		715			720			2872			794	
Travel Time (s)		10.8			10.9			39.2			10.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	51	15	413	41	739	30	449	233	598	1729	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	51	15	413	41	739	30	449	233	598	1729	75
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8			6			2

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

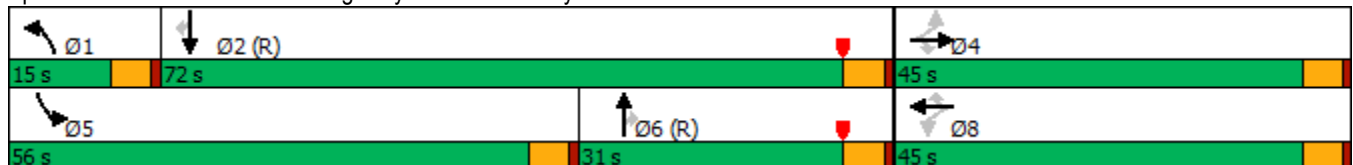


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.0	21.0	21.0	37.0	37.0	37.0	15.0	21.0	21.0	15.0	39.0	39.0
Total Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	15.0	31.0	31.0	56.0	72.0	72.0
Total Split (%)	34.1%	34.1%	34.1%	34.1%	34.1%	34.1%	11.4%	23.5%	23.5%	42.4%	54.5%	54.5%
Maximum Green (s)	40.0	40.0	40.0	40.0	40.0	40.0	10.0	26.0	26.0	51.0	67.0	67.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	40.0	40.0	40.0	40.0	40.0	40.0	10.0	29.1	29.1	47.9	73.0	73.0
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30	0.30	0.08	0.22	0.22	0.36	0.55	0.55
v/c Ratio	0.05	0.05	0.03	1.01	0.04	0.76	0.22	0.57	0.44	0.93	0.88	0.08
Control Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.7	49.4	24.3	53.2	28.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Total Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.7	49.4	24.3	53.2	30.0	3.8
LOS	C	C	A	F	C	A	E	D	C	D	C	A
Approach Delay		27.2			39.2			41.8			35.0	
Approach LOS		C			D			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 37.1 Intersection LOS: D
 Intersection Capacity Utilization 92.5% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023


















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	51	15	413	41	739	30	449	233	598	1729	75
v/c Ratio	0.05	0.05	0.03	1.01	0.04	0.76	0.22	0.57	0.44	0.93	0.88	0.08
Control Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.7	49.4	24.3	53.2	28.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Total Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.7	49.4	24.3	53.2	30.0	3.8
Queue Length 50th (ft)	13	16	0	~363	13	15	17	211	100	474	733	11
Queue Length 95th (ft)	34	32	0	#578	27	149	m37	270	172	#683	#918	m14
Internal Link Dist (ft)		635			640			2792			714	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	411	1072	548	407	1072	978	134	781	530	683	1957	901
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	79	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.05	0.03	1.01	0.04	0.76	0.22	0.57	0.44	0.88	0.92	0.08

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Traffic Volume (vph)	39	40	907	324	1210	2231
Future Volume (vph)	39	40	907	324	1210	2231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		43		265		
Link Speed (mph)	30		50			50
Link Distance (ft)	717		794			675
Travel Time (s)	16.3		10.8			9.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	43	986	352	1315	2425
Shared Lane Traffic (%)						
Lane Group Flow (vph)	42	43	986	352	1315	2425
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

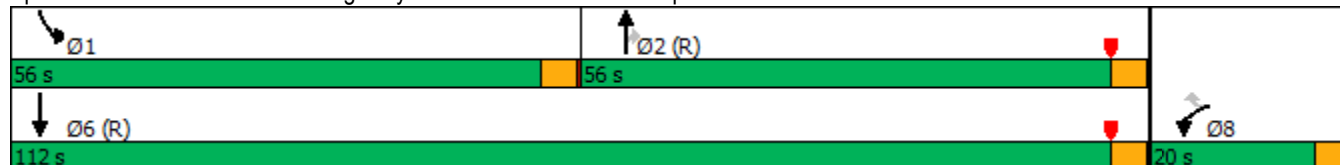


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	8.0	20.0
Total Split (s)	20.0	20.0	56.0	56.0	56.0	112.0
Total Split (%)	15.2%	15.2%	42.4%	42.4%	42.4%	84.8%
Maximum Green (s)	16.0	16.0	52.0	52.0	52.0	108.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effect Green (s)	8.5	8.5	57.2	57.2	56.2	118.2
Actuated g/C Ratio	0.06	0.06	0.43	0.43	0.43	0.90
v/c Ratio	0.37	0.30	0.64	0.42	0.90	0.77
Control Delay	67.4	21.6	26.6	7.4	44.7	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.5
Total Delay	67.4	21.6	26.6	7.4	44.7	5.8
LOS	E	C	C	A	D	A
Approach Delay	44.2		21.5			19.5
Approach LOS	D		C			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 20.4
 Intersection LOS: C
 Intersection Capacity Utilization 72.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR-14 Southbound Ramps



Queues

22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

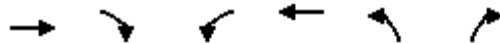


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	42	43	986	352	1315	2425
v/c Ratio	0.37	0.30	0.64	0.42	0.90	0.77
Control Delay	67.4	21.6	26.6	7.4	44.7	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.5
Total Delay	67.4	21.6	26.6	7.4	44.7	5.8
Queue Length 50th (ft)	35	0	237	0	507	297
Queue Length 95th (ft)	74	38	352	100	637	467
Internal Link Dist (ft)	637		714			595
Turn Bay Length (ft)					160	
Base Capacity (vph)	214	229	1532	835	1463	3167
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	297
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.19	0.64	0.42	0.90	0.84
Intersection Summary						

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	↗
Traffic Volume (vph)	220	0	0	790	448	100
Future Volume (vph)	220	0	0	790	448	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	720			392	651	
Travel Time (s)	10.9			5.9	14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	0	0	859	487	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	0	0	859	487	109
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Stop			Stop	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	41.3%
Analysis Period (min)	15
	ICU Level of Service A

Intersection	
Intersection Delay, s/veh	22.6
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↗	↗
Traffic Vol, veh/h	220	0	0	790	448	100
Future Vol, veh/h	220	0	0	790	448	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	239	0	0	859	487	109
Number of Lanes	2	0	0	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	2
HCM Control Delay	12.9	29.1	17
HCM LOS	B	D	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	100%	0%	0%	0%	0%	0%
Vol Thru, %	0%	0%	0%	100%	100%	100%	100%
Vol Right, %	0%	0%	100%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	224	224	100	110	110	395	395
LT Vol	224	224	0	0	0	0	0
Through Vol	0	0	0	110	110	395	395
RT Vol	0	0	100	0	0	0	0
Lane Flow Rate	243	243	109	120	120	429	429
Geometry Grp	7	7	7	8	8	8	8
Degree of Util (X)	0.528	0.528	0.145	0.28	0.221	0.861	0.651
Departure Headway (Hd)	7.801	7.801	4.818	8.434	6.652	7.223	5.459
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	465	465	749	426	539	502	661
Service Time	5.501	5.501	2.518	6.185	4.402	4.96	3.197
HCM Lane V/C Ratio	0.523	0.523	0.146	0.282	0.223	0.855	0.649
HCM Control Delay	18.9	18.9	8.3	14.5	11.3	40.3	17.9
HCM Lane LOS	C	C	A	B	B	E	C
HCM 95th-tile Q	3	3	0.5	1.1	0.8	9.1	4.8

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	820	1800	360	390	1320	430	450	1969	650	410	1530	230
Future Volume (vph)	820	1800	360	390	1320	430	450	1969	650	410	1530	230
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	300		230
Storage Lanes	3		2	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	0.88	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	2787	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	2787	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62			295			299			99
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			1975			1020	
Travel Time (s)		13.2			11.3			29.9			15.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	25.0	39.0	26.0	22.0	36.0	36.0	26.0	45.0	45.0	26.0	45.0	25.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

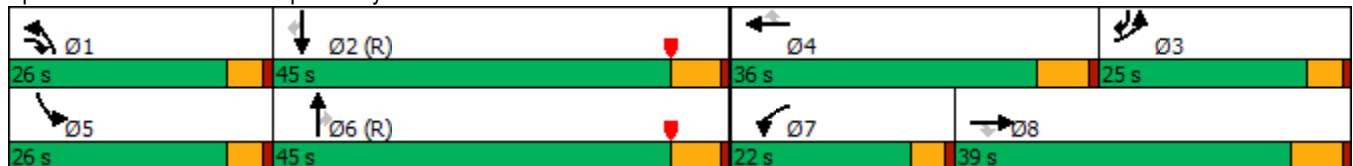


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	29.5%	19.7%	16.7%	27.3%	27.3%	19.7%	34.1%	34.1%	19.7%	34.1%	18.9%
Maximum Green (s)	20.5	33.0	21.5	17.5	30.0	30.0	21.5	39.0	39.0	21.5	39.0	20.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	21.0	35.4	60.3	17.6	32.0	32.0	20.9	43.0	43.0	20.0	42.1	63.1
Actuated g/C Ratio	0.16	0.27	0.46	0.13	0.24	0.24	0.16	0.33	0.33	0.15	0.32	0.48
v/c Ratio	1.12	1.14	0.30	0.92	0.92	0.77	0.90	1.02	0.99	0.86	0.81	0.31
Control Delay	121.3	114.3	19.3	83.3	59.6	26.1	75.8	38.7	24.1	71.2	45.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	19.3	83.3	59.6	26.1	75.8	38.7	24.1	71.2	45.5	7.5
LOS	F	F	B	F	E	C	E	D	C	E	D	A
Approach Delay		104.7			57.2			41.0			46.3	
Approach LOS		F			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 55 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 63.8
 Intersection LOS: E
 Intersection Capacity Utilization 90.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
v/c Ratio	1.12	1.14	0.30	0.92	0.92	0.77	0.90	1.02	0.99	0.86	0.81	0.31
Control Delay	121.3	114.3	19.3	83.3	59.6	26.1	75.8	38.7	24.1	71.2	45.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	19.3	83.3	59.6	26.1	75.8	38.7	24.1	71.2	45.5	7.5
Queue Length 50th (ft)	~311	~572	96	187	350	142	230	~591	~516	192	385	40
Queue Length 95th (ft)	#400	#647	136	#281	#417	285	m222	m422	m484	251	433	70
Internal Link Dist (ft)		790			665			1895			940	
Turn Bay Length (ft)	270		265	280		340	300			300		230
Base Capacity (vph)	793	1716	1328	468	1553	607	572	2088	717	572	2043	808
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	1.14	0.29	0.91	0.92	0.77	0.85	1.02	0.99	0.78	0.81	0.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔↔	↕↕↕	↔↔↔
Traffic Volume (vph)	1040	1620	10	395	990	160	20	2139	619	220	1550	590
Future Volume (vph)	1040	1620	10	395	990	160	20	2139	619	220	1550	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.86	1.00	0.97	0.91	0.88
Fr _t		0.999				0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5080	0	4990	5085	1583	1770	6408	1583	3433	5085	2787
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5080	0	4990	5085	1583	1770	6408	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				124			112			562
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			3555			1975	
Travel Time (s)		32.4			35.4			53.9			29.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1130	1761	11	429	1076	174	22	2325	673	239	1685	641
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1130	1772	0	429	1076	174	22	2325	673	239	1685	641
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			48			48	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	40.0	48.0		22.0	30.0	20.0	18.0	42.0	22.0	20.0	44.0	40.0
Total Split (%)	30.3%	36.4%		16.7%	22.7%	15.2%	13.6%	31.8%	16.7%	15.2%	33.3%	30.3%
Maximum Green (s)	35.5	42.0		17.5	24.0	15.5	13.5	36.0	17.5	15.5	38.0	35.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

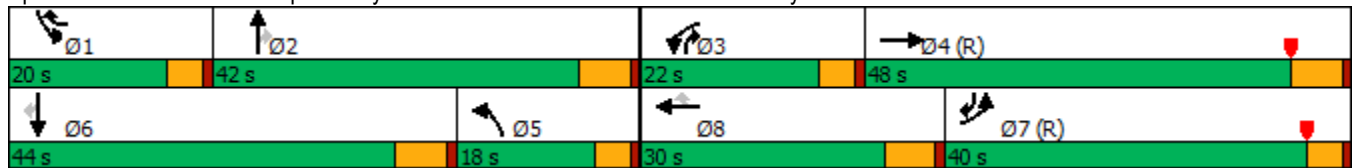


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	None	None	None	Max	None	None	None	C-Max
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effect Green (s)	36.0	44.8		17.2	26.0	40.3	10.9	39.7	60.9	14.3	47.2	87.2
Actuated g/C Ratio	0.27	0.34		0.13	0.20	0.31	0.08	0.30	0.46	0.11	0.36	0.66
v/c Ratio	0.83	1.03		0.66	1.07	0.31	0.15	1.21	0.85	0.64	0.93	0.32
Control Delay	51.5	71.5		59.9	100.4	6.9	53.4	131.0	28.5	48.7	52.2	2.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	71.5		59.9	100.4	6.9	53.4	131.0	28.5	48.7	52.2	2.4
LOS	D	E		E	F	A	D	F	C	D	D	A
Approach Delay		63.7			80.4			107.6				39.4
Approach LOS		E			F			F				D

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 92 (70%), Referenced to phase 4:EBT and 7:EBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.21
 Intersection Signal Delay: 73.4
 Intersection LOS: E
 Intersection Capacity Utilization 89.6%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1130	1772	429	1076	174	22	2325	673	239	1685	641
v/c Ratio	0.83	1.03	0.66	1.07	0.31	0.15	1.21	0.85	0.64	0.93	0.32
Control Delay	51.5	71.5	59.9	100.4	6.9	53.4	131.0	28.5	48.7	52.2	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	71.5	59.9	100.4	6.9	53.4	131.0	28.5	48.7	52.2	2.4
Queue Length 50th (ft)	324	~603	124	~374	15	17	~712	460	105	~611	42
Queue Length 95th (ft)	380	#701	163	#469	41	m18	m#620	m452	m130	#711	m45
Internal Link Dist (ft)		2060		2257			3475			1895	
Turn Bay Length (ft)											
Base Capacity (vph)	1360	1726	680	1001	588	187	1929	799	416	1818	2031
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	1.03	0.63	1.07	0.30	0.12	1.21	0.84	0.57	0.93	0.32

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	740	941	817	1958	1795	450
Future Volume (vph)	740	941	817	1958	1795	450
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.91	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		7				489
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4671	3555	
Travel Time (s)	44.4			63.7	53.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	804	1023	888	2128	1951	489
Shared Lane Traffic (%)						
Lane Group Flow (vph)	804	1023	888	2128	1951	489
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

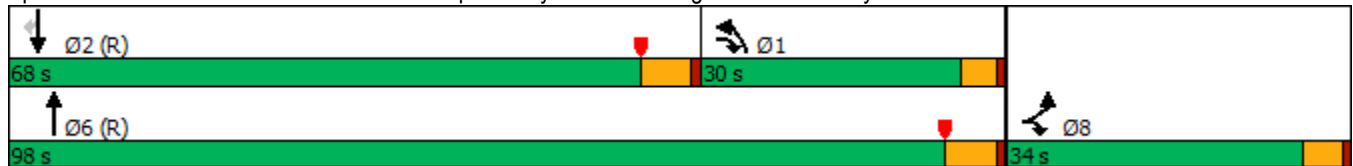


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	30.0	61.4	27.4	94.0	62.6	62.6
Actuated g/C Ratio	0.23	0.47	0.21	0.71	0.47	0.47
v/c Ratio	2.00	0.79	1.25	0.84	0.81	0.49
Control Delay	486.5	35.4	155.3	9.3	19.9	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	486.5	35.4	155.3	9.3	19.9	2.5
LOS	F	D	F	A	B	A
Approach Delay	233.9			52.3	16.4	
Approach LOS	F			D	B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.00
 Intersection Signal Delay: 85.8
 Intersection LOS: F
 Intersection Capacity Utilization 109.0%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	804	1023	888	2128	1951	489
v/c Ratio	2.00	0.79	1.25	0.84	0.81	0.49
Control Delay	486.5	35.4	155.3	9.3	19.9	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	486.5	35.4	155.3	9.3	19.9	2.5
Queue Length 50th (ft)	~1072	418	~513	233	164	30
Queue Length 95th (ft)	#1319	520	m#574	m282	692	m37
Internal Link Dist (ft)	2848			4591	3475	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	402	1299	711	2520	2465	1019
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.00	0.79	1.25	0.84	0.79	0.48

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	103	790	1465	104	890	1915
Future Volume (vph)	103	790	1465	104	890	1915
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.881	0.850		0.850		
Flt Protected	0.990				0.950	
Satd. Flow (prot)	3152	1441	3539	1583	3433	3539
Flt Permitted	0.990				0.950	
Satd. Flow (perm)	3152	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	343	343		66		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4671
Travel Time (s)	10.9		27.3			63.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	859	1592	113	967	2082
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	542	429	1592	113	967	2082
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	20.5	20.5	59.0	59.0	40.5	103.5
Actuated g/C Ratio	0.16	0.16	0.45	0.45	0.31	0.78
v/c Ratio	0.69	0.84	1.01	0.15	0.92	0.75
Control Delay	22.5	25.7	57.0	17.5	50.5	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	25.7	57.0	17.5	50.5	9.9
LOS	C	C	E	B	D	A
Approach Delay	23.9		54.4			22.8
Approach LOS	C		D			C

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 37 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 32.4
 Intersection LOS: C
 Intersection Capacity Utilization 87.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023
























Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	542	429	1592	113	967	2082
v/c Ratio	0.69	0.84	1.01	0.15	0.92	0.75
Control Delay	22.5	25.7	57.0	17.5	50.5	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	25.7	57.0	17.5	50.5	9.9
Queue Length 50th (ft)	83	78	~463	29	330	155
Queue Length 95th (ft)	124	202	#873	m68	#707	926
Internal Link Dist (ft)	558		1922			4591
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1087	634	1581	744	1052	2773
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.68	1.01	0.15	0.92	0.75

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	251	0	439	10	1560	296	398	1610	0
Future Volume (vph)	0	0	0	251	0	439	10	1560	296	398	1610	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	140		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt						0.850			0.850			
Flt Protected				0.950	0.950		0.950			0.950		
Satd. Flow (prot)	0	0	0	1681	1681	1583	1770	3539	1583	3433	3539	0
Flt Permitted				0.950	0.950		0.950			0.950		
Satd. Flow (perm)	0	0	0	1681	1681	1583	1770	3539	1583	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						477			21			
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		337			628			1217			3340	
Travel Time (s)		9.2			17.1			18.4			50.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	273	0	477	11	1696	322	433	1750	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	136	137	477	11	1696	322	433	1750	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2	1	1	2	
Detector Template				Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)				20	100	20	20	100	20	20	100	
Trailing Detector (ft)				0	0	0	0	0	0	0	0	
Detector 1 Position(ft)				0	0	0	0	0	0	0	0	
Detector 1 Size(ft)				20	6	20	20	6	20	20	6	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Split	NA	custom	Prot	NA	pm+ov	Prot	NA	
Protected Phases				3	3	9!	5	2!	3	1	6	
Permitted Phases									2			

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/24/2023

Lane Group	Ø8	Ø10
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	8	10
Permitted Phases		

Lanes, Volumes, Timings

5: Railroad Avenue & Driveway/13th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				3	3	9	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)				10.0	10.0	4.0	9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				33.0	33.0	14.0	14.0	23.5	33.0	14.0	23.5	
Total Split (s)				33.0	33.0	99.0	14.0	75.0	33.0	24.0	85.0	
Total Split (%)				25.0%	25.0%	75.0%	10.6%	56.8%	25.0%	18.2%	64.4%	
Maximum Green (s)				28.0	28.0	94.5	9.0	69.5	28.0	19.0	79.5	
Yellow Time (s)				4.0	4.0	4.0	4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0	1.0	0.5	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0	5.0	4.5	5.0	5.5	5.0	5.0	5.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None	None	None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				17.6	17.6	104.9	9.0	79.9	103.0	19.0	101.1	
Actuated g/C Ratio				0.13	0.13	0.79	0.07	0.61	0.78	0.14	0.77	
v/c Ratio				0.61	0.61	0.35	0.09	0.79	0.26	0.88	0.65	
Control Delay				64.8	65.0	0.9	59.1	16.5	2.4	78.9	13.1	
Queue Delay				0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	
Total Delay				64.8	65.0	1.2	59.1	16.5	2.4	78.9	13.1	
LOS				E	E	A	E	B	A	E	B	
Approach Delay					24.4			14.5			26.2	
Approach LOS					C			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 132

Actuated Cycle Length: 132

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

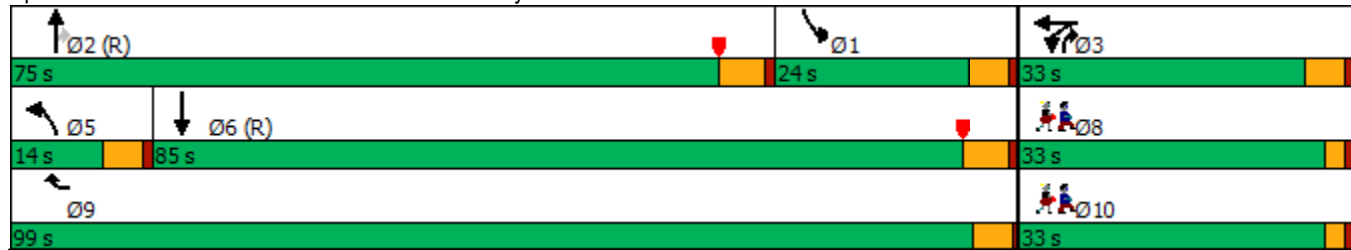
Intersection Signal Delay: 21.1 Intersection LOS: C

Intersection Capacity Utilization 78.6% ICU Level of Service D

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/24/2023

Lane Group	Ø8	Ø10
Detector Phase		
Switch Phase		
Minimum Initial (s)	4.0	4.0
Minimum Split (s)	31.0	16.0
Total Split (s)	33.0	33.0
Total Split (%)	25%	25%
Maximum Green (s)	30.0	30.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	21.0	6.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

5: Railroad Avenue & Driveway/13th Street

01/24/2023



Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	136	137	477	11	1696	322	433	1750
v/c Ratio	0.61	0.61	0.35	0.09	0.79	0.26	0.88	0.65
Control Delay	64.8	65.0	0.9	59.1	16.5	2.4	78.9	13.1
Queue Delay	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	64.8	65.0	1.2	59.1	16.5	2.4	78.9	13.1
Queue Length 50th (ft)	118	120	4	9	315	15	204	661
Queue Length 95th (ft)	184	187	9	m12	604	54	#287	892
Internal Link Dist (ft)		548			1137			3260
Turn Bay Length (ft)	110			100		570	140	
Base Capacity (vph)	356	356	1355	120	2141	1233	494	2709
Starvation Cap Reductn	0	0	306	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.38	0.45	0.09	0.79	0.26	0.88	0.65

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	551	120	210	1405	908	803			
Future Volume (vph)	551	120	210	1405	908	803			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		130				519			
Link Speed (mph)	35			35	45				
Link Distance (ft)	1347			1246	1217				
Travel Time (s)	26.2			24.3	18.4				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	599	130	228	1527	987	873			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	599	130	228	1527	987	873			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	34			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	42.0	30.0	30.0	30.0	30.0

Lanes, Volumes, Timings

6: Railroad Avenue & Lyons Avenue

01/24/2023

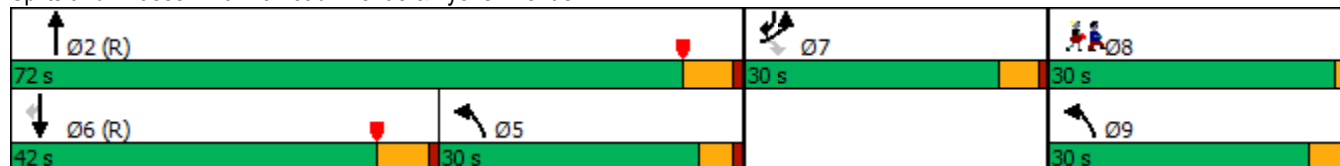


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	31.8%	22.7%	23%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	36.0	25.0	25.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effct Green (s)	31.3	31.3	23.4	79.9	61.2	92.6			
Actuated g/C Ratio	0.24	0.24	0.18	0.61	0.46	0.70			
v/c Ratio	0.74	0.27	0.37	0.71	0.60	0.69			
Control Delay	65.6	22.0	24.8	28.0	23.6	7.8			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	65.6	22.0	24.8	28.0	23.6	7.8			
LOS	E	C	C	C	C	A			
Approach Delay	57.8			27.6	16.2				
Approach LOS	E			C	B				

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	27.8
Intersection LOS:	C
Intersection Capacity Utilization:	62.4%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023



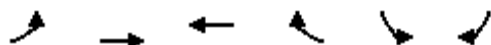
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	599	130	228	1527	987	873
v/c Ratio	0.74	0.27	0.37	0.71	0.60	0.69
Control Delay	65.6	22.0	24.8	28.0	23.6	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.6	22.0	24.8	28.0	23.6	7.8
Queue Length 50th (ft)	159	35	52	592	172	66
Queue Length 95th (ft)	#331	88	53	442	380	479
Internal Link Dist (ft)	1267			1166	1137	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	814	474	1352	2142	1641	1265
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.27	0.17	0.71	0.60	0.69

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1520	960	1365	828	0	
Future Volume (vph)	0	1520	960	1365	828	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.98			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1084			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1913		1540		
Travel Time (s)		6.2	32.6		30.0		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1652	1043	1484	900	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1652	1043	1484	900	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		82.0	38.0	50.0	50.0	44.0	
Total Split (%)		62.1%	28.8%	37.9%	37.9%	33%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		76.0	32.0	44.0	44.0		42.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		78.0	78.0	124.0	46.0		
Actuated g/C Ratio		0.59	0.59	0.94	0.35		
v/c Ratio		0.79	0.95	0.56	0.75		
Control Delay		24.3	32.1	3.5	19.0		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		24.3	32.1	3.5	19.0		
LOS		C	C	A	B		
Approach Delay		24.3	15.3		19.0		
Approach LOS		C	B		B		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	32 (24%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.95
Intersection Signal Delay:	18.9
Intersection LOS:	B
Intersection Capacity Utilization	80.8%
ICU Level of Service	D
Analysis Period (min)	15

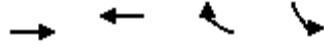
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1652	1043	1484	900
v/c Ratio	0.79	0.95	0.56	0.75
Control Delay	24.3	32.1	3.5	19.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.3	32.1	3.5	19.0
Queue Length 50th (ft)	543	374	115	201
Queue Length 95th (ft)	643	#1155	89	101
Internal Link Dist (ft)	282	1833		1460
Turn Bay Length (ft)				
Base Capacity (vph)	2091	1100	2642	1196
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.79	0.95	0.56	0.75

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗↗	↖↖↖		↘	↘
Traffic Volume (vph)	240	2019	1290	90	60	130
Future Volume (vph)	240	2019	1290	90	60	130
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.990			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5034	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5034	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			11			141
Link Speed (mph)		40	40		30	
Link Distance (ft)		1403	3070		2619	
Travel Time (s)		23.9	52.3		59.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	2195	1402	98	65	141
Shared Lane Traffic (%)						
Lane Group Flow (vph)	261	2195	1500	0	65	141
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	35.0	98.0	63.0		34.0	34.0

Lanes, Volumes, Timings
 8: Newhall Avenue & Valle Del Oro

01/24/2023

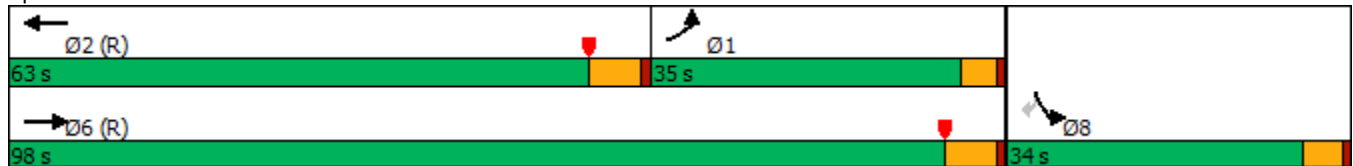


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	26.5%	74.2%	47.7%		25.8%	25.8%
Maximum Green (s)	30.5	92.0	57.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	31.0	112.8	77.8		11.2	11.2
Actuated g/C Ratio	0.23	0.85	0.59		0.08	0.08
v/c Ratio	0.63	0.51	0.51		0.43	0.54
Control Delay	54.6	3.2	4.6		61.9	15.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	54.6	3.2	4.6		61.9	15.2
LOS	D	A	A		E	B
Approach Delay	8.7		4.6		29.9	
Approach LOS	A		A		C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 53 (40%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 8.3
 Intersection Capacity Utilization 53.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

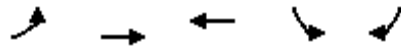
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	261	2195	1500	65	141
v/c Ratio	0.63	0.51	0.51	0.43	0.54
Control Delay	54.6	3.2	4.6	61.9	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.6	3.2	4.6	61.9	15.2
Queue Length 50th (ft)	219	173	75	52	12
Queue Length 95th (ft)	m280	202	86	m59	m22
Internal Link Dist (ft)		1323	2990	2539	
Turn Bay Length (ft)	150				
Base Capacity (vph)	415	4344	2970	402	468
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.63	0.51	0.51	0.16	0.30

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	1709	10	240	1120	814	50	1490	260	247	290	200
Future Volume (vph)	370	1709	10	240	1120	814	50	1490	260	247	290	200
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		300
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.939	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	1770	4775	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	1770	4775	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			273			233		132	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3070			687			398			2905	
Travel Time (s)		52.3			11.7			9.0			66.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	1858	11	261	1217	885	54	1620	283	268	315	217
Shared Lane Traffic (%)												
Lane Group Flow (vph)	402	1858	11	261	1217	885	54	1620	283	268	532	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	50.0	50.0	20.0	45.0	45.0	20.0	42.0	42.0	20.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

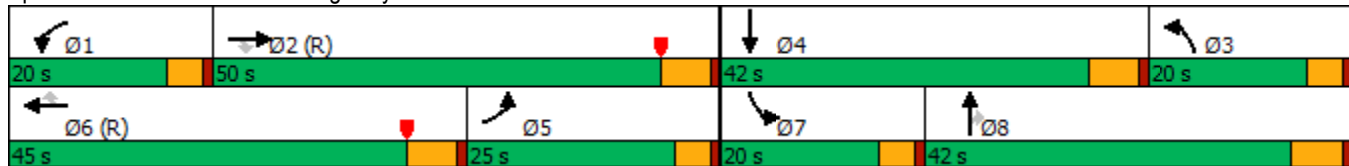


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	37.9%	37.9%	15.2%	34.1%	34.1%	15.2%	31.8%	31.8%	15.2%	31.8%	
Maximum Green (s)	20.5	44.0	44.0	15.5	39.0	39.0	15.5	36.0	36.0	15.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	47.3	47.3	14.7	41.0	41.0	28.4	38.0	36.0	16.0	27.6	
Actuated g/C Ratio	0.16	0.36	0.36	0.11	0.31	0.31	0.22	0.29	0.27	0.12	0.21	
v/c Ratio	0.74	1.02	0.02	0.68	0.77	1.30	0.07	1.11	0.47	1.25	0.48	
Control Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	102.2	11.1	186.4	31.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	102.2	11.1	186.4	31.1	
LOS	E	F	A	E	D	F	D	F	B	F	C	
Approach Delay		79.6			95.7			87.3			83.1	
Approach LOS		E			F			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.30
 Intersection Signal Delay: 87.1
 Intersection LOS: F
 Intersection Capacity Utilization 99.7%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023





















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	402	1858	11	261	1217	885	54	1620	283	268	532
v/c Ratio	0.74	1.02	0.02	0.68	0.77	1.30	0.07	1.11	0.47	1.25	0.48
Control Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	102.2	11.1	186.4	31.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	102.2	11.1	186.4	31.1
Queue Length 50th (ft)	181	~624	0	111	345	~803	18	~578	32	~279	91
Queue Length 95th (ft)	243	#751	m0	158	403	#1059	37	#675	113	m#470	m160
Internal Link Dist (ft)		2990			607			318			2825
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1821	662	416	1579	679	790	1463	601	214	1609
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	1.02	0.02	0.63	0.77	1.30	0.07	1.11	0.47	1.25	0.33

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	999	1357	20	1954	0	0	0	0	10	0	410
Future Volume (vph)	0	999	1357	20	1954	0	0	0	0	10	0	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.942	0.850									0.850
Fl _t Protected				0.950							0.950	
Satd. Flow (prot)	0	3194	1441	1770	3539	0	0	0	0	0	1770	1583
Fl _t Permitted				0.950							0.950	
Satd. Flow (perm)	0	3194	1441	1770	3539	0	0	0	0	0	1770	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		687			492			504			602	
Travel Time (s)		11.7			8.4			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1086	1475	22	2124	0	0	0	0	11	0	446
Shared Lane Traffic (%)			46%									
Lane Group Flow (vph)	0	1765	796	22	2124	0	0	0	0	0	11	446
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	86.1%
Analysis Period (min)	15
	ICU Level of Service E

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	999	1357	20	1954	0	0	0	0	10	0	410
Future Vol, veh/h	0	999	1357	20	1954	0	0	0	0	10	0	410
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082488832	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1086	1475	22	2124	0	0	0	0	11	0	446

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	1086	0	0		2711	3254	-
Stage 1	-	-	-	-	-	-		2168	2168	-
Stage 2	-	-	-	-	-	-		543	1086	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	638	-	0		17	9	0
Stage 1	0	-	-	-	-	0		73	85	0
Stage 2	0	-	-	-	-	0		546	291	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	638	-	-		16	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		16	0	-
Stage 1	-	-	-	-	-	-		73	0	-
Stage 2	-	-	-	-	-	-		527	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	\$ 429.9
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	638	-	16	-
HCM Lane V/C Ratio	-	-	0.034	-	0.679	-
HCM Control Delay (s)	-	-	10.8	-	\$ 429.9	0
HCM Lane LOS	-	-	B	-	F	A
HCM 95th %tile Q(veh)	-	-	0.1	-	1.7	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	980	0	0	110	0	10
Future Volume (vph)	980	0	0	110	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr t						0.865
Flt Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	492			551	676	
Travel Time (s)	8.4			9.4	15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1065	0	0	120	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1065	0	0	120	0	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	86.1% ICU Level of Service E
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	980	0	0	110	0	10
Future Vol, veh/h	980	0	0	110	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1065	0	0	120	0	11



















Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	492	-	-
HCM Lane V/C Ratio	0.022	-	-
HCM Control Delay (s)	12.5	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	1210	0	0	869	739	480	0	425	0	0	0
Future Volume (vph)	220	1210	0	0	869	739	480	0	425	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.931				0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1770	3539	0	0	4734	0	1681	1681	1583	0	0	0
Flt Permitted	0.950						0.950	0.950				
Satd. Flow (perm)	1770	3539	0	0	4734	0	1681	1681	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					261				73			
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		1093			1835			601			382	
Travel Time (s)		18.6			31.3			13.7			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	1315	0	0	945	803	522	0	462	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	239	1315	0	0	1748	0	261	261	462	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

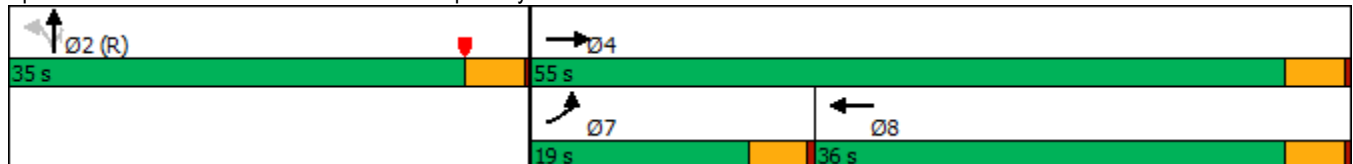


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			10.0		10.0	10.0	10.0			
Minimum Split (s)	14.5	22.5			22.5		32.5	32.5	32.5			
Total Split (s)	19.0	55.0			36.0		35.0	35.0	35.0			
Total Split (%)	21.1%	61.1%			40.0%		38.9%	38.9%	38.9%			
Maximum Green (s)	14.5	50.5			31.5		30.5	30.5	30.5			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	0.5	0.5			0.5		0.5	0.5	0.5			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	4.5			4.5		4.5	4.5	4.5			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.1	50.5			31.9		30.5	30.5	30.5			
Actuated g/C Ratio	0.16	0.56			0.35		0.34	0.34	0.34			
v/c Ratio	0.86	0.66			1.09dr		0.46	0.46	0.79			
Control Delay	66.6	15.9			36.5		26.5	26.5	34.1			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	66.6	15.9			36.5		26.5	26.5	34.1			
LOS	E	B			D		C	C	C			
Approach Delay		23.7			36.5			30.1				
Approach LOS		C			D			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 30.4
 Intersection LOS: C
 Intersection Capacity Utilization 70.1%
 ICU Level of Service C
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

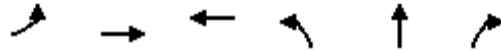
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	239	1315	1748	261	261	462
v/c Ratio	0.86	0.66	1.09dr	0.46	0.46	0.79
Control Delay	66.6	15.9	36.5	26.5	26.5	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	15.9	36.5	26.5	26.5	34.1
Queue Length 50th (ft)	133	256	308	121	121	200
Queue Length 95th (ft)	#260	327	#423	195	195	#359
Internal Link Dist (ft)		1013	1755		521	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	285	1985	1846	569	569	584
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.66	0.95	0.46	0.46	0.79

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	440	1185	250	190	1278	192	130	490	310	379	440	270
Future Volume (vph)	440	1185	250	190	1278	192	130	490	310	379	440	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	2		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	0.97	0.95	1.00
Fr _t			0.850		0.980				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4984	0	1652	3303	1478	3204	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4984	0	1652	3303	1478	3204	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173		22				293			122
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1835			5346			887				1679
Travel Time (s)		31.3			91.1			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	478	1288	272	207	1389	209	141	533	337	412	478	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	478	1288	272	207	1598	0	141	533	337	412	478	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			20				20
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/24/2023

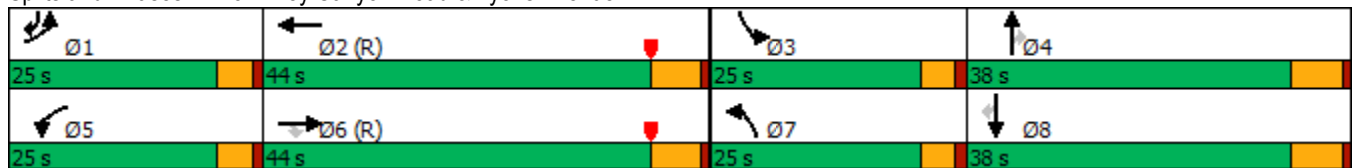


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	25.0	44.0	44.0	25.0	44.0		25.0	38.0	38.0	25.0	38.0	25.0
Total Split (%)	18.9%	33.3%	33.3%	18.9%	33.3%		18.9%	28.8%	28.8%	18.9%	28.8%	18.9%
Maximum Green (s)	20.5	38.0	38.0	20.5	38.0		20.5	32.0	32.0	20.5	32.0	20.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	23.2	46.2	46.2	20.4	43.4		16.6	29.2	29.2	20.2	32.9	60.0
Actuated g/C Ratio	0.18	0.35	0.35	0.15	0.33		0.13	0.22	0.22	0.15	0.25	0.45
v/c Ratio	0.85	1.11	0.43	0.81	0.97		0.68	0.73	0.61	0.84	0.56	0.37
Control Delay	67.8	103.7	15.3	90.5	24.3		71.3	53.7	12.4	70.1	46.0	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	103.7	15.3	90.5	24.3		71.3	53.7	12.4	70.1	46.0	14.6
LOS	E	F	B	F	C		E	D	B	E	D	B
Approach Delay		83.5			31.9			42.4			46.6	
Approach LOS		F			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.11
 Intersection Signal Delay: 54.0
 Intersection LOS: D
 Intersection Capacity Utilization 81.0%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	478	1288	272	207	1598	141	533	337	412	478	293
v/c Ratio	0.85	1.11	0.43	0.81	0.97	0.68	0.73	0.61	0.84	0.56	0.37
Control Delay	67.8	103.7	15.3	90.5	24.3	71.3	53.7	12.4	70.1	46.0	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	103.7	15.3	90.5	24.3	71.3	53.7	12.4	70.1	46.0	14.6
Queue Length 50th (ft)	203	~713	62	166	~554	117	222	30	177	186	86
Queue Length 95th (ft)	#315	#875	150	m186	m69	184	276	123	#249	244	163
Internal Link Dist (ft)		1755			5266		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	562	1156	630	271	1653	262	850	598	509	881	786
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	1.11	0.43	0.76	0.97	0.54	0.63	0.56	0.81	0.54	0.37































Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			 			 		 		
Traffic Volume (vph)	280	1363	120	112	1490	642	100	160	99	569	150	220
Future Volume (vph)	280	1363	120	112	1490	642	100	160	99	569	150	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	4746	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	4746	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			275			112			239
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5346			2329			465				345
Travel Time (s)		104.1			45.4			9.1				5.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	1482	130	122	1620	698	109	174	108	618	163	239
Shared Lane Traffic (%)												
Lane Group Flow (vph)	304	1482	130	122	1620	698	109	174	108	618	163	239
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

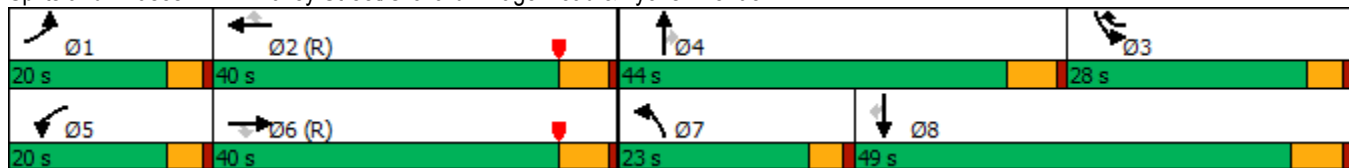


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	18.5	51.7	51.7	15.5	48.7	83.4	14.3	14.1	14.1	34.7	34.5	34.5
Actuated g/C Ratio	0.14	0.39	0.39	0.12	0.37	0.63	0.11	0.11	0.11	0.26	0.26	0.26
v/c Ratio	0.68	0.80	0.19	0.63	1.13	0.58	0.61	0.48	0.44	0.69	0.35	0.41
Control Delay	38.2	47.4	15.1	44.3	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	47.4	15.1	44.3	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
LOS	D	D	B	D	F	B	E	E	B	D	D	A
Approach Delay		43.8			77.3			50.0			37.1	
Approach LOS		D			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 2 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 57.2
 Intersection LOS: E
 Intersection Capacity Utilization 83.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	304	1482	130	122	1620	698	109	174	108	618	163	239
v/c Ratio	0.68	0.80	0.19	0.63	1.13	0.58	0.61	0.48	0.44	0.69	0.35	0.41
Control Delay	38.2	47.4	15.1	44.3	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	47.4	15.1	44.3	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
Queue Length 50th (ft)	124	487	35	94	~868	271	90	75	0	245	114	0
Queue Length 95th (ft)	m120	m#513	m43	m80	m#891	m238	149	110	51	297	175	63
Internal Link Dist (ft)		5266			2249			385			265	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	459	1857	689	218	1436	1201	237	1036	493	902	613	679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.80	0.19	0.56	1.13	0.58	0.46	0.17	0.22	0.69	0.27	0.35

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	681	1560	50	913	20	970	100	60	20	120	110
Future Volume (vph)	100	681	1560	50	913	20	970	100	60	20	120	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1625	3539	1468	1639	3539	1356	3117	1863	1471	1670	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			469			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2329			1347			528				401
Travel Time (s)		45.4			26.2			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	740	1696	54	992	22	1054	109	65	22	130	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	740	1696	54	992	22	1054	109	65	22	130	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

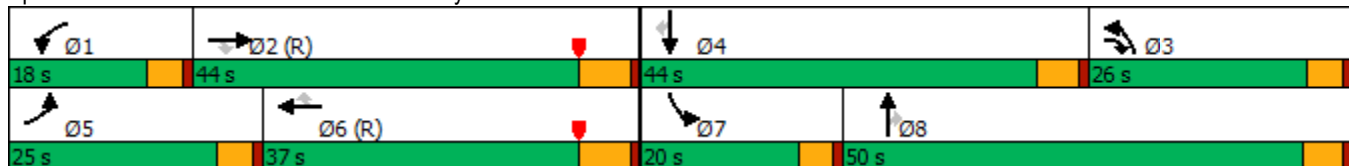


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	25.0	44.0	26.0	18.0	37.0	37.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	18.9%	33.3%	19.7%	13.6%	28.0%	28.0%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	20.5	38.0	21.5	13.5	31.0	31.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		32.0	32.0		32.0	32.0
Pedestrian Calls (#/hr)		27			27	27		43	43		43	43
Act Effct Green (s)	14.5	45.9	73.8	10.2	39.5	39.5	27.9	58.4	58.4	7.8	34.1	34.1
Actuated g/C Ratio	0.11	0.35	0.56	0.08	0.30	0.30	0.21	0.44	0.44	0.06	0.26	0.26
v/c Ratio	0.60	0.60	1.63	0.43	0.94	0.04	1.50	0.13	0.09	0.22	0.28	0.26
Control Delay	82.5	24.8	308.0	64.4	57.1	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.5	24.8	308.0	64.4	57.1	0.1	268.6	24.1	0.2	63.7	38.6	4.8
LOS	F	C	F	E	E	A	F	C	A	E	D	A
Approach Delay		216.0			56.3			232.7			25.7	
Approach LOS		F			E			F			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 47 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.63
 Intersection Signal Delay: 176.5 Intersection LOS: F
 Intersection Capacity Utilization 137.2% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	109	740	1696	54	992	22	1054	109	65	22	130	120
v/c Ratio	0.60	0.60	1.63	0.43	0.94	0.04	1.50	0.13	0.09	0.22	0.28	0.26
Control Delay	82.5	24.8	308.0	64.4	57.1	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.5	24.8	308.0	64.4	57.1	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Length 50th (ft)	87	231	~2046	43	461	0	~712	58	0	18	84	0
Queue Length 95th (ft)	m136	216	#2399	m67	#644	m0	#846	102	0	47	138	33
Internal Link Dist (ft)		2249			1267			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	262	1230	1041	175	1059	524	702	823	726	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.60	1.63	0.31	0.94	0.04	1.50	0.13	0.09	0.11	0.24	0.23

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑	↔↔	↔	↔		↔↔	↔↔			↔↔	↔
Traffic Volume (vph)	125	59	510	31	77	0	450	18	27	0	23	163
Future Volume (vph)	125	59	510	31	77	0	450	18	27	0	23	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.911				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3224	0	0	3539	1583
Flt Permitted	0.950			0.950			0.740					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	2674	3224	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			554					29				177
Link Speed (mph)		45			30			45				30
Link Distance (ft)		628			561			423				495
Travel Time (s)		9.5			12.8			6.4				11.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	64	554	34	84	0	489	20	29	0	25	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	64	554	34	84	0	489	49	0	0	25	177
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Over	Prot	NA		pm+pt	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases							2					

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	15.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	23.0	36.0	51.0	12.0	25.0		51.0	84.0			33.0	23.0
Total Split (%)	17.4%	27.3%	38.6%	9.1%	18.9%		38.6%	63.6%			25.0%	17.4%
Maximum Green (s)	19.0	31.0	46.0	8.0	20.0		46.0	79.0			28.0	19.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	10.6	19.4	46.0	7.2	12.0		95.4	95.4			44.4	10.6
Actuated g/C Ratio	0.08	0.15	0.35	0.05	0.09		0.72	0.72			0.34	0.08
v/c Ratio	0.49	0.23	0.42	0.35	0.50		0.22	0.02			0.02	0.61
Control Delay	61.6	50.6	0.8	70.0	67.0		6.9	3.3			31.6	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	61.6	50.6	0.8	70.0	67.0		6.9	3.3			31.6	17.3
LOS	E	D	A	E	E		A	A			C	B
Approach Delay		16.0			67.9			6.6			19.1	
Approach LOS		B			E			A			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 17.0
 Intersection LOS: B
 Intersection Capacity Utilization 42.9%
 ICU Level of Service A
 Analysis Period (min) 15

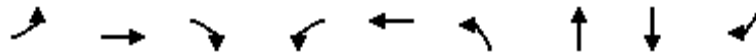
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	136	64	554	34	84	489	49	25	177
v/c Ratio	0.49	0.23	0.42	0.35	0.50	0.22	0.02	0.02	0.61
Control Delay	61.6	50.6	0.8	70.0	67.0	6.9	3.3	31.6	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	50.6	0.8	70.0	67.0	6.9	3.3	31.6	17.3
Queue Length 50th (ft)	63	58	0	28	70	60	2	7	0
Queue Length 95th (ft)	m84	m83	m0	65	122	98	9	20	71
Internal Link Dist (ft)		548			481		343	415	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	494	437	1332	107	282	2197	2339	1191	379
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.15	0.42	0.32	0.30	0.22	0.02	0.02	0.47

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	120	20	180	169	10	43	20	332	178	150	404	10
Future Volume (vph)	120	20	180	169	10	43	20	332	178	150	404	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	180		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.924			0.974			0.955			0.998	
Flt Protected		0.982			0.963			0.998			0.987	
Satd. Flow (prot)	0	1690	0	0	1747	0	0	1775	0	0	1835	0
Flt Permitted		0.982			0.963			0.998			0.987	
Satd. Flow (perm)	0	1690	0	0	1747	0	0	1775	0	0	1835	0
Link Speed (mph)		25			25			30			25	
Link Distance (ft)		391			842			206			423	
Travel Time (s)		10.7			23.0			4.7			11.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	22	196	184	11	47	22	361	193	163	439	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	348	0	0	242	0	0	576	0	0	613	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	93.1%
ICU Level of Service	F
Analysis Period (min)	15

HCM 6th Roundabout
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023

Intersection				
Intersection Delay, s/veh	11.9			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	348	242	576	613
Demand Flow Rate, veh/h	355	247	587	625
Vehicles Circulating, veh/h	802	523	321	221
Vehicles Exiting, veh/h	44	385	836	549
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	17.0	8.1	11.8	10.4
Approach LOS	C	A	B	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	355	247	587	625
Cap Entry Lane, veh/h	609	809	995	1101
Entry HV Adj Factor	0.979	0.979	0.981	0.981
Flow Entry, veh/h	348	242	576	613
Cap Entry, veh/h	596	792	976	1081
V/C Ratio	0.583	0.305	0.590	0.567
Control Delay, s/veh	17.0	8.1	11.8	10.4
LOS	C	A	B	B
95th %tile Queue, veh	4	1	4	4

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023

							Ø1	Ø2	Ø7	Ø8
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT				
Lane Configurations										
Traffic Volume (vph)	160	173	357	140	203	551				
Future Volume (vph)	160	173	357	140	203	551				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	150	0		0	0					
Storage Lanes	1	1		0	1					
Taper Length (ft)	25				25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95				
Frt		0.850	0.962							
Flt Protected	0.950				0.950					
Satd. Flow (prot)	1770	1583	1792	0	1770	3539				
Flt Permitted	0.950				0.950					
Satd. Flow (perm)	1770	1583	1792	0	1770	3539				
Right Turn on Red		Yes		Yes						
Satd. Flow (RTOR)		188	14							
Link Speed (mph)	30		45			45				
Link Distance (ft)	1067		195			206				
Travel Time (s)	24.3		3.0			3.1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Adj. Flow (vph)	174	188	388	152	221	599				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	174	188	540	0	221	599				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Right	Left	Left				
Median Width(ft)	12		12			12				
Link Offset(ft)	0		0			0				
Crosswalk Width(ft)	16		16			16				
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)	15	9		9	15					
Number of Detectors	1	1	2		1	2				
Detector Template	Left	Right	Thru		Left	Thru				
Leading Detector (ft)	20	20	100		20	100				
Trailing Detector (ft)	0	0	0		0	0				
Detector 1 Position(ft)	0	0	0		0	0				
Detector 1 Size(ft)	20	20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0				
Detector 2 Position(ft)			94			94				
Detector 2 Size(ft)			6			6				
Detector 2 Type			Cl+Ex			Cl+Ex				
Detector 2 Channel										
Detector 2 Extend (s)			0.0			0.0				
Turn Type	Prot	Perm	NA		Prot	NA				
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8
Permitted Phases		7 8								

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023

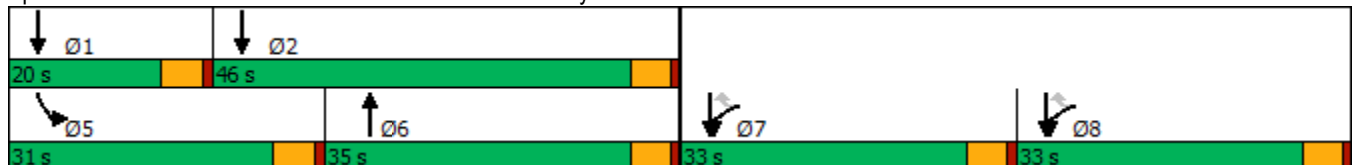


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		20.0	23.0	33.0	33.0
Total Split (s)			35.0		31.0		20.0	46.0	33.0	33.0
Total Split (%)			26.5%		23.5%		15%	35%	25%	25%
Maximum Green (s)			30.0		26.0		15.0	41.0	28.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Ped	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	30.0	30.0	30.5		16.7	92.4				
Actuated g/C Ratio	0.32	0.32	0.33		0.18	1.00				
v/c Ratio	0.30	0.29	0.90		0.69	0.17				
Control Delay	25.2	4.8	51.3		48.3	0.1				
Queue Delay	0.0	0.0	0.0		0.0	0.0				
Total Delay	25.2	4.8	51.3		48.3	0.1				
LOS	C	A	D		D	A				
Approach Delay	14.6		51.3			13.1				
Approach LOS	B		D			B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 92.4
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 25.4
 Intersection LOS: C
 Intersection Capacity Utilization 59.9%
 ICU Level of Service B
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

01/24/2023
























Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	174	188	540	221	599
v/c Ratio	0.30	0.29	0.90	0.69	0.17
Control Delay	25.2	4.8	51.3	48.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	4.8	51.3	48.3	0.1
Queue Length 50th (ft)	74	0	287	120	0
Queue Length 95th (ft)	140	45	#645	222	0
Internal Link Dist (ft)	987		115		126
Turn Bay Length (ft)	150				
Base Capacity (vph)	933	923	600	505	3472
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.20	0.90	0.44	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
19: Valle Del Oro & Dockweiler Drive

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	671	30	380	447	10	20	10	410	0	10	10
Future Volume (vph)	10	671	30	380	447	10	20	10	410	0	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	100		100	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.874			0.932	
Flt Protected	0.950			0.950				0.998				
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1625	0	0	1736	0
Flt Permitted	0.448			0.319				0.987				
Satd. Flow (perm)	835	1863	1583	594	1863	1583	0	1607	0	0	1736	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			25			11		313			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5381			3919			2619			300	
Travel Time (s)		122.3			89.1			59.5			6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	729	33	413	486	11	22	11	446	0	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	729	33	413	486	11	0	479	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

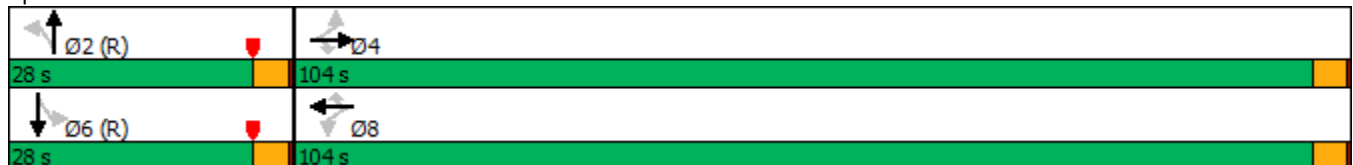


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	104.0	104.0	104.0	104.0	104.0	104.0	28.0	28.0		28.0	28.0	
Total Split (%)	78.8%	78.8%	78.8%	78.8%	78.8%	78.8%	21.2%	21.2%		21.2%	21.2%	
Maximum Green (s)	100.0	100.0	100.0	100.0	100.0	100.0	24.0	24.0		24.0	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	100.0	100.0	100.0	100.0	100.0	100.0		24.0			24.0	
Actuated g/C Ratio	0.76	0.76	0.76	0.76	0.76	0.76		0.18			0.18	
v/c Ratio	0.02	0.52	0.03	0.92	0.34	0.01		0.87			0.07	
Control Delay	4.0	7.9	1.9	39.9	4.8	0.6		30.6			29.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	4.0	7.9	1.9	39.9	4.8	0.6		30.6			29.5	
LOS	A	A	A	D	A	A		C			C	
Approach Delay		7.6			20.6			30.6			29.5	
Approach LOS		A			C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 18.3
 Intersection LOS: B
 Intersection Capacity Utilization 100.0%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 19: Valle Del Oro & Dockweiler Drive



Queues

19: Valle Del Oro & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	729	33	413	486	11	479	22
v/c Ratio	0.02	0.52	0.03	0.92	0.34	0.01	0.87	0.07
Control Delay	4.0	7.9	1.9	39.9	4.8	0.6	30.6	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	7.9	1.9	39.9	4.8	0.6	30.6	29.5
Queue Length 50th (ft)	2	216	2	141	105	0	88	8
Queue Length 95th (ft)	7	292	9	m#431	m136	m1	#317	33
Internal Link Dist (ft)		5301			3839		2539	220
Turn Bay Length (ft)	100		100	100		100		
Base Capacity (vph)	632	1411	1205	450	1411	1201	548	324
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.52	0.03	0.92	0.34	0.01	0.87	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	831	240	288	2266	498	609
Future Volume (vph)	831	240	288	2266	498	609
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.996	0.850				0.850
Flt Protected	0.954		0.950			
Satd. Flow (prot)	3434	1441	1770	3539	3539	1583
Flt Permitted	0.954		0.950			
Satd. Flow (perm)	3434	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	2	170				662
Link Speed (mph)	30			50	50	
Link Distance (ft)	3919			2905	621	
Travel Time (s)	89.1			39.6	8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	903	261	313	2463	541	662
Shared Lane Traffic (%)		10%				
Lane Group Flow (vph)	929	235	313	2463	541	662
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	15.0	21.0	30.0	30.0
Total Split (s)	38.0	38.0	33.0	94.0	61.0	61.0
Total Split (%)	28.8%	28.8%	25.0%	71.2%	46.2%	46.2%
Maximum Green (s)	33.0	33.0	28.0	89.0	56.0	56.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	33.0	33.0	26.1	89.0	57.9	57.9
Actuated g/C Ratio	0.25	0.25	0.20	0.67	0.44	0.44
v/c Ratio	1.08	0.48	0.89	1.03	0.35	0.62
Control Delay	97.8	16.0	55.8	42.9	30.8	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.8	16.0	55.8	42.9	30.8	15.0
LOS	F	B	E	D	C	B
Approach Delay	81.3			44.3	22.1	
Approach LOS	F			D	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 47.5
 Intersection LOS: D
 Intersection Capacity Utilization 97.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	929	235	313	2463	541	662
v/c Ratio	1.08	0.48	0.89	1.03	0.35	0.62
Control Delay	97.8	16.0	55.8	42.9	30.8	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.8	16.0	55.8	42.9	30.8	15.0
Queue Length 50th (ft)	~460	57	265	~751	120	56
Queue Length 95th (ft)	m#590	m127	m235	m565	241	300
Internal Link Dist (ft)	3839			2825	541	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	860	487	375	2386	1551	1065
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.48	0.83	1.03	0.35	0.62

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	62	18	90	36	560	16	2203	898	280	964	35
Future Volume (vph)	45	62	18	90	36	560	16	2203	898	280	964	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.730			0.711			0.950			0.950		
Satd. Flow (perm)	1360	3539	1583	1324	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			58			238			275			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		816			677			2247			787	
Travel Time (s)		12.4			10.3			30.6			10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	67	20	98	39	609	17	2395	976	304	1048	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	67	20	98	39	609	17	2395	976	304	1048	38
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8		6				2

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	20.0	20.0	20.0	37.0	37.0	37.0	15.0	20.0	20.0	15.0	39.0	39.0
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	22.0	66.0	66.0	26.0	70.0	70.0
Total Split (%)	30.3%	30.3%	30.3%	30.3%	30.3%	30.3%	16.7%	50.0%	50.0%	19.7%	53.0%	53.0%
Maximum Green (s)	35.0	35.0	35.0	35.0	35.0	35.0	17.0	61.0	61.0	21.0	65.0	65.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	35.0	35.0	35.0	35.0	35.0	35.0	10.0	61.0	61.0	21.0	81.0	81.0
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27	0.27	0.08	0.46	0.46	0.16	0.61	0.61
v/c Ratio	0.14	0.07	0.04	0.28	0.04	1.03	0.13	1.46	1.11	1.08	0.48	0.04
Control Delay	38.4	36.7	0.2	41.2	36.3	72.7	59.8	238.7	76.4	124.5	16.5	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.6	0.0	0.0	0.0	0.0
Total Delay	38.4	36.7	0.2	41.2	36.3	82.7	59.8	239.3	76.4	124.5	16.5	2.3
LOS	D	D	A	D	D	F	E	F	E	F	B	A
Approach Delay		31.9			74.8			191.5			39.8	
Approach LOS		C			E			F			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.46
 Intersection Signal Delay: 135.0
 Intersection LOS: F
 Intersection Capacity Utilization 116.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	67	20	98	39	609	17	2395	976	304	1048	38
v/c Ratio	0.14	0.07	0.04	0.28	0.04	1.03	0.13	1.46	1.11	1.08	0.48	0.04
Control Delay	38.4	36.7	0.2	41.2	36.3	72.7	59.8	238.7	76.4	124.5	16.5	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.6	0.0	0.0	0.0	0.0
Total Delay	38.4	36.7	0.2	41.2	36.3	82.7	59.8	239.3	76.4	124.5	16.5	2.3
Queue Length 50th (ft)	32	22	0	67	13	~394	14	~1485	~819	~291	245	1
Queue Length 95th (ft)	67	42	0	119	28	#629	m13	m#1389	m#510	#484	382	m13
Internal Link Dist (ft)		736			597			2167			707	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	360	938	462	351	938	594	227	1635	879	281	2171	993
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	17	0	266	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.07	0.04	0.28	0.04	1.06	0.07	1.75	1.11	1.08	0.48	0.04

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	105	40	2861	78	790	1034
Future Volume (vph)	105	40	2861	78	790	1034
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		43		41		
Link Speed (mph)	30		50			50
Link Distance (ft)	615		787			1009
Travel Time (s)	14.0		10.7			13.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	43	3110	85	859	1124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	43	3110	85	859	1124
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023

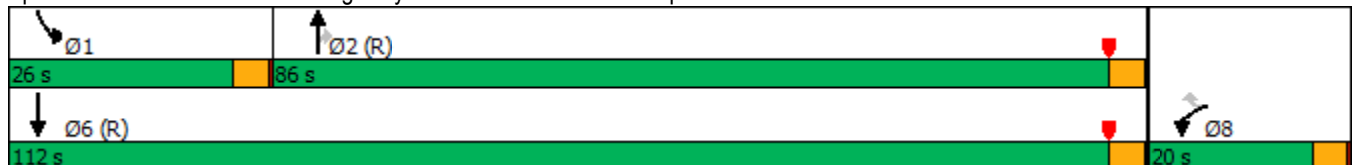


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	8.0	20.0
Total Split (s)	20.0	20.0	86.0	86.0	26.0	112.0
Total Split (%)	15.2%	15.2%	65.2%	65.2%	19.7%	84.8%
Maximum Green (s)	16.0	16.0	82.0	82.0	22.0	108.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effct Green (s)	13.2	13.2	82.0	82.0	24.8	110.8
Actuated g/C Ratio	0.10	0.10	0.62	0.62	0.19	0.84
v/c Ratio	0.64	0.22	1.41	0.09	1.33	0.38
Control Delay	73.5	17.5	209.0	5.4	201.5	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.5	17.5	209.0	5.4	201.5	3.1
LOS	E	B	F	A	F	A
Approach Delay	58.2		203.5			89.0
Approach LOS	E		F			F

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.41
 Intersection Signal Delay: 156.7
 Intersection LOS: F
 Intersection Capacity Utilization 117.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR 14 Southbound Ramps



Queues

22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	114	43	3110	85	859	1124
v/c Ratio	0.64	0.22	1.41	0.09	1.33	0.38
Control Delay	73.5	17.5	209.0	5.4	201.5	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.5	17.5	209.0	5.4	201.5	3.1
Queue Length 50th (ft)	95	0	~1863	9	~498	95
Queue Length 95th (ft)	158	36	m#1162	m3	#654	131
Internal Link Dist (ft)	535		707			929
Turn Bay Length (ft)					160	
Base Capacity (vph)	214	229	2198	998	644	2970
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.19	1.41	0.09	1.33	0.38

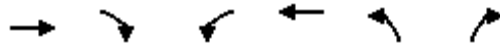
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	↗
Traffic Volume (vph)	290	0	0	330	236	190
Future Volume (vph)	290	0	0	330	236	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	677			645	774	
Travel Time (s)	10.3			9.8	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	0	0	359	257	207
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	359	257	207
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Stop			Stop	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	26.4%
Analysis Period (min)	15
	ICU Level of Service A

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↗	↗
Traffic Vol, veh/h	290	0	0	330	236	190
Future Vol, veh/h	290	0	0	330	236	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	315	0	0	359	257	207
Number of Lanes	2	0	0	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	2
HCM Control Delay	10.4	10.6	9.7
HCM LOS	B	B	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	100%	0%	0%	0%	0%	0%
Vol Thru, %	0%	0%	0%	100%	100%	100%	100%
Vol Right, %	0%	0%	100%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	118	118	190	145	145	165	165
LT Vol	118	118	0	0	0	0	0
Through Vol	0	0	0	145	145	165	165
RT Vol	0	0	190	0	0	0	0
Lane Flow Rate	128	128	207	158	158	179	179
Geometry Grp	7	7	7	8	8	8	8
Degree of Util (X)	0.239	0.239	0.214	0.287	0.21	0.322	0.235
Departure Headway (Hd)	6.701	6.701	3.739	6.55	4.794	6.469	4.715
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	536	536	956	548	745	554	759
Service Time	4.443	4.443	1.48	4.3	2.543	4.218	2.463
HCM Lane V/C Ratio	0.239	0.239	0.217	0.288	0.212	0.323	0.236
HCM Control Delay	11.5	11.5	7.5	11.9	8.8	12.3	8.9
HCM Lane LOS	B	B	A	B	A	B	A
HCM 95th-tile Q	0.9	0.9	0.8	1.2	0.8	1.4	0.9

***Future without Project
with DDEP Conditions (Traffic Signal)***

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	880	250	670	1840	70	450	620	170	210	2530	450
Future Volume (vph)	140	880	250	670	1840	70	450	620	170	210	2530	450
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	0		230
Storage Lanes	3		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			136			186			112
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			2037			1105	
Travel Time (s)		13.2			11.3			30.9			16.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	957	272	728	2000	76	489	674	185	228	2750	489
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	957	272	728	2000	76	489	674	185	228	2750	489
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	21.0	36.0	22.0	21.0	36.0	36.0	22.0	45.0	45.0	30.0	53.0	21.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

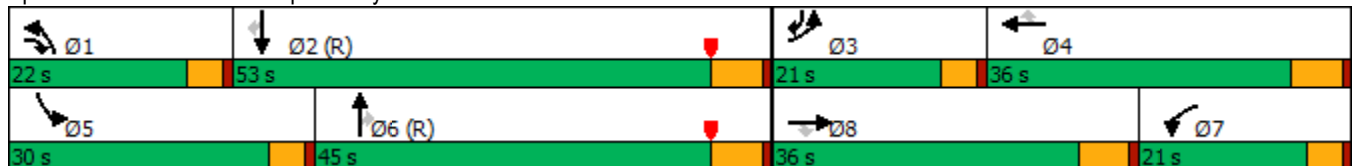


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	15.9%	27.3%	16.7%	15.9%	27.3%	27.3%	16.7%	34.1%	34.1%	22.7%	40.2%	15.9%
Maximum Green (s)	16.5	30.0	17.5	16.5	30.0	30.0	17.5	39.0	39.0	25.5	47.0	16.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	7.9	29.2	47.2	19.8	41.1	41.1	18.0	54.3	54.3	12.7	49.0	60.9
Actuated g/C Ratio	0.06	0.22	0.36	0.15	0.31	0.31	0.14	0.41	0.41	0.10	0.37	0.46
v/c Ratio	0.51	0.67	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.16	0.62
Control Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	36.6	14.2	68.7	113.6	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	36.6	14.2	68.7	113.6	23.8
LOS	E	D	B	F	E	A	F	D	B	E	F	C
Approach Delay		43.9			109.4			55.0			98.0	
Approach LOS		D			F			E			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 105 (80%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.42
 Intersection Signal Delay: 86.8
 Intersection LOS: F
 Intersection Capacity Utilization 94.7%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	957	272	728	2000	76	489	674	185	228	2750	489
v/c Ratio	0.51	0.67	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.16	0.62
Control Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	36.6	14.2	68.7	113.6	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	36.6	14.2	68.7	113.6	23.8
Queue Length 50th (ft)	45	218	63	~438	~500	0	~232	151	37	98	~806	240
Queue Length 95th (ft)	69	252	115	#589	#621	0	#333	176	104	139	#874	348
Internal Link Dist (ft)		790			665			1957			1025	
Turn Bay Length (ft)	270		265	280		340	300					230
Base Capacity (vph)	642	1553	638	513	1993	586	468	2636	760	676	2378	892
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.62	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.34	1.16	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	900	40	550	1000	410	20	550	280	470	1790	1560
Future Volume (vph)	360	900	40	550	1000	410	20	550	280	470	1790	1560
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		225	450		400
Storage Lanes	3		0	3		1	1		1	1		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5055	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5055	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				99			112			477
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			888			2037	
Travel Time (s)		32.4			35.4			13.5			30.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	978	43	598	1087	446	22	598	304	511	1946	1696
Shared Lane Traffic (%)												
Lane Group Flow (vph)	391	1021	0	598	1087	446	22	598	304	511	1946	1696
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	26.0	39.0		31.0	44.0	20.0	19.0	42.0	31.0	20.0	43.0	26.0

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

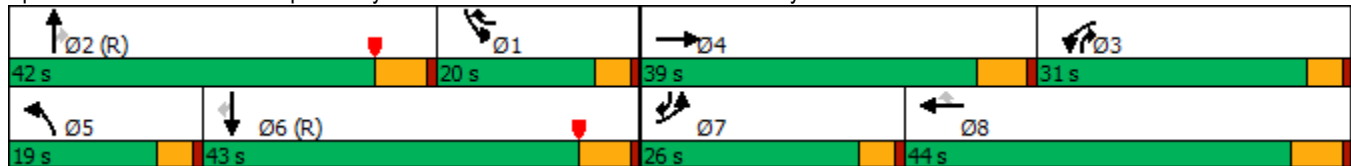


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	19.7%	29.5%		23.5%	33.3%	15.2%	14.4%	31.8%	23.5%	15.2%	32.6%	19.7%
Maximum Green (s)	21.5	33.0		26.5	38.0	15.5	14.5	36.0	26.5	15.5	37.0	21.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	22.0	33.4		25.0	36.4	52.4	7.7	41.6	70.6	16.0	54.0	80.0
Actuated g/C Ratio	0.17	0.25		0.19	0.28	0.40	0.06	0.32	0.53	0.12	0.41	0.61
v/c Ratio	0.47	0.80		0.63	0.78	0.65	0.21	0.37	0.34	1.23	0.94	0.90
Control Delay	51.9	51.1		52.5	48.1	18.8	52.1	31.0	5.6	138.2	21.3	17.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	51.1		52.5	48.1	18.8	52.1	31.0	5.6	138.2	21.3	17.0
LOS	D	D		D	D	B	D	C	A	F	C	B
Approach Delay		51.3			43.2			23.2			33.9	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.23
 Intersection Signal Delay: 37.9 Intersection LOS: D
 Intersection Capacity Utilization 87.2% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	391	1021	598	1087	446	22	598	304	511	1946	1696
v/c Ratio	0.47	0.80	0.63	0.78	0.65	0.21	0.37	0.34	1.23	0.94	0.90
Control Delay	51.9	51.1	52.5	48.1	18.8	52.1	31.0	5.6	138.2	21.3	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	51.1	52.5	48.1	18.8	52.1	31.0	5.6	138.2	21.3	17.0
Queue Length 50th (ft)	108	294	170	313	139	19	172	47	~276	~568	775
Queue Length 95th (ft)	143	349	207	356	195	m34	167	79	m#229	m456	m643
Internal Link Dist (ft)		2060		2257			808			1957	
Turn Bay Length (ft)						250		225	450		400
Base Capacity (vph)	831	1344	1020	1540	688	201	1602	885	416	2080	1877
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.76	0.59	0.71	0.65	0.11	0.37	0.34	1.23	0.94	0.90

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	330	550	1220	1860	510
Future Volume (vph)	140	330	550	1220	1860	510
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		6				453
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4834	2595	
Travel Time (s)	44.4			65.9	39.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	359	598	1326	2022	554
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	359	598	1326	2022	554
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

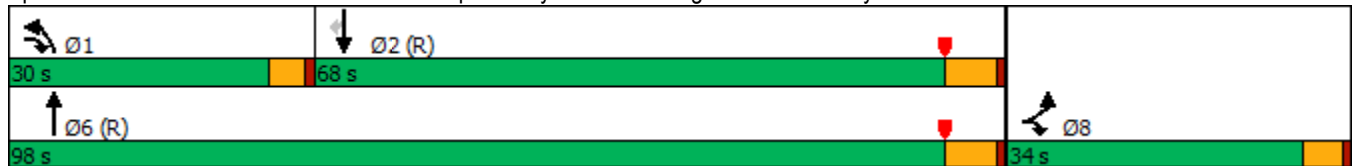


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effct Green (s)	30.0	59.6	25.6	94.0	64.4	64.4
Actuated g/C Ratio	0.23	0.45	0.19	0.71	0.49	0.49
v/c Ratio	0.38	0.28	0.90	0.53	1.17	0.55
Control Delay	46.4	23.0	63.6	10.5	108.5	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	23.0	63.6	10.5	108.5	4.6
LOS	D	C	E	B	F	A
Approach Delay	30.0			27.0	86.1	
Approach LOS	C			C	F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 77 (58%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.17
 Intersection Signal Delay: 57.7
 Intersection LOS: E
 Intersection Capacity Utilization 84.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	152	359	598	1326	2022	554
v/c Ratio	0.38	0.28	0.90	0.53	1.17	0.55
Control Delay	46.4	23.0	63.6	10.5	108.5	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	23.0	63.6	10.5	108.5	4.6
Queue Length 50th (ft)	111	105	219	464	~1121	61
Queue Length 95th (ft)	178	145	#350	96	m#1257	m61
Internal Link Dist (ft)	2848		4754		2515	
Turn Bay Length (ft)	290		290		386	
Base Capacity (vph)	402	1270	676	2520	1725	1003
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.28	0.88	0.53	1.17	0.55

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	90	680	1170	70	490	1270
Future Volume (vph)	90	680	1170	70	490	1270
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.881	0.850		0.850		
Flt Protected	0.990				0.950	
Satd. Flow (prot)	3152	1441	3539	1583	3433	3539
Flt Permitted	0.990				0.950	
Satd. Flow (perm)	3152	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	353	353		55		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4834
Travel Time (s)	10.9		27.3			65.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	739	1272	76	533	1380
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	468	369	1272	76	533	1380
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/24/2023

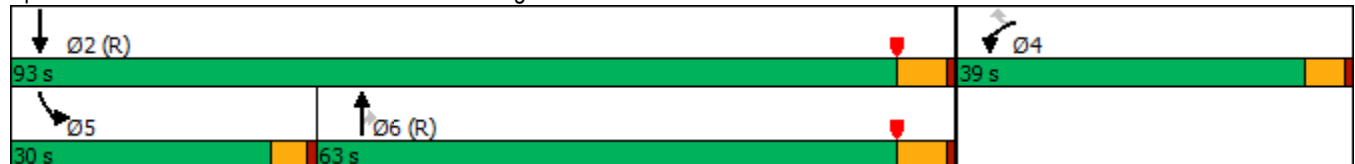


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	14.5	14.5	79.3	79.3	26.2	109.5
Actuated g/C Ratio	0.11	0.11	0.60	0.60	0.20	0.83
v/c Ratio	0.71	0.78	0.60	0.08	0.78	0.47
Control Delay	19.7	18.5	30.7	15.2	44.5	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	18.5	30.7	15.2	44.5	6.1
LOS	B	B	C	B	D	A
Approach Delay	19.1		29.8			16.8
Approach LOS	B		C			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 21.6
 Intersection Capacity Utilization 67.1%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023




























Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	468	369	1272	76	533	1380
v/c Ratio	0.71	0.78	0.60	0.08	0.78	0.47
Control Delay	19.7	18.5	30.7	15.2	44.5	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	18.5	30.7	15.2	44.5	6.1
Queue Length 50th (ft)	48	14	407	22	230	267
Queue Length 95th (ft)	94	121	582	47	m224	m151
Internal Link Dist (ft)	558		1922			4754
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1095	641	2127	973	721	2936
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.58	0.60	0.08	0.74	0.47

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 		 	 	 
Traffic Volume (vph)	0	0	0	40	0	380	10	1060	30	200	1580	0
Future Volume (vph)	0	0	0	40	0	380	10	1060	30	200	1580	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	100		100	100		0
Storage Lanes	0		0	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor				0.99			1.00		0.95	0.99		
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	0	0	3433	0	1531	1770	3539	1583	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	0	0	3391	0	1531	1761	3539	1506	3390	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						413			33			
Link Speed (mph)		25			35			45				45
Link Distance (ft)		183			612			1314				3196
Travel Time (s)		5.0			11.9			19.9				48.4
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	43	0	413	11	1152	33	217	1717	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	43	0	413	11	1152	33	217	1717	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)				50		50	50	50	50	50	50	
Trailing Detector (ft)				0		0	0	0	0	0	0	
Detector 1 Position(ft)				0		0	0	0	0	0	0	
Detector 1 Size(ft)				50		50	50	50	50	50	50	
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type				Prot		Prot	Prot	NA	pm+ov	Prot	NA	
Protected Phases				3		9!	5	2!	3	1	6	
Permitted Phases									2			
Detector Phase				3		9	5	2	3	1	6	
Switch Phase												

Lanes, Volumes, Timings
 5: Railroad Avenue & 13th Street

01/24/2023

Lane Group	Ø8	Ø10
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	8	10
Permitted Phases		
Detector Phase		
Switch Phase		

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

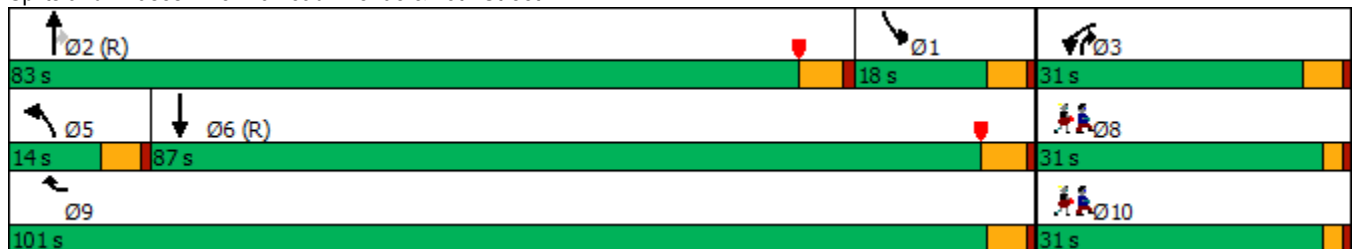
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)				10.0		9.0	9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				15.0		14.0	14.0	23.5	15.0	14.0	25.0	
Total Split (s)				31.0		101.0	14.0	83.0	31.0	18.0	87.0	
Total Split (%)				23.5%		76.5%	10.6%	62.9%	23.5%	13.6%	65.9%	
Maximum Green (s)				26.0		96.0	9.0	77.5	26.0	13.0	81.5	
Yellow Time (s)				4.0		4.0	4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0		1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				-1.0		-1.0	-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)				4.0		4.0	4.5	3.5	4.0	4.5	3.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None		None	None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				11.0		116.8	9.5	98.5	106.8	13.5	114.4	
Actuated g/C Ratio				0.08		0.88	0.07	0.75	0.81	0.10	0.87	
v/c Ratio				0.15		0.29	0.09	0.44	0.03	0.62	0.56	
Control Delay				57.6		0.7	56.4	12.0	1.4	64.5	3.1	
Queue Delay				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay				57.6		0.7	56.4	12.0	1.4	64.5	3.1	
LOS				E		A	E	B	A	E	A	
Approach Delay						6.0		12.1			10.0	
Approach LOS						A		B			A	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 10.2 Intersection LOS: B
 Intersection Capacity Utilization 69.9% ICU Level of Service C
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & 13th Street



Lane Group	Ø8	Ø10
Minimum Initial (s)	7.0	4.0
Minimum Split (s)	31.0	16.0
Total Split (s)	31.0	31.0
Total Split (%)	23%	23%
Maximum Green (s)	28.0	28.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	21.0	6.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

5: Railroad Avenue & 13th Street

01/24/2023



Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	43	413	11	1152	33	217	1717
v/c Ratio	0.15	0.29	0.09	0.44	0.03	0.62	0.56
Control Delay	57.6	0.7	56.4	12.0	1.4	64.5	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	0.7	56.4	12.0	1.4	64.5	3.1
Queue Length 50th (ft)	18	0	10	230	1	98	36
Queue Length 95th (ft)	37	11	m25	258	m3	138	505
Internal Link Dist (ft)				1234			3116
Turn Bay Length (ft)			100		100	100	
Base Capacity (vph)	702	1402	127	2640	1276	351	3067
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.29	0.09	0.44	0.03	0.62	0.56

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations	↔↔	↗	↔↔	↕↕	↕↕	↗			
Traffic Volume (vph)	330	100	290	790	1190	430			
Future Volume (vph)	330	100	290	790	1190	430			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		109				302			
Link Speed (mph)	35			35	45				
Link Distance (ft)	374			1566	1314				
Travel Time (s)	7.3			30.5	19.9				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	359	109	315	859	1293	467			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	359	109	315	859	1293	467			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	24			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	52.0	30.0	20.0	30.0	30.0

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023

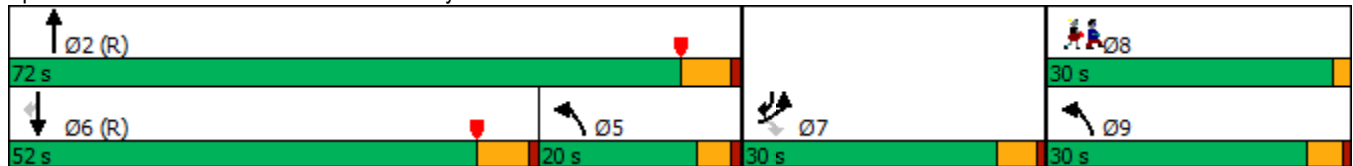


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	39.4%	22.7%	15%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	46.0	25.0	15.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effct Green (s)	21.3	21.3	23.1	89.6	71.6	92.9			
Actuated g/C Ratio	0.16	0.16	0.18	0.68	0.54	0.70			
v/c Ratio	0.65	0.31	0.53	0.36	0.67	0.39			
Control Delay	89.3	47.1	21.2	12.8	25.5	3.2			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	89.3	47.1	21.2	12.8	25.5	3.2			
LOS	F	D	C	B	C	A			
Approach Delay	79.4			15.1	19.6				
Approach LOS	E			B	B				

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	103 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	26.3
Intersection LOS:	C
Intersection Capacity Utilization:	60.6%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023

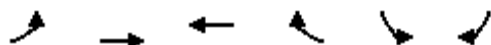


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	359	109	315	859	1293	467
v/c Ratio	0.65	0.31	0.53	0.36	0.67	0.39
Control Delay	89.3	47.1	21.2	12.8	25.5	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.3	47.1	21.2	12.8	25.5	3.2
Queue Length 50th (ft)	169	67	64	141	319	20
Queue Length 95th (ft)	220	120	81	185	397	102
Internal Link Dist (ft)	294			1486	1234	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	676	399	1092	2402	1919	1249
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.27	0.29	0.36	0.67	0.37

Intersection Summary

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1120	570	970	1210	0	
Future Volume (vph)	0	1120	570	970	1210	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.97			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1054			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1645		1196		
Travel Time (s)		6.2	28.0		23.3		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1217	620	1054	1315	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1217	620	1054	1315	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		62.0	15.0	70.0	70.0	47.0	
Total Split (%)		47.0%	11.4%	53.0%	53.0%	36%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023

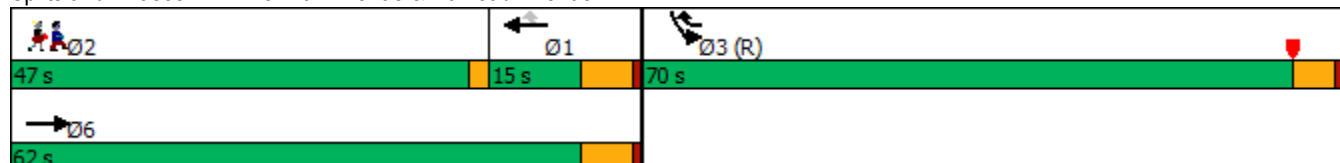


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		56.0	9.0	64.0	64.0		45.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		58.0	58.0	124.0	66.0		
Actuated g/C Ratio		0.44	0.44	0.94	0.50		
v/c Ratio		0.78	0.76	0.40	0.77		
Control Delay		36.0	16.4	1.8	9.1		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		36.0	16.4	1.8	9.1		
LOS		D	B	A	A		
Approach Delay		36.0	7.2		9.1		
Approach LOS		D	A		A		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	20 (15%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	16.1
Intersection LOS:	B
Intersection Capacity Utilization:	72.1%
ICU Level of Service:	C
Analysis Period (min):	15

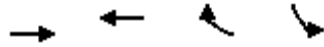
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1217	620	1054	1315
v/c Ratio	0.78	0.76	0.40	0.77
Control Delay	36.0	16.4	1.8	9.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	36.0	16.4	1.8	9.1
Queue Length 50th (ft)	461	115	17	33
Queue Length 95th (ft)	552	143	37	78
Internal Link Dist (ft)	282	1565		1116
Turn Bay Length (ft)				
Base Capacity (vph)	1555	818	2651	1716
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.78	0.76	0.40	0.77
Intersection Summary				

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑↔		↙	↘
Traffic Volume (vph)	140	1480	1240	30	330	110
Future Volume (vph)	140	1480	1240	30	330	110
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.996			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5065	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5065	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			4			120
Link Speed (mph)		40	40		30	
Link Distance (ft)		1545	3086		2703	
Travel Time (s)		26.3	52.6		61.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	1609	1348	33	359	120
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	1609	1381	0	359	120
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	25.0	98.0	73.0		34.0	34.0

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023

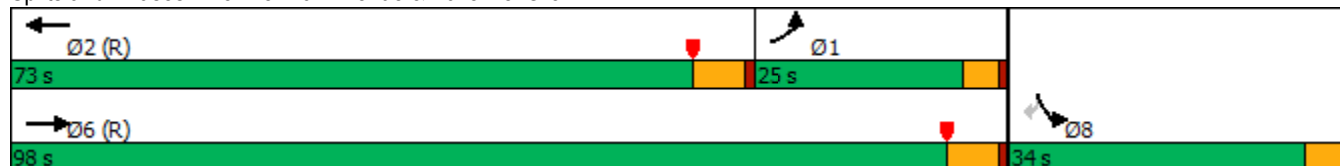


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	18.9%	74.2%	55.3%		25.8%	25.8%
Maximum Green (s)	20.5	92.0	67.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	21.0	94.8	69.8		29.2	29.2
Actuated g/C Ratio	0.16	0.72	0.53		0.22	0.22
v/c Ratio	0.54	0.44	0.52		0.92	0.27
Control Delay	60.4	10.0	10.2		60.0	6.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	60.4	10.0	10.2		60.0	6.2
LOS	E	A	B		E	A
Approach Delay		14.3	10.2		46.5	
Approach LOS		B	B		D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 50 (38%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 17.0
 Intersection LOS: B
 Intersection Capacity Utilization 60.7%
 ICU Level of Service B
 Analysis Period (min) 15

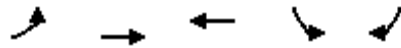
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	152	1609	1381	359	120
v/c Ratio	0.54	0.44	0.52	0.92	0.27
Control Delay	60.4	10.0	10.2	60.0	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	60.4	10.0	10.2	60.0	6.2
Queue Length 50th (ft)	132	238	147	243	10
Queue Length 95th (ft)	m165	253	165	#476	m28
Internal Link Dist (ft)		1465	3006	2623	
Turn Bay Length (ft)	150				
Base Capacity (vph)	281	3653	2681	402	452
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.44	0.52	0.89	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	1260	10	810	700	120	10	130	110	510	870	270
Future Volume (vph)	190	1260	10	810	700	120	10	130	110	510	870	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		350
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4907	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4907	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			130			161		59	
Link Speed (mph)		40		40			30			30		
Link Distance (ft)		3086		633			398			2854		
Travel Time (s)		52.6		10.8			9.0			64.9		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	1370	11	880	761	130	11	141	120	554	946	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	1370	11	880	761	130	11	141	120	554	1239	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	45.0	45.0	25.0	45.0	45.0	20.0	20.0	20.0	42.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

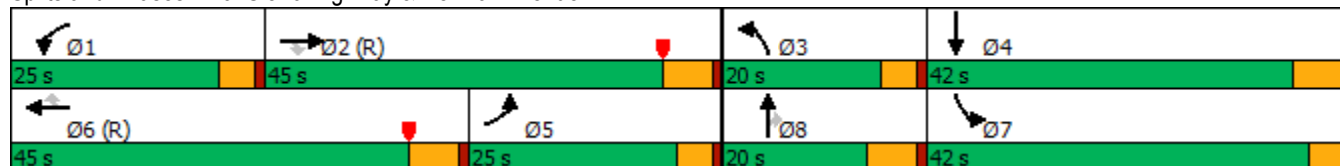


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	34.1%	34.1%	18.9%	34.1%	34.1%	15.2%	15.2%	15.2%	31.8%	31.8%	
Maximum Green (s)	20.5	39.0	39.0	20.5	39.0	39.0	15.5	14.0	14.0	37.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	41.0	41.0	21.0	41.0	41.0	6.5	12.6	10.6	41.4	53.6	
Actuated g/C Ratio	0.16	0.31	0.31	0.16	0.31	0.31	0.05	0.10	0.08	0.31	0.41	
v/c Ratio	0.38	0.87	0.02	1.61	0.48	0.22	0.07	0.42	0.44	1.00	0.61	
Control Delay	61.2	58.4	0.1	319.2	38.1	6.3	60.5	59.6	7.9	60.2	14.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	61.2	58.4	0.1	319.2	38.1	6.3	60.5	59.6	7.9	60.2	14.9	
LOS	E	E	A	F	D	A	E	E	A	E	B	
Approach Delay		58.4			175.4			36.8			28.9	
Approach LOS		E			F			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 121 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.61
 Intersection Signal Delay: 85.8
 Intersection LOS: F
 Intersection Capacity Utilization 92.6%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	207	1370	11	880	761	130	11	141	120	554	1239
v/c Ratio	0.38	0.87	0.02	1.61	0.48	0.22	0.07	0.42	0.44	1.00	0.61
Control Delay	61.2	58.4	0.1	319.2	38.1	6.3	60.5	59.6	7.9	60.2	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	58.4	0.1	319.2	38.1	6.3	60.5	59.6	7.9	60.2	14.9
Queue Length 50th (ft)	88	415	0	~556	193	0	4	61	0	488	240
Queue Length 95th (ft)	m123	479	m0	#686	235	47	14	94	26	m#729	373
Internal Link Dist (ft)		3006			553			318			2774
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1579	568	546	1579	581	416	428	311	555	2028
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.87	0.02	1.61	0.48	0.22	0.03	0.33	0.39	1.00	0.61

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 	 	 	 						 	 
Traffic Volume (vph)	0	360	1570	10	790	0	0	0	0	10	10	760
Future Volume (vph)	0	360	1570	10	790	0	0	0	0	10	10	760
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.897	0.850									0.850
Fl _t Protected				0.950							0.976	
Satd. Flow (prot)	0	3041	1441	1770	3539	0	0	0	0	0	1818	1583
Fl _t Permitted				0.950							0.976	
Satd. Flow (perm)	0	3041	1441	1770	3539	0	0	0	0	0	1818	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		633			469			446			465	
Travel Time (s)		10.8			8.0			10.1			10.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	391	1707	11	859	0	0	0	0	11	11	826
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1245	853	11	859	0	0	0	0	0	22	826
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	81.5%
ICU Level of Service	D
Analysis Period (min)	15

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	360	1570	10	790	0	0	0	0	10	10	760
Future Vol, veh/h	0	360	1570	10	790	0	0	0	0	10	10	760
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082378240	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	391	1707	11	859	0	0	0	0	11	11	826

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	391	0	0		1077	1272	-
Stage 1	-	-	-	-	-	-		881	881	-
Stage 2	-	-	-	-	-	-		196	391	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	1164	-	0		214	166	0
Stage 1	0	-	-	-	-	0		365	363	0
Stage 2	0	-	-	-	-	0		818	606	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1164	-	-		212	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		212	0	-
Stage 1	-	-	-	-	-	-		365	0	-
Stage 2	-	-	-	-	-	-		811	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	23.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1164	-	212	-
HCM Lane V/C Ratio	-	-	0.009	-	0.103	-
HCM Control Delay (s)	-	-	8.1	-	23.9	0
HCM Lane LOS	-	-	A	-	C	A
HCM 95th %tile Q(veh)	-	-	0	-	0.3	-

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	390	0	0	60	0	10
Future Volume (vph)	390	0	0	60	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Flt						0.865
Flt Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	469			639	290	
Travel Time (s)	8.0			10.9	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	424	0	0	65	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	424	0	0	65	0	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	81.5%
Analysis Period (min)	15
	ICU Level of Service D

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	390	0	0	60	0	10
Future Vol, veh/h	390	0	0	60	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	424	0	0	65	0	11



















Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	-	-	-	212
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	0	0	-	794
Stage 1	-	0	0	-	-
Stage 2	-	0	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	794
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	794	-	-
HCM Lane V/C Ratio	0.014	-	-
HCM Control Delay (s)	9.6	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	1190	0	0	800	560	270	10	260	0	0	0
Future Volume (vph)	180	1190	0	0	800	560	270	10	260	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.938				0.850			
Flt Protected	0.950						0.950	0.956				
Satd. Flow (prot)	1770	3539	0	0	4770	0	1681	1692	1583	0	0	0
Flt Permitted	0.950						0.950	0.956				
Satd. Flow (perm)	1770	3539	0	0	4770	0	1681	1692	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					207				85			
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		722			1900			440			464	
Travel Time (s)		12.3			32.4			10.0			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	1293	0	0	870	609	293	11	283	0	0	0
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	196	1293	0	0	1479	0	152	152	283	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

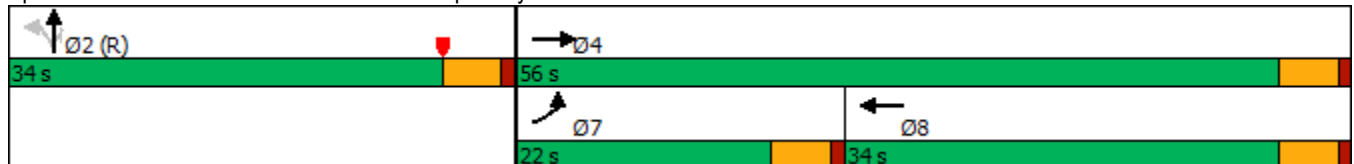


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			5.0		10.0	10.0	10.0			
Minimum Split (s)	15.0	23.0			23.0		33.0	33.0	33.0			
Total Split (s)	22.0	56.0			34.0		34.0	34.0	34.0			
Total Split (%)	24.4%	62.2%			37.8%		37.8%	37.8%	37.8%			
Maximum Green (s)	17.0	51.0			29.0		29.0	29.0	29.0			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.4	49.4			30.0		30.6	30.6	30.6			
Actuated g/C Ratio	0.16	0.55			0.33		0.34	0.34	0.34			
v/c Ratio	0.69	0.67			0.90dr		0.27	0.26	0.48			
Control Delay	48.6	16.2			30.1		24.0	23.9	19.8			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	48.6	16.2			30.1		24.0	23.9	19.8			
LOS	D	B			C		C	C	B			
Approach Delay		20.5			30.1			22.0				
Approach LOS		C			C			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 24.7
 Intersection LOS: C
 Intersection Capacity Utilization 58.8%
 ICU Level of Service B
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

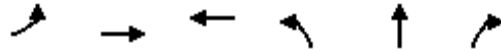
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	196	1293	1479	152	152	283
v/c Ratio	0.69	0.67	0.90dr	0.27	0.26	0.48
Control Delay	48.6	16.2	30.1	24.0	23.9	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	16.2	30.1	24.0	23.9	19.8
Queue Length 50th (ft)	106	245	244	67	67	88
Queue Length 95th (ft)	174	314	#321	118	118	164
Internal Link Dist (ft)		642	1820		360	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	334	2005	1736	571	574	593
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.64	0.85	0.27	0.26	0.48

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	830	130	250	770	120	200	240	200	140	400	270
Future Volume (vph)	140	830	130	250	770	120	200	240	200	140	400	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.980				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			124		24				217			112
Link Speed (mph)		40			40			35			45	
Link Distance (ft)		1900			5304			887			1679	
Travel Time (s)		32.4			90.4			17.3			25.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	902	141	272	837	130	217	261	217	152	435	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	902	141	272	967	0	217	261	217	152	435	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

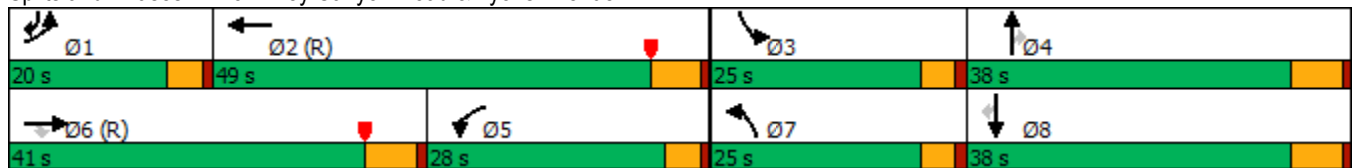
01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	41.0	41.0	28.0	49.0		25.0	38.0	38.0	25.0	38.0	20.0
Total Split (%)	15.2%	31.1%	31.1%	21.2%	37.1%		18.9%	28.8%	28.8%	18.9%	28.8%	15.2%
Maximum Green (s)	15.5	35.0	35.0	23.5	43.0		20.5	32.0	32.0	20.5	32.0	15.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	12.3	47.9	47.9	24.0	59.6		20.1	26.9	26.9	17.2	24.0	40.3
Actuated g/C Ratio	0.09	0.36	0.36	0.18	0.45		0.15	0.20	0.20	0.13	0.18	0.31
v/c Ratio	0.51	0.75	0.23	0.91	0.43		0.86	0.39	0.46	0.71	0.70	0.52
Control Delay	62.7	42.7	8.2	68.5	10.7		85.3	47.0	8.7	72.4	56.6	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	42.7	8.2	68.5	10.7		85.3	47.0	8.7	72.4	56.6	25.2
LOS	E	D	A	E	B		F	D	A	E	E	C
Approach Delay		41.1			23.4			47.0			48.8	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 38.4
 Intersection LOS: D
 Intersection Capacity Utilization 72.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	902	141	272	967	217	261	217	152	435	293
v/c Ratio	0.51	0.75	0.23	0.91	0.43	0.86	0.39	0.46	0.71	0.70	0.52
Control Delay	62.7	42.7	8.2	68.5	10.7	85.3	47.0	8.7	72.4	56.6	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	42.7	8.2	68.5	10.7	85.3	47.0	8.7	72.4	56.6	25.2
Queue Length 50th (ft)	64	358	9	229	171	182	102	0	126	185	126
Queue Length 95th (ft)	98	#471	59	#403	166	#318	142	68	197	233	195
Internal Link Dist (ft)		1820			5224		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	389	1197	614	300	2263	262	850	541	262	881	603
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.75	0.23	0.91	0.43	0.83	0.31	0.40	0.58	0.49	0.49






























Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 		 		
Traffic Volume (vph)	200	1020	60	120	1050	380	110	120	110	490	90	230
Future Volume (vph)	200	1020	60	120	1050	380	110	120	110	490	90	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			231			120			250
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5304			2371			465				790
Travel Time (s)		103.3			46.2			9.1				12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1109	65	130	1141	413	120	130	120	533	98	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	217	1109	65	130	1141	413	120	130	120	533	98	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

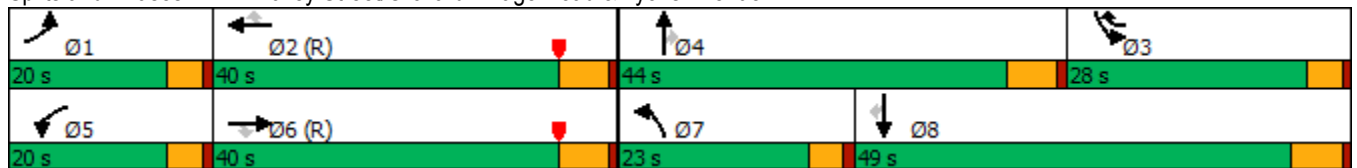
01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	14.7	59.4	59.4	16.2	60.9	88.9	14.9	12.4	12.4	28.1	25.5	25.5
Actuated g/C Ratio	0.11	0.45	0.45	0.12	0.46	0.67	0.11	0.09	0.09	0.21	0.19	0.19
v/c Ratio	0.61	0.75	0.08	0.64	0.64	0.33	0.65	0.40	0.51	0.73	0.28	0.50
Control Delay	57.4	55.9	6.8	64.5	37.0	4.7	71.3	59.7	16.9	54.3	46.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	55.9	6.8	64.5	37.0	4.7	71.3	59.7	16.9	54.3	46.7	8.7
LOS	E	E	A	E	D	A	E	E	B	D	D	A
Approach Delay		53.8			31.2			49.6			40.5	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 41.9
 Intersection LOS: D
 Intersection Capacity Utilization 65.5%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	217	1109	65	130	1141	413	120	130	120	533	98	250
v/c Ratio	0.61	0.75	0.08	0.64	0.64	0.33	0.65	0.40	0.51	0.73	0.28	0.50
Control Delay	57.4	55.9	6.8	64.5	37.0	4.7	71.3	59.7	16.9	54.3	46.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	55.9	6.8	64.5	37.0	4.7	71.3	59.7	16.9	54.3	46.7	8.7
Queue Length 50th (ft)	100	506	4	97	519	56	99	56	0	221	73	0
Queue Length 95th (ft)	m136	#670	m18	m111	m604	m152	162	88	60	267	120	70
Internal Link Dist (ft)		5224			2291			385			710	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	402	1485	770	222	1795	1253	237	1036	499	741	613	686
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.75	0.08	0.59	0.64	0.33	0.51	0.13	0.24	0.72	0.16	0.36

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	500	950	60	680	30	580	110	40	40	170	190
Future Volume (vph)	130	500	950	60	680	30	580	110	40	40	170	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1614	3539	1468	1635	3539	1356	3132	1863	1471	1671	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			383			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2371			962			528				401
Travel Time (s)		46.2			18.7			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	543	1033	65	739	33	630	120	43	43	185	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	543	1033	65	739	33	630	120	43	43	185	207
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
 15: Newhall Avenue & Lyons Avenue

01/24/2023

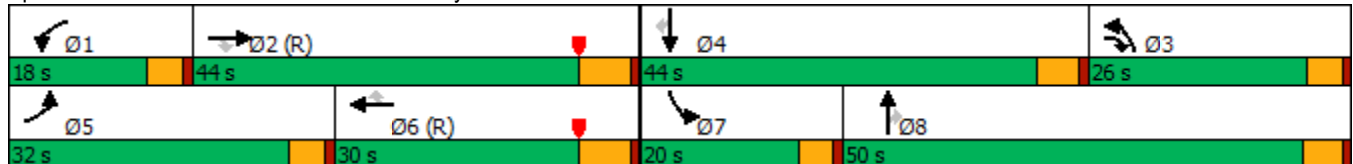


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	32.0	44.0	26.0	18.0	30.0	30.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	24.2%	33.3%	19.7%	13.6%	22.7%	22.7%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	27.5	38.0	21.5	13.5	24.0	24.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		32.0	32.0		32.0	32.0
Pedestrian Calls (#/hr)		27			27	27		43	43		43	43
Act Effct Green (s)	17.1	45.4	72.7	10.8	36.9	36.9	27.3	54.8	54.8	9.2	34.7	34.7
Actuated g/C Ratio	0.13	0.34	0.55	0.08	0.28	0.28	0.21	0.42	0.42	0.07	0.26	0.26
v/c Ratio	0.66	0.45	1.04	0.49	0.75	0.07	0.92	0.16	0.06	0.36	0.39	0.44
Control Delay	67.8	28.3	56.6	79.2	39.3	0.6	71.2	26.4	0.2	66.1	41.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	28.3	56.6	79.2	39.3	0.6	71.2	26.4	0.2	66.1	41.0	15.5
LOS	E	C	E	E	D	A	E	C	A	E	D	B
Approach Delay		48.6			40.9			60.6			31.3	
Approach LOS		D			D			E			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 49 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 47.4 Intersection LOS: D
 Intersection Capacity Utilization 100.1% ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023

























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	141	543	1033	65	739	33	630	120	43	43	185	207
v/c Ratio	0.66	0.45	1.04	0.49	0.75	0.07	0.92	0.16	0.06	0.36	0.39	0.44
Control Delay	67.8	28.3	56.6	79.2	39.3	0.6	71.2	26.4	0.2	66.1	41.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	28.3	56.6	79.2	39.3	0.6	71.2	26.4	0.2	66.1	41.0	15.5
Queue Length 50th (ft)	103	198	~909	56	282	0	~324	65	0	36	123	42
Queue Length 95th (ft)	m145	190	#893	96	#440	2	#444	114	0	74	191	113
Internal Link Dist (ft)		2291			882			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	350	1217	993	175	990	501	687	773	690	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.45	1.04	0.37	0.75	0.07	0.92	0.16	0.06	0.21	0.34	0.40

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	10	30	90	20	120	40	270	110	40	140	10
Future Volume (vph)	30	10	30	90	20	120	40	270	110	40	140	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	200		0
Storage Lanes	0		1	0		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Frt			0.850			0.850		0.956			0.990	
Flt Protected		0.964			0.961		0.950			0.950		
Satd. Flow (prot)	0	1796	1583	0	1790	1583	1770	3383	0	1770	5034	0
Flt Permitted		0.731			0.735		0.950			0.950		
Satd. Flow (perm)	0	1362	1583	0	1369	1583	1770	3383	0	1770	5034	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			74			130		54			11	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		391			842			164			505	
Travel Time (s)		10.7			23.0			2.5			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	11	33	98	22	130	43	293	120	43	152	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	33	0	120	130	43	413	0	43	163	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4		4						

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	8.0	8.0	8.0	8.0	20.0		20.0	20.0	
Total Split (s)	48.0	48.0	48.0	48.0	48.0	48.0	24.0	54.0		30.0	60.0	
Total Split (%)	36.4%	36.4%	36.4%	36.4%	36.4%	36.4%	18.2%	40.9%		22.7%	45.5%	
Maximum Green (s)	44.0	44.0	44.0	44.0	44.0	44.0	20.0	50.0		26.0	56.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		Max	Max	
Walk Time (s)	5.0	5.0	5.0					5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0					11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		14.0	14.0		14.0	14.0	7.9	50.1		26.0	72.5	
Actuated g/C Ratio		0.14	0.14		0.14	0.14	0.08	0.49		0.25	0.71	
v/c Ratio		0.24	0.12		0.64	0.40	0.32	0.24		0.10	0.05	
Control Delay		41.8	1.3		57.5	10.6	51.4	13.9		31.3	5.8	
Queue Delay		0.0	0.0		0.0	0.0	0.1	8.4		0.0	0.0	
Total Delay		41.8	1.3		57.5	10.6	51.5	22.3		31.3	5.8	
LOS		D	A		E	B	D	C		C	A	
Approach Delay		24.4			33.1			25.1			11.1	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	102.1
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	24.1
Intersection LOS:	C
Intersection Capacity Utilization:	37.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 17: Dockweiler Drive/Arch Street & 12th Street



Queues

17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	44	33	120	130	43	413	43	163
v/c Ratio	0.24	0.12	0.64	0.40	0.32	0.24	0.10	0.05
Control Delay	41.8	1.3	57.5	10.6	51.4	13.9	31.3	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.1	8.4	0.0	0.0
Total Delay	41.8	1.3	57.5	10.6	51.5	22.3	31.3	5.8
Queue Length 50th (ft)	26	0	75	0	27	67	21	10
Queue Length 95th (ft)	59	3	135	51	64	110	53	23
Internal Link Dist (ft)	311		762			84		425
Turn Bay Length (ft)							200	
Base Capacity (vph)	587	724	590	756	347	1686	451	3575
Starvation Cap Reductn	0	0	0	0	42	1225	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.05	0.20	0.17	0.14	0.90	0.10	0.05

Intersection Summary

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023

							Ø1	Ø2	Ø7	Ø8
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT				
Lane Configurations										
Traffic Volume (vph)	70	90	330	140	60	210				
Future Volume (vph)	70	90	330	140	60	210				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	100	0		0	0					
Storage Lanes	1	1		0	1					
Taper Length (ft)	25				25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95				
Frt		0.850	0.960							
Flt Protected	0.950				0.950					
Satd. Flow (prot)	1770	1583	1788	0	1770	3539				
Flt Permitted	0.950				0.950					
Satd. Flow (perm)	1770	1583	1788	0	1770	3539				
Right Turn on Red		Yes		Yes						
Satd. Flow (RTOR)		98	17							
Link Speed (mph)	30		45			45				
Link Distance (ft)	1101		354			164				
Travel Time (s)	25.0		5.4			2.5				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Adj. Flow (vph)	76	98	359	152	65	228				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	76	98	511	0	65	228				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Right	Left	Left				
Median Width(ft)	12		12			12				
Link Offset(ft)	0		0			0				
Crosswalk Width(ft)	16		16			16				
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)	15	9		9	15					
Number of Detectors	1	1	2		1	2				
Detector Template	Left	Right	Thru		Left	Thru				
Leading Detector (ft)	20	20	100		20	100				
Trailing Detector (ft)	0	0	0		0	0				
Detector 1 Position(ft)	0	0	0		0	0				
Detector 1 Size(ft)	20	20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0				
Detector 2 Position(ft)			94			94				
Detector 2 Size(ft)			6			6				
Detector 2 Type			Cl+Ex			Cl+Ex				
Detector 2 Channel										
Detector 2 Extend (s)			0.0			0.0				
Turn Type	Prot	Perm	NA		Prot	NA				
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8
Permitted Phases		7 8								

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023

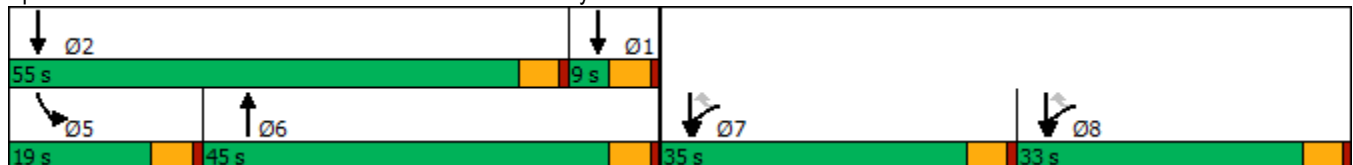


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		9.0	23.0	33.0	33.0
Total Split (s)			45.0		19.0		9.0	55.0	35.0	33.0
Total Split (%)			34.1%		14.4%		7%	42%	27%	25%
Maximum Green (s)			40.0		14.0		4.0	50.0	30.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lag	Lead	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Min	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	19.7	19.7	27.4		8.5	68.1				
Actuated g/C Ratio	0.29	0.29	0.40		0.12	1.00				
v/c Ratio	0.15	0.19	0.70		0.30	0.06				
Control Delay	23.1	6.7	23.3		35.2	0.0				
Queue Delay	0.0	0.0	0.0		0.1	0.0				
Total Delay	23.1	6.7	23.3		35.4	0.0				
LOS	C	A	C		D	A				
Approach Delay	13.9		23.3			7.9				
Approach LOS	B		C			A				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 68.1
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 17.0
 Intersection LOS: B
 Intersection Capacity Utilization 45.6%
 ICU Level of Service A
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road






















01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	76	98	511	65	228
v/c Ratio	0.15	0.19	0.70	0.30	0.06
Control Delay	23.1	6.7	23.3	35.2	0.0
Queue Delay	0.0	0.0	0.0	0.1	0.0
Total Delay	23.1	6.7	23.3	35.4	0.0
Queue Length 50th (ft)	25	0	172	26	0
Queue Length 95th (ft)	67	36	321	72	0
Internal Link Dist (ft)	1021		274		84
Turn Bay Length (ft)	100				
Base Capacity (vph)	1121	1038	1120	385	3526
Starvation Cap Reductn	0	0	0	69	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.09	0.46	0.21	0.06
Intersection Summary					

Lanes, Volumes, Timings
19: Valle Del Oro & Dockweiler Drive

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	270	20	390	450	10	10	10	270	10	10	10
Future Volume (vph)	10	270	20	390	450	10	10	10	270	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	100		100	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.874			0.955	
Flt Protected	0.950			0.950				0.998			0.984	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1625	0	0	1750	0
Flt Permitted	0.366			0.522				0.993			0.892	
Satd. Flow (perm)	682	1863	1583	972	1863	1583	0	1617	0	0	1587	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			22			10		293			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5199			3882			2703			372	
Travel Time (s)		118.2			88.2			61.4			8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	293	22	424	489	11	11	11	293	11	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	293	22	424	489	11	0	315	0	0	33	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		6			

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

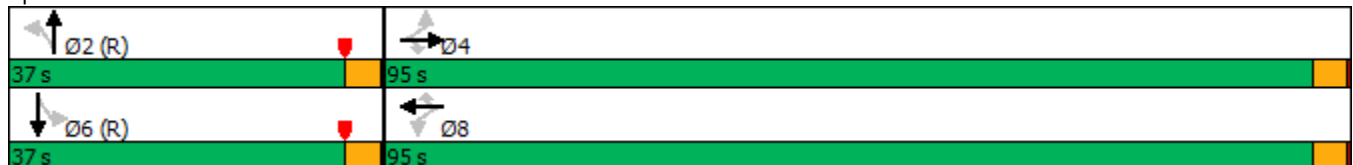


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	95.0	95.0	95.0	95.0	95.0	95.0	37.0	37.0		37.0	37.0	
Total Split (%)	72.0%	72.0%	72.0%	72.0%	72.0%	72.0%	28.0%	28.0%		28.0%	28.0%	
Maximum Green (s)	91.0	91.0	91.0	91.0	91.0	91.0	33.0	33.0		33.0	33.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	73.1	73.1	73.1	73.1	73.1	73.1		50.9			50.9	
Actuated g/C Ratio	0.55	0.55	0.55	0.55	0.55	0.55		0.39			0.39	
v/c Ratio	0.03	0.28	0.02	0.79	0.47	0.01		0.39			0.05	
Control Delay	8.6	15.0	2.6	28.8	15.6	0.9		3.2			25.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	8.6	15.0	2.6	28.8	15.6	0.9		3.2			25.5	
LOS	A	B	A	C	B	A		A			C	
Approach Delay		14.0			21.5			3.2			25.5	
Approach LOS		B			C			A			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 16.4
 Intersection LOS: B
 Intersection Capacity Utilization 63.9%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 19: Valle Del Oro & Dockweiler Drive



Queues

19: Valle Del Oro & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	293	22	424	489	11	315	33
v/c Ratio	0.03	0.28	0.02	0.79	0.47	0.01	0.39	0.05
Control Delay	8.6	15.0	2.6	28.8	15.6	0.9	3.2	25.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	15.0	2.6	28.8	15.6	0.9	3.2	25.5
Queue Length 50th (ft)	4	122	0	318	209	1	12	12
Queue Length 95th (ft)	9	122	8	291	149	m0	34	42
Internal Link Dist (ft)		5119			3802		2623	292
Turn Bay Length (ft)	100		100	100		100		
Base Capacity (vph)	470	1284	1098	670	1284	1094	803	619
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.23	0.02	0.63	0.38	0.01	0.39	0.05

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	400	280	180	310	1370	580
Future Volume (vph)	400	280	180	310	1370	580
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.978	0.850				0.850
Flt Protected	0.959		0.950			
Satd. Flow (prot)	3389	1441	1770	3539	3539	1583
Flt Permitted	0.959		0.950			
Satd. Flow (perm)	3389	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	14	231				307
Link Speed (mph)	30			50	50	
Link Distance (ft)	3882			2854	2872	
Travel Time (s)	88.2			38.9	39.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	435	304	196	337	1489	630
Shared Lane Traffic (%)		24%				
Lane Group Flow (vph)	508	231	196	337	1489	630
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	21.0	21.0	30.0	30.0
Total Split (s)	35.0	35.0	26.0	97.0	71.0	71.0
Total Split (%)	26.5%	26.5%	19.7%	73.5%	53.8%	53.8%
Maximum Green (s)	30.0	30.0	21.0	92.0	66.0	66.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	24.7	24.7	26.3	97.3	66.0	66.0
Actuated g/C Ratio	0.19	0.19	0.20	0.74	0.50	0.50
v/c Ratio	0.79	0.51	0.56	0.13	0.84	0.67
Control Delay	56.4	15.1	42.7	2.8	31.6	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	15.1	42.7	2.8	31.6	17.0
LOS	E	B	D	A	C	B
Approach Delay	43.5			17.4	27.3	
Approach LOS	D			B	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 29.3
 Intersection LOS: C
 Intersection Capacity Utilization 74.7%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	508	231	196	337	1489	630
v/c Ratio	0.79	0.51	0.56	0.13	0.84	0.67
Control Delay	56.4	15.1	42.7	2.8	31.6	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	15.1	42.7	2.8	31.6	17.0
Queue Length 50th (ft)	213	56	143	13	474	230
Queue Length 95th (ft)	266	96	#239	47	m524	m293
Internal Link Dist (ft)	3802			2774	2792	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	781	506	352	2607	1769	945
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.46	0.56	0.13	0.84	0.67

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	40	10	380	30	680	20	400	210	550	1560	50
Future Volume (vph)	10	40	10	380	30	680	20	400	210	550	1560	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		150	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.734			0.728			0.950			0.950		
Satd. Flow (perm)	1367	3539	1583	1356	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			724			228			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		715			720			2872			794	
Travel Time (s)		10.8			10.9			39.2			10.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	43	11	413	33	739	22	435	228	598	1696	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	43	11	413	33	739	22	435	228	598	1696	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8		6				2

Lanes, Volumes, Timings
21: Sierra Highway & Placerita Canyon Road

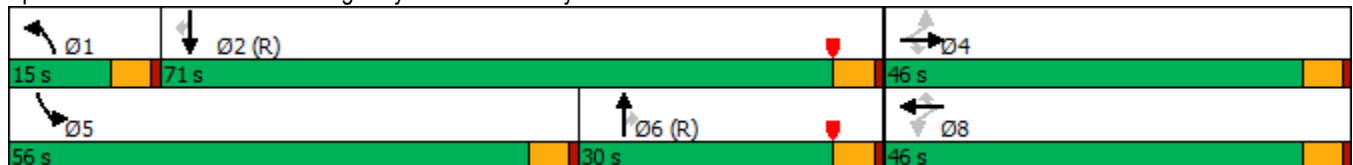
01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.0	21.0	21.0	37.0	37.0	37.0	15.0	21.0	21.0	15.0	39.0	39.0
Total Split (s)	46.0	46.0	46.0	46.0	46.0	46.0	15.0	30.0	30.0	56.0	71.0	71.0
Total Split (%)	34.8%	34.8%	34.8%	34.8%	34.8%	34.8%	11.4%	22.7%	22.7%	42.4%	53.8%	53.8%
Maximum Green (s)	41.0	41.0	41.0	41.0	41.0	41.0	10.0	25.0	25.0	51.0	66.0	66.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	41.0	41.0	41.0	41.0	41.0	41.0	10.0	28.1	28.1	47.9	72.0	72.0
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31	0.31	0.08	0.21	0.21	0.36	0.55	0.55
v/c Ratio	0.03	0.04	0.02	0.98	0.03	0.75	0.16	0.58	0.44	0.93	0.88	0.06
Control Delay	32.0	32.0	0.1	84.7	31.9	8.3	58.2	49.8	25.8	54.2	29.4	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Total Delay	32.0	32.0	0.1	84.7	31.9	8.3	58.2	49.8	25.8	54.2	30.2	3.4
LOS	C	C	A	F	C	A	E	D	C	D	C	A
Approach Delay		26.6			35.6			42.1			35.7	
Approach LOS		C			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 36.5 Intersection LOS: D
 Intersection Capacity Utilization 91.7% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023














Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	43	11	413	33	739	22	435	228	598	1696	54
v/c Ratio	0.03	0.04	0.02	0.98	0.03	0.75	0.16	0.58	0.44	0.93	0.88	0.06
Control Delay	32.0	32.0	0.1	84.7	31.9	8.3	58.2	49.8	25.8	54.2	29.4	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Total Delay	32.0	32.0	0.1	84.7	31.9	8.3	58.2	49.8	25.8	54.2	30.2	3.4
Queue Length 50th (ft)	7	13	0	351	10	9	11	206	102	472	714	4
Queue Length 95th (ft)	21	28	0	#566	23	134	m28	264	173	#687	#900	m8
Internal Link Dist (ft)		635			640			2792			714	
Turn Bay Length (ft)			150			150	150		150	375		150
Base Capacity (vph)	424	1099	559	421	1099	990	134	754	516	683	1930	889
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	69	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.04	0.02	0.98	0.03	0.75	0.16	0.58	0.44	0.88	0.91	0.06

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	20	40	890	320	1210	2200
Future Volume (vph)	20	40	890	320	1210	2200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		0	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Frt		0.850	0.960			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3398	0	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3398	0	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		43	46			
Link Speed (mph)	30		50			50
Link Distance (ft)	717		794			675
Travel Time (s)	16.3		10.8			9.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	43	967	348	1315	2391
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	43	1315	0	1315	2391
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

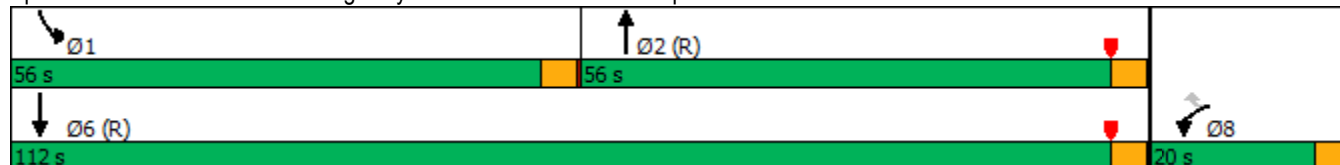


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		8.0	20.0
Total Split (s)	20.0	20.0	56.0		56.0	112.0
Total Split (%)	15.2%	15.2%	42.4%		42.4%	84.8%
Maximum Green (s)	16.0	16.0	52.0		52.0	108.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	7.2	7.2	57.6		57.1	119.5
Actuated g/C Ratio	0.05	0.05	0.44		0.43	0.91
v/c Ratio	0.23	0.34	0.87		0.89	0.75
Control Delay	64.8	24.0	36.4		42.7	4.4
Queue Delay	0.0	0.0	0.0		0.0	0.3
Total Delay	64.8	24.0	36.4		42.7	4.7
LOS	E	C	D		D	A
Approach Delay	37.8		36.4			18.2
Approach LOS	D		D			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 23.1
 Intersection LOS: C
 Intersection Capacity Utilization 82.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR-14 Southbound Ramps



Queues

22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	22	43	1315	1315	2391
v/c Ratio	0.23	0.34	0.87	0.89	0.75
Control Delay	64.8	24.0	36.4	42.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.3
Total Delay	64.8	24.0	36.4	42.7	4.7
Queue Length 50th (ft)	18	0	402	506	245
Queue Length 95th (ft)	47	38	#685	615	367
Internal Link Dist (ft)	637		714		595
Turn Bay Length (ft)				160	
Base Capacity (vph)	214	229	1509	1486	3204
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	258
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.10	0.19	0.87	0.88	0.81

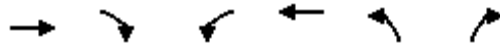
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	220	0	0	790	440	100
Future Volume (vph)	220	0	0	790	440	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	720			392	651	
Travel Time (s)	10.9			5.9	14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	0	0	859	478	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	0	0	859	478	109
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	52.9%
Analysis Period (min)	15
	ICU Level of Service A

Intersection

Int Delay, s/veh 43.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	220	0	0	790	440	100
Future Vol, veh/h	220	0	0	790	440	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	239	0	0	859	478	109

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	669 120
Stage 1	-	-	-	-	239 -
Stage 2	-	-	-	-	430 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	~ 391 909
Stage 1	-	0	0	-	778 -
Stage 2	-	0	0	-	624 -
Platoon blocked, %	-				-
Mov Cap-1 Maneuver	-	-	-	-	~ 391 909
Mov Cap-2 Maneuver	-	-	-	-	~ 391 -
Stage 1	-	-	-	-	778 -
Stage 2	-	-	-	-	624 -

Approach

	EB	WB	NB
HCM Control Delay, s	0	0	125.2
HCM LOS			F

Minor Lane/Major Mvmt

	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	391	909	-	-
HCM Lane V/C Ratio	1.223	0.12	-	-
HCM Control Delay (s)	151.5	9.5	-	-
HCM Lane LOS	F	A	-	-
HCM 95th %tile Q(veh)	19.9	0.4	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/25/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	820	1800	360	390	1320	430	450	1930	650	410	1500	230
Future Volume (vph)	820	1800	360	390	1320	430	450	1930	650	410	1500	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	300		230
Storage Lanes	3		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62			295			299			99
Link Speed (mph)		45		45			45			45		45
Link Distance (ft)		870		745			1975			1020		
Travel Time (s)		13.2		11.3			29.9			15.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	891	1957	391	424	1435	467	489	2098	707	446	1630	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2098	707	446	1630	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36		36			24			24		
Link Offset(ft)		0		0			0			0		
Crosswalk Width(ft)		16		16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	25.0	39.0	26.0	22.0	36.0	36.0	26.0	45.0	45.0	26.0	45.0	25.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/25/2023

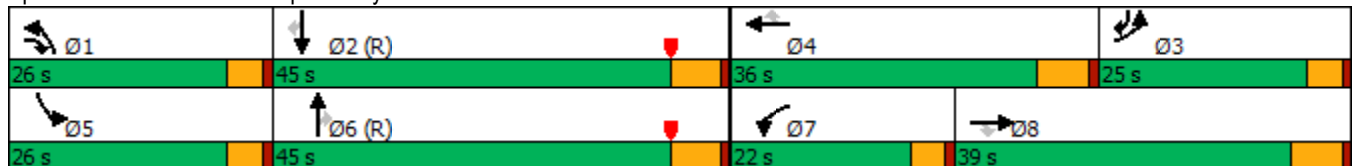


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	29.5%	19.7%	16.7%	27.3%	27.3%	19.7%	34.1%	34.1%	19.7%	34.1%	18.9%
Maximum Green (s)	20.5	33.0	21.5	17.5	30.0	30.0	21.5	39.0	39.0	21.5	39.0	20.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	21.0	35.4	60.3	17.6	32.0	32.0	20.9	43.0	43.0	20.0	42.1	63.1
Actuated g/C Ratio	0.16	0.27	0.46	0.13	0.24	0.24	0.16	0.33	0.33	0.15	0.32	0.48
v/c Ratio	1.12	1.14	0.52	0.92	0.92	0.77	0.90	1.00	0.99	0.86	0.80	0.31
Control Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.4	32.2	24.4	71.2	44.8	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.4	32.2	24.4	71.2	44.8	7.5
LOS	F	F	C	F	E	C	E	C	C	E	D	A
Approach Delay		105.3			57.2			36.9			45.9	
Approach LOS		F			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 55 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 62.8
 Intersection LOS: E
 Intersection Capacity Utilization 90.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/25/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2098	707	446	1630	250
v/c Ratio	1.12	1.14	0.52	0.92	0.92	0.77	0.90	1.00	0.99	0.86	0.80	0.31
Control Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.4	32.2	24.4	71.2	44.8	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.4	32.2	24.4	71.2	44.8	7.5
Queue Length 50th (ft)	~311	~572	194	187	350	142	230	~568	~516	192	375	40
Queue Length 95th (ft)	#400	#647	290	#281	#417	285	m200	m290	m105	251	422	70
Internal Link Dist (ft)		790			665			1895			940	
Turn Bay Length (ft)	270		265	280		340	300			300		230
Base Capacity (vph)	793	1716	768	468	1553	607	572	2088	717	572	2043	808
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	1.14	0.51	0.91	0.92	0.77	0.85	1.00	0.99	0.78	0.80	0.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/25/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔↔	↕↕↕	↔↔↔
Traffic Volume (vph)	1040	1620	10	380	990	160	20	2100	600	220	1520	590
Future Volume (vph)	1040	1620	10	380	990	160	20	2100	600	220	1520	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Fr _t		0.999				0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5080	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5080	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				124			112			562
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			3555			1975	
Travel Time (s)		32.4			35.4			53.9			29.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1130	1761	11	413	1076	174	22	2283	652	239	1652	641
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1130	1772	0	413	1076	174	22	2283	652	239	1652	641
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			48			48	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	40.0	48.0		22.0	30.0	20.0	18.0	42.0	22.0	20.0	44.0	40.0
Total Split (%)	30.3%	36.4%		16.7%	22.7%	15.2%	13.6%	31.8%	16.7%	15.2%	33.3%	30.3%
Maximum Green (s)	35.5	42.0		17.5	24.0	15.5	13.5	36.0	17.5	15.5	38.0	35.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/25/2023

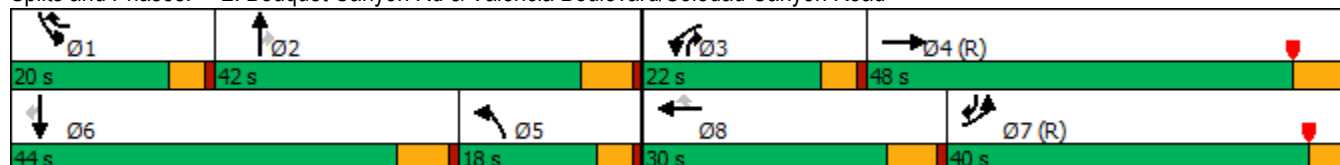


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	None	None	None	Max	None	None	None	C-Max
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	36.0	45.0		17.0	26.0	40.3	10.9	39.7	60.8	14.3	47.2	87.2
Actuated g/C Ratio	0.27	0.34		0.13	0.20	0.31	0.08	0.30	0.46	0.11	0.36	0.66
v/c Ratio	0.83	1.02		0.64	1.07	0.31	0.15	1.49	0.83	0.64	0.91	0.32
Control Delay	51.5	70.6		59.4	100.4	6.9	53.1	254.4	28.2	48.5	50.5	2.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	70.6		59.4	100.4	6.9	53.1	254.4	28.2	48.5	50.5	2.4
LOS	D	E		E	F	A	D	F	C	D	D	A
Approach Delay		63.1			80.5			203.0				38.1
Approach LOS		E			F			F				D

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 92 (70%), Referenced to phase 4:EBT and 7:EBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.49
 Intersection Signal Delay: 100.8 Intersection LOS: F
 Intersection Capacity Utilization 99.1% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/25/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1130	1772	413	1076	174	22	2283	652	239	1652	641
v/c Ratio	0.83	1.02	0.64	1.07	0.31	0.15	1.49	0.83	0.64	0.91	0.32
Control Delay	51.5	70.6	59.4	100.4	6.9	53.1	254.4	28.2	48.5	50.5	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	70.6	59.4	100.4	6.9	53.1	254.4	28.2	48.5	50.5	2.4
Queue Length 50th (ft)	324	~603	119	~374	15	17	~1007	438	104	~589	44
Queue Length 95th (ft)	380	#701	157	#469	41	m19	m#879	m447	m132	#682	m46
Internal Link Dist (ft)		2060		2257			3475			1895	
Turn Bay Length (ft)											
Base Capacity (vph)	1360	1732	680	1001	588	187	1530	799	416	1818	2031
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	1.02	0.61	1.07	0.30	0.12	1.49	0.82	0.57	0.91	0.32

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/25/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	740	920	790	1900	1750	450
Future Volume (vph)	740	920	790	1900	1750	450
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		8				425
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4671	3555	
Travel Time (s)	44.4			63.7	53.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	804	1000	859	2065	1902	489
Shared Lane Traffic (%)						
Lane Group Flow (vph)	804	1000	859	2065	1902	489
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/25/2023

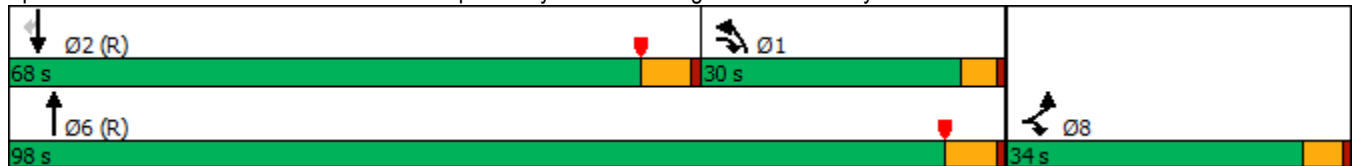


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	30.0	60.0	26.0	94.0	64.0	64.0
Actuated g/C Ratio	0.23	0.45	0.20	0.71	0.48	0.48
v/c Ratio	2.00	0.79	1.27	0.82	1.11	0.50
Control Delay	486.5	35.8	166.0	8.9	80.1	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	486.5	35.8	166.0	8.9	80.1	3.0
LOS	F	D	F	A	F	A
Approach Delay	236.7			55.1	64.4	
Approach LOS	F			E	E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.00
 Intersection Signal Delay: 104.2
 Intersection Capacity Utilization 121.9%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/25/2023



















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	804	1000	859	2065	1902	489
v/c Ratio	2.00	0.79	1.27	0.82	1.11	0.50
Control Delay	486.5	35.8	166.0	8.9	80.1	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	486.5	35.8	166.0	8.9	80.1	3.0
Queue Length 50th (ft)	~1072	402	~487	231	~1005	34
Queue Length 95th (ft)	#1319	502	m#575	m293	#1145	m45
Internal Link Dist (ft)	2848			4591	3475	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	402	1271	676	2520	1715	986
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.00	0.79	1.27	0.82	1.11	0.50

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/25/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	100	790	1380	100	890	1850
Future Volume (vph)	100	790	1380	100	890	1850
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.880	0.850		0.850		
Flt Protected	0.990				0.950	
Satd. Flow (prot)	3148	1441	3539	1583	3433	3539
Flt Permitted	0.990				0.950	
Satd. Flow (perm)	3148	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	345	345		67		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4671
Travel Time (s)	10.9		27.3			63.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	859	1500	109	967	2011
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	539	429	1500	109	967	2011
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings

4: Railroad Avenue & Oak Ridge Drive

01/25/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	20.4	20.4	58.7	58.7	40.9	103.6
Actuated g/C Ratio	0.15	0.15	0.44	0.44	0.31	0.78
v/c Ratio	0.69	0.83	0.95	0.15	0.91	0.72
Control Delay	22.1	25.4	41.5	12.2	50.5	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	25.4	41.5	12.2	50.5	7.4
LOS	C	C	D	B	D	A
Approach Delay	23.6		39.5			21.4
Approach LOS	C		D			C

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 37 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 27.0
 Intersection LOS: C
 Intersection Capacity Utilization 84.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/25/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	539	429	1500	109	967	2011
v/c Ratio	0.69	0.83	0.95	0.15	0.91	0.72
Control Delay	22.1	25.4	41.5	12.2	50.5	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	25.4	41.5	12.2	50.5	7.4
Queue Length 50th (ft)	81	75	394	17	371	143
Queue Length 95th (ft)	122	198	#790	m45	m#567	m642
Internal Link Dist (ft)	558		1922			4591
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1088	635	1581	744	1063	2778
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.68	0.95	0.15	0.91	0.72

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/25/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	100	0	350	10	1560	180	330	1610	0
Future Volume (vph)	0	0	0	100	0	350	10	1560	180	330	1610	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	140		0
Storage Lanes	0		0	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	0	0	3433	0	1583	1770	3539	1583	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	0	0	3433	0	1583	1770	3539	1583	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						380			25			
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		337			628			1217			3340	
Travel Time (s)		9.2			17.1			18.4			50.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	109	0	380	11	1696	196	359	1750	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	109	0	380	11	1696	196	359	1750	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	2	1	1	2	
Detector Template				Left		Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)				20		20	20	100	20	20	100	
Trailing Detector (ft)				0		0	0	0	0	0	0	
Detector 1 Position(ft)				0		0	0	0	0	0	0	
Detector 1 Size(ft)				20		20	20	6	20	20	6	
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type				Prot		Prot	Prot	NA	pm+ov	Prot	NA	
Protected Phases				3		9!	5	2!	3	1	6	
Permitted Phases									2			

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/25/2023

Lane Group	Ø8	Ø10
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	8	10
Permitted Phases		

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/25/2023

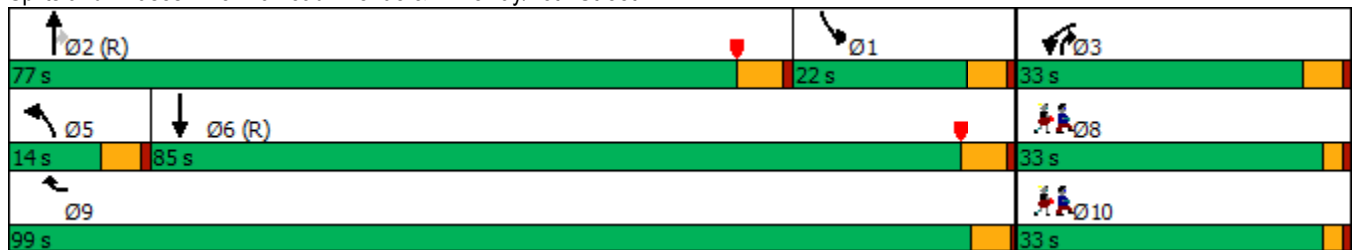


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				3		9	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)				10.0		4.0	9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				33.0		14.0	14.0	23.5	33.0	14.0	23.5	
Total Split (s)				33.0		99.0	14.0	77.0	33.0	22.0	85.0	
Total Split (%)				25.0%		75.0%	10.6%	58.3%	25.0%	16.7%	64.4%	
Maximum Green (s)				28.0		94.5	9.0	71.5	28.0	17.0	79.5	
Yellow Time (s)				4.0		4.0	4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0		0.5	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0		4.5	5.0	5.5	5.0	5.0	5.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None		None	None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				10.6		111.9	9.0	88.9	105.0	17.0	108.1	
Actuated g/C Ratio				0.08		0.85	0.07	0.67	0.80	0.13	0.82	
v/c Ratio				0.40		0.27	0.09	0.71	0.16	0.81	0.60	
Control Delay				62.0		0.7	60.5	11.4	1.7	73.2	4.7	
Queue Delay				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay				62.0		0.7	60.5	11.4	1.7	73.2	4.7	
LOS				E		A	E	B	A	E	A	
Approach Delay					14.3			10.6			16.3	
Approach LOS					B			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 13.7 Intersection LOS: B
 Intersection Capacity Utilization 73.1% ICU Level of Service D
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/25/2023

Lane Group	Ø8	Ø10
Detector Phase		
Switch Phase		
Minimum Initial (s)	4.0	4.0
Minimum Split (s)	31.0	16.0
Total Split (s)	33.0	33.0
Total Split (%)	25%	25%
Maximum Green (s)	30.0	30.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	21.0	6.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

5: Railroad Avenue & Driveway/13th Street

01/25/2023



Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	109	380	11	1696	196	359	1750
v/c Ratio	0.40	0.27	0.09	0.71	0.16	0.81	0.60
Control Delay	62.0	0.7	60.5	11.4	1.7	73.2	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	0.7	60.5	11.4	1.7	73.2	4.7
Queue Length 50th (ft)	46	0	9	290	6	168	284
Queue Length 95th (ft)	76	13	m13	406	27	#234	411
Internal Link Dist (ft)				1137			3260
Turn Bay Length (ft)	110		100		570	140	
Base Capacity (vph)	728	1400	120	2383	1264	442	2898
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.27	0.09	0.71	0.16	0.81	0.60

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/25/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	480	120	210	1360	850	710			
Future Volume (vph)	480	120	210	1360	850	710			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		130				519			
Link Speed (mph)	35			35	45				
Link Distance (ft)	1347			1246	1217				
Travel Time (s)	26.2			24.3	18.4				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	522	130	228	1478	924	772			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	522	130	228	1478	924	772			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	34			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	42.0	30.0	30.0	30.0	30.0

Lanes, Volumes, Timings
 6: Railroad Avenue & Lyons Avenue

01/25/2023

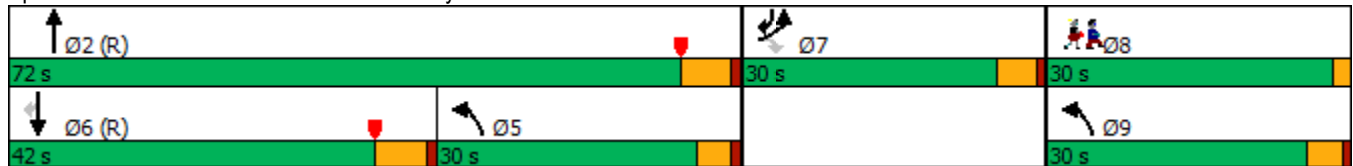


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	31.8%	22.7%	23%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	36.0	25.0	25.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effct Green (s)	28.8	28.8	21.9	82.6	65.4	94.1			
Actuated g/C Ratio	0.22	0.22	0.17	0.63	0.50	0.71			
v/c Ratio	0.70	0.29	0.40	0.67	0.53	0.60			
Control Delay	77.0	28.0	25.6	25.8	19.0	3.9			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	77.0	28.0	25.6	25.8	19.0	3.9			
LOS	E	C	C	C	B	A			
Approach Delay	67.2			25.8	12.1				
Approach LOS	E			C	B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 26.7
 Intersection LOS: C
 Intersection Capacity Utilization 58.0%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/25/2023

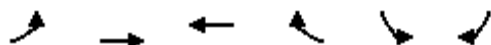


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	522	130	228	1478	924	772
v/c Ratio	0.70	0.29	0.40	0.67	0.53	0.60
Control Delay	77.0	28.0	25.6	25.8	19.0	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.0	28.0	25.6	25.8	19.0	3.9
Queue Length 50th (ft)	205	53	50	469	129	7
Queue Length 95th (ft)	199	82	56	455	257	229
Internal Link Dist (ft)	1267			1166	1137	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	767	455	1352	2214	1752	1283
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.29	0.17	0.67	0.53	0.60

Intersection Summary

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/25/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1520	960	1320	770	0	
Future Volume (vph)	0	1520	960	1320	770	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.98			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1048			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1913		1540		
Travel Time (s)		6.2	32.6		30.0		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1652	1043	1435	837	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1652	1043	1435	837	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		82.0	38.0	50.0	50.0	44.0	
Total Split (%)		62.1%	28.8%	37.9%	37.9%	33%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/25/2023

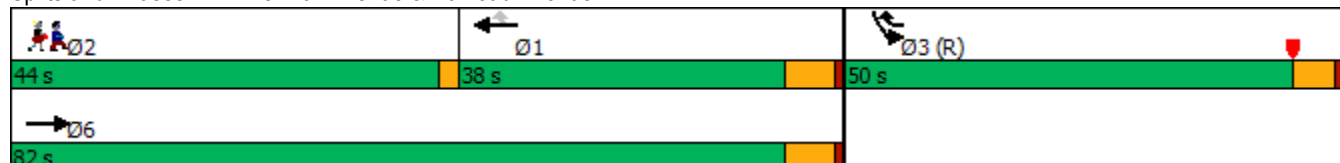


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		76.0	32.0	44.0	44.0		42.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		78.0	78.0	124.0	46.0		
Actuated g/C Ratio		0.59	0.59	0.94	0.35		
v/c Ratio		0.79	0.95	0.54	0.70		
Control Delay		24.3	32.2	3.1	19.4		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		24.3	32.2	3.1	19.4		
LOS		C	C	A	B		
Approach Delay		24.3	15.4		19.4		
Approach LOS		C	B		B		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	32 (24%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.95
Intersection Signal Delay:	19.0
Intersection LOS:	B
Intersection Capacity Utilization	79.2%
ICU Level of Service	D
Analysis Period (min)	15

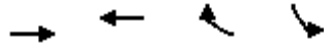
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/25/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1652	1043	1435	837
v/c Ratio	0.79	0.95	0.54	0.70
Control Delay	24.3	32.2	3.1	19.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.3	32.2	3.1	19.4
Queue Length 50th (ft)	543	374	110	250
Queue Length 95th (ft)	643	#1159	79	102
Internal Link Dist (ft)	282	1833		1460
Turn Bay Length (ft)				
Base Capacity (vph)	2091	1100	2640	1196
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.79	0.95	0.54	0.70

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/25/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗↗	↖↖↖		↘	↘
Traffic Volume (vph)	240	1980	1260	90	60	130
Future Volume (vph)	240	1980	1260	90	60	130
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	3			2	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.990			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5034	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5034	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			11			141
Link Speed (mph)		40	40		30	
Link Distance (ft)		1403	3070		2619	
Travel Time (s)		23.9	52.3		59.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	2152	1370	98	65	141
Shared Lane Traffic (%)						
Lane Group Flow (vph)	261	2152	1468	0	65	141
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	35.0	98.0	63.0		34.0	34.0

Lanes, Volumes, Timings
 8: Newhall Avenue & Valle Del Oro

01/25/2023

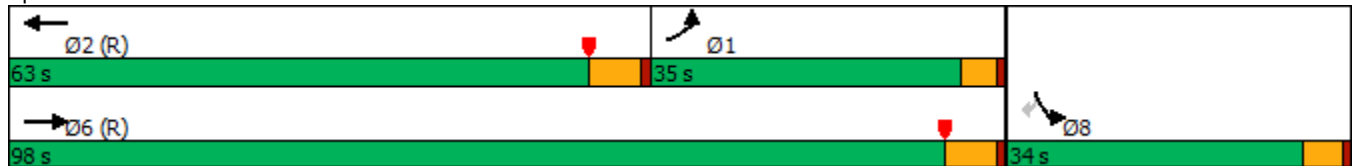


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	26.5%	74.2%	47.7%		25.8%	25.8%
Maximum Green (s)	30.5	92.0	57.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	31.0	112.8	77.8		11.2	11.2
Actuated g/C Ratio	0.23	0.85	0.59		0.08	0.08
v/c Ratio	0.63	0.50	0.49		0.43	0.54
Control Delay	56.1	3.3	4.7		60.6	15.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	56.1	3.3	4.7		60.6	15.8
LOS	E	A	A		E	B
Approach Delay	9.0		4.7		29.9	
Approach LOS	A		A		C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 53 (40%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 8.5
 Intersection Capacity Utilization 53.0%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

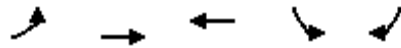
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/25/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	261	2152	1468	65	141
v/c Ratio	0.63	0.50	0.49	0.43	0.54
Control Delay	56.1	3.3	4.7	60.6	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	3.3	4.7	60.6	15.8
Queue Length 50th (ft)	223	173	75	51	14
Queue Length 95th (ft)	m293	205	86	m62	m27
Internal Link Dist (ft)		1323	2990	2539	
Turn Bay Length (ft)	150				
Base Capacity (vph)	415	4344	2970	402	468
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.63	0.50	0.49	0.16	0.30

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/25/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	1670	10	240	1090	740	50	1490	260	170	290	200
Future Volume (vph)	370	1670	10	240	1090	740	50	1490	260	170	290	200
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		300
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.939	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4775	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4775	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			273			162		132	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3070			687			398			2905	
Travel Time (s)		52.3			11.7			9.0			66.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	1815	11	261	1185	804	54	1620	283	185	315	217
Shared Lane Traffic (%)												
Lane Group Flow (vph)	402	1815	11	261	1185	804	54	1620	283	185	532	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	50.0	50.0	20.0	45.0	45.0	20.0	42.0	42.0	20.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/25/2023

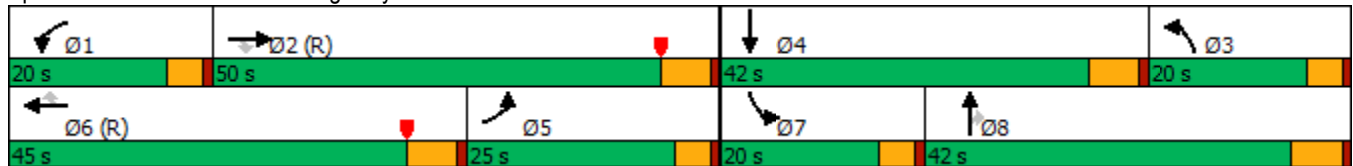


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	37.9%	37.9%	15.2%	34.1%	34.1%	15.2%	31.8%	31.8%	15.2%	31.8%	
Maximum Green (s)	20.5	44.0	44.0	15.5	39.0	39.0	15.5	36.0	36.0	15.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	47.3	47.3	14.7	41.0	41.0	28.4	38.3	36.3	15.7	27.6	
Actuated g/C Ratio	0.16	0.36	0.36	0.11	0.31	0.31	0.22	0.29	0.28	0.12	0.21	
v/c Ratio	0.74	1.00	0.02	0.68	0.75	1.18	0.07	1.58	0.51	0.88	0.48	
Control Delay	77.8	76.7	0.0	65.8	44.5	124.6	38.6	297.8	20.4	84.3	26.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	77.8	76.7	0.0	65.8	44.5	124.6	38.6	297.8	20.4	84.3	26.1	
LOS	E	E	A	E	D	F	D	F	C	F	C	
Approach Delay		76.6			75.6			250.5			41.2	
Approach LOS		E			E			F			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.58
 Intersection Signal Delay: 120.3
 Intersection LOS: F
 Intersection Capacity Utilization 107.6%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/25/2023





















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	402	1815	11	261	1185	804	54	1620	283	185	532
v/c Ratio	0.74	1.00	0.02	0.68	0.75	1.18	0.07	1.58	0.51	0.88	0.48
Control Delay	77.8	76.7	0.0	65.8	44.5	124.6	38.6	297.8	20.4	84.3	26.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.8	76.7	0.0	65.8	44.5	124.6	38.6	297.8	20.4	84.3	26.1
Queue Length 50th (ft)	181	~595	0	111	334	~656	18	~1039	84	135	84
Queue Length 95th (ft)	244	#723	m0	158	390	#907	37	#1178	175	m#297	m156
Internal Link Dist (ft)		2990			607			318			2825
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1821	662	416	1579	679	790	1026	552	214	1609
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	1.00	0.02	0.63	0.75	1.18	0.07	1.58	0.51	0.86	0.33

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/25/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	980	1260	20	1880	0	0	0	0	10	0	380
Future Volume (vph)	0	980	1260	20	1880	0	0	0	0	10	0	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.945	0.850									0.850
Fl _t Protected				0.950							0.950	
Satd. Flow (prot)	0	3204	1441	1770	3539	0	0	0	0	0	1770	1583
Fl _t Permitted				0.950							0.950	
Satd. Flow (perm)	0	3204	1441	1770	3539	0	0	0	0	0	1770	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		687			492			504			602	
Travel Time (s)		11.7			8.4			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1065	1370	22	2043	0	0	0	0	11	0	413
Shared Lane Traffic (%)			45%									
Lane Group Flow (vph)	0	1682	753	22	2043	0	0	0	0	0	11	413
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	82.2%
ICU Level of Service	E
Analysis Period (min)	15

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/25/2023

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	980	1260	20	1880	0	0	0	0	10	0	380
Future Vol, veh/h	0	980	1260	20	1880	0	0	0	0	10	0	380
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082488832	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1065	1370	22	2043	0	0	0	0	11	0	413

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	1065	0	0		2620	3152	-
Stage 1	-	-	-	-	-	-		2087	2087	-
Stage 2	-	-	-	-	-	-		533	1065	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	650	-	0		20	11	0
Stage 1	0	-	-	-	-	0		81	93	0
Stage 2	0	-	-	-	-	0		553	297	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	650	-	-		19	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		19	0	-
Stage 1	-	-	-	-	-	-		81	0	-
Stage 2	-	-	-	-	-	-		534	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	\$ 339.1
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	650	-	19	-
HCM Lane V/C Ratio	-	-	0.033	-	0.572	-
HCM Control Delay (s)	-	-	10.7	-	\$ 339.1	0
HCM Lane LOS	-	-	B	-	F	A
HCM 95th %tile Q(veh)	-	-	0.1	-	1.6	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/25/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	980	0	0	110	0	10
Future Volume (vph)	980	0	0	110	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr _t						0.865
Fl _t Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Fl _t Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	492			551	676	
Travel Time (s)	8.4			9.4	15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1065	0	0	120	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1065	0	0	120	0	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	82.2%
Analysis Period (min)	15
	ICU Level of Service E

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	980	0	0	110	0	10
Future Vol, veh/h	980	0	0	110	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1065	0	0	120	0	11



















Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	-	-	533
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.319
Pot Cap-1 Maneuver	-	0	0	492
Stage 1	-	0	0	-
Stage 2	-	0	0	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	492
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	492	-	-
HCM Lane V/C Ratio	0.022	-	-
HCM Control Delay (s)	12.5	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/25/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	1180	0	0	850	700	480	0	410	0	0	0
Future Volume (vph)	220	1180	0	0	850	700	480	0	410	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.932				0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1770	3539	0	0	4739	0	1681	1681	1583	0	0	0
Flt Permitted	0.950						0.950	0.950				
Satd. Flow (perm)	1770	3539	0	0	4739	0	1681	1681	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					250				73			
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		1093			1835			601			382	
Travel Time (s)		18.6			31.3			13.7			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	1283	0	0	924	761	522	0	446	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	239	1283	0	0	1685	0	261	261	446	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/25/2023

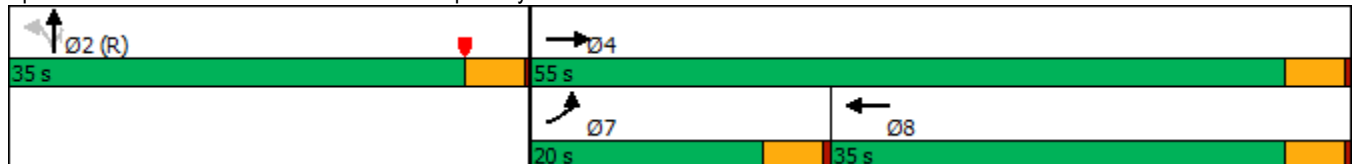


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			10.0		10.0	10.0	10.0			
Minimum Split (s)	14.5	22.5			22.5		32.5	32.5	32.5			
Total Split (s)	20.0	55.0			35.0		35.0	35.0	35.0			
Total Split (%)	22.2%	61.1%			38.9%		38.9%	38.9%	38.9%			
Maximum Green (s)	15.5	50.5			30.5		30.5	30.5	30.5			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	0.5	0.5			0.5		0.5	0.5	0.5			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	4.5			4.5		4.5	4.5	4.5			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.8	50.5			31.2		30.5	30.5	30.5			
Actuated g/C Ratio	0.16	0.56			0.35		0.34	0.34	0.34			
v/c Ratio	0.82	0.65			1.05dr		0.46	0.46	0.76			
Control Delay	60.0	15.5			35.3		26.5	26.5	32.2			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	60.0	15.5			35.3		26.5	26.5	32.2			
LOS	E	B			D		C	C	C			
Approach Delay		22.5			35.3			29.1				
Approach LOS		C			D			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 29.2 Intersection LOS: C
 Intersection Capacity Utilization 68.9% ICU Level of Service C
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

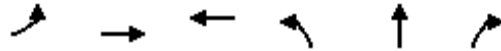
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/25/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	239	1283	1685	261	261	446
v/c Ratio	0.82	0.65	1.05dr	0.46	0.46	0.76
Control Delay	60.0	15.5	35.3	26.5	26.5	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	15.5	35.3	26.5	26.5	32.2
Queue Length 50th (ft)	132	246	297	121	121	189
Queue Length 95th (ft)	#248	315	#408	195	195	#337
Internal Link Dist (ft)		1013	1755		521	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	304	1985	1807	569	569	584
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.65	0.93	0.46	0.46	0.76

Intersection Summary






























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/25/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			  			 			 	
Traffic Volume (vph)	440	1140	250	190	1220	180	130	490	310	370	440	270
Future Volume (vph)	440	1140	250	190	1220	180	130	490	310	370	440	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.981				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4989	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4989	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180		21				294			122
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1835			5346			887				1679
Travel Time (s)		31.3			91.1			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	478	1239	272	207	1326	196	141	533	337	402	478	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	478	1239	272	207	1522	0	141	533	337	402	478	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/25/2023

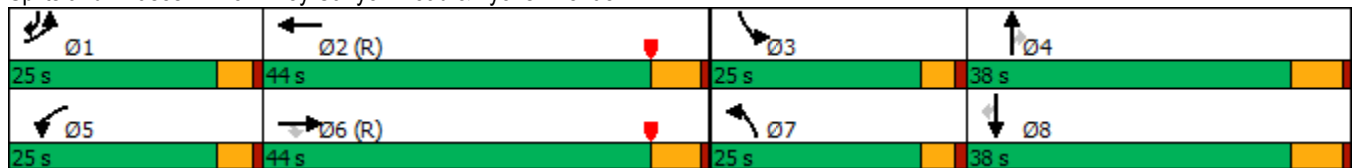


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	25.0	44.0	44.0	25.0	44.0		25.0	38.0	38.0	25.0	38.0	25.0
Total Split (%)	18.9%	33.3%	33.3%	18.9%	33.3%		18.9%	28.8%	28.8%	18.9%	28.8%	18.9%
Maximum Green (s)	20.5	38.0	38.0	20.5	38.0		20.5	32.0	32.0	20.5	32.0	20.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	23.2	45.5	45.5	20.4	42.6		16.6	29.2	29.2	21.0	33.6	60.8
Actuated g/C Ratio	0.18	0.34	0.34	0.15	0.32		0.13	0.22	0.22	0.16	0.25	0.46
v/c Ratio	0.85	1.09	0.43	0.81	0.94		0.68	0.73	0.61	1.53	0.55	0.37
Control Delay	67.8	95.6	14.6	92.0	23.8		71.3	53.7	12.3	296.0	45.3	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	95.6	14.6	92.0	23.8		71.3	53.7	12.3	296.0	45.3	14.5
LOS	E	F	B	F	C		E	D	B	F	D	B
Approach Delay		77.8			32.0			42.4			123.5	
Approach LOS		E			C			D			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.53
 Intersection Signal Delay: 67.4
 Intersection LOS: E
 Intersection Capacity Utilization 89.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/25/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	478	1239	272	207	1522	141	533	337	402	478	293
v/c Ratio	0.85	1.09	0.43	0.81	0.94	0.68	0.73	0.61	1.53	0.55	0.37
Control Delay	67.8	95.6	14.6	92.0	23.8	71.3	53.7	12.3	296.0	45.3	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	95.6	14.6	92.0	23.8	71.3	53.7	12.3	296.0	45.3	14.5
Queue Length 50th (ft)	203	~667	57	165	434	117	222	30	~481	186	86
Queue Length 95th (ft)	#315	#830	144	m196	m73	184	276	122	#686	244	163
Internal Link Dist (ft)		1755			5266		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	562	1137	627	271	1625	262	850	598	262	881	795
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	1.09	0.43	0.76	0.94	0.54	0.63	0.56	1.53	0.54	0.37





































Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/25/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 	 	 	 	 	 	 	 	 	 	 
Traffic Volume (vph)	280	1310	120	100	1420	630	100	160	90	560	150	220
Future Volume (vph)	280	1310	120	100	1420	630	100	160	90	560	150	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			283			112			239
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5346			2329			465				345
Travel Time (s)		104.1			45.4			9.1				5.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	1424	130	109	1543	685	109	174	98	609	163	239
Shared Lane Traffic (%)												
Lane Group Flow (vph)	304	1424	130	109	1543	685	109	174	98	609	163	239
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/25/2023

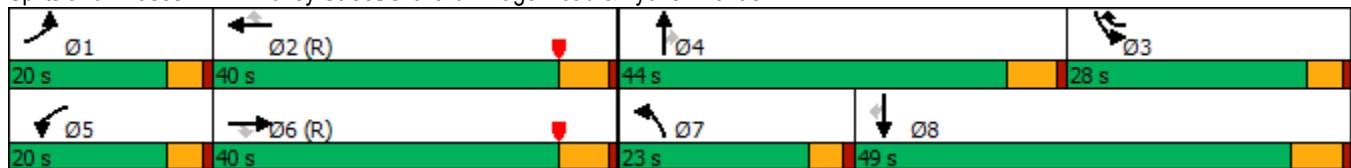


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effect Green (s)	18.5	53.5	53.5	14.5	49.4	83.4	14.3	14.1	14.1	34.0	33.8	33.8
Actuated g/C Ratio	0.14	0.41	0.41	0.11	0.37	0.63	0.11	0.11	0.11	0.26	0.26	0.26
v/c Ratio	0.68	1.07	0.18	0.60	1.06	0.57	0.61	0.48	0.40	0.69	0.35	0.42
Control Delay	37.4	77.0	14.2	45.1	81.1	12.5	70.1	59.5	11.6	48.4	42.1	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	77.0	14.2	45.1	81.1	12.5	70.1	59.5	11.6	48.4	42.1	6.8
LOS	D	E	B	D	F	B	E	E	B	D	D	A
Approach Delay		66.2			59.3			50.2			37.5	
Approach LOS		E			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 2 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.07
 Intersection Signal Delay: 57.0
 Intersection LOS: E
 Intersection Capacity Utilization 81.0%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/25/2023



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	304	1424	130	109	1543	685	109	174	98	609	163	239
v/c Ratio	0.68	1.07	0.18	0.60	1.06	0.57	0.61	0.48	0.40	0.69	0.35	0.42
Control Delay	37.4	77.0	14.2	45.1	81.1	12.5	70.1	59.5	11.6	48.4	42.1	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	77.0	14.2	45.1	81.1	12.5	70.1	59.5	11.6	48.4	42.1	6.8
Queue Length 50th (ft)	127	~730	34	84	~785	279	90	75	0	243	115	0
Queue Length 95th (ft)	m106	m#754	m33	m78	m#828	m257	149	110	42	292	175	63
Internal Link Dist (ft)		5266			2249			385			265	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	460	1337	708	212	1456	1204	237	1036	493	883	613	679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	1.07	0.18	0.51	1.06	0.57	0.46	0.17	0.20	0.69	0.27	0.35

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/25/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	610	1560	50	820	20	970	100	60	20	120	110
Future Volume (vph)	100	610	1560	50	820	20	970	100	60	20	120	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1621	3539	1468	1638	3539	1356	3117	1863	1471	1670	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			469			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2329			1347			528				401
Travel Time (s)		45.4			26.2			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	663	1696	54	891	22	1054	109	65	22	130	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	663	1696	54	891	22	1054	109	65	22	130	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
 15: Newhall Avenue & Lyons Avenue

01/25/2023

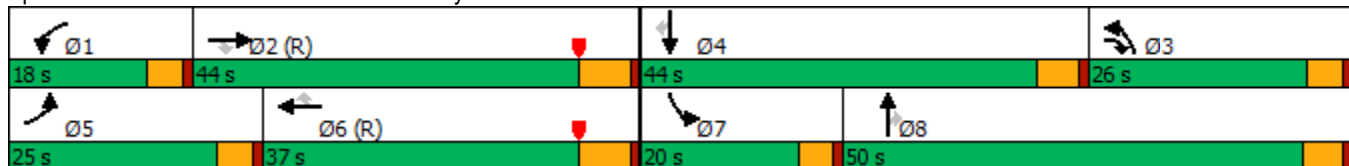


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	25.0	44.0	26.0	18.0	37.0	37.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	18.9%	33.3%	19.7%	13.6%	28.0%	28.0%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	20.5	38.0	21.5	13.5	31.0	31.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		32.0	32.0		32.0	32.0
Pedestrian Calls (#/hr)		27			27	27		43	43		43	43
Act Effct Green (s)	14.5	45.9	73.8	10.2	39.5	39.5	27.9	58.4	58.4	7.8	34.1	34.1
Actuated g/C Ratio	0.11	0.35	0.56	0.08	0.30	0.30	0.21	0.44	0.44	0.06	0.26	0.26
v/c Ratio	0.60	0.54	1.63	0.43	0.84	0.04	1.50	0.13	0.09	0.22	0.28	0.26
Control Delay	78.9	23.5	306.1	65.3	47.7	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.9	23.5	306.1	65.3	47.7	0.1	268.6	24.1	0.2	63.7	38.6	4.8
LOS	E	C	F	E	D	A	F	C	A	E	D	A
Approach Delay		220.1			47.6			232.7			25.7	
Approach LOS		F			D			F			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 47 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.63
 Intersection Signal Delay: 178.7 Intersection LOS: F
 Intersection Capacity Utilization 137.2% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/25/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	109	663	1696	54	891	22	1054	109	65	22	130	120
v/c Ratio	0.60	0.54	1.63	0.43	0.84	0.04	1.50	0.13	0.09	0.22	0.28	0.26
Control Delay	78.9	23.5	306.1	65.3	47.7	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.9	23.5	306.1	65.3	47.7	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Length 50th (ft)	88	180	~2137	45	402	0	~712	58	0	18	84	0
Queue Length 95th (ft)	m115	m153	m#2149	m74	#535	m0	#846	102	0	47	138	33
Internal Link Dist (ft)		2249			1267			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	262	1230	1041	175	1059	524	702	823	726	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.54	1.63	0.31	0.84	0.04	1.50	0.13	0.09	0.11	0.24	0.23

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/25/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Traffic Volume (vph)	120	20	180	80	10	40	20	290	110	150	350	10
Future Volume (vph)	120	20	180	80	10	40	20	290	110	150	350	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	180		0
Storage Lanes	0		1	0		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Frt			0.850			0.850		0.959			0.996	
Flt Protected		0.959			0.957		0.950			0.950		
Satd. Flow (prot)	0	1786	1583	0	1783	1583	1770	3394	0	1770	5065	0
Flt Permitted		0.644			0.531		0.950			0.950		
Satd. Flow (perm)	0	1200	1583	0	989	1583	1770	3394	0	1770	5065	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196			99		43			4	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		391			842			206			423	
Travel Time (s)		10.7			23.0			3.1			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	22	196	87	11	43	22	315	120	163	380	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	152	196	0	98	43	22	435	0	163	391	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4			1	6		5	2
Permitted Phases	8		8	4		4						

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/25/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	31.0	31.0	31.0	20.0	20.0	20.0	9.0	23.0		9.0	23.0	
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	45.0		38.0	68.0	
Total Split (%)	37.1%	37.1%	37.1%	37.1%	37.1%	37.1%	11.4%	34.1%		28.8%	51.5%	
Maximum Green (s)	44.0	44.0	44.0	45.0	45.0	45.0	10.0	40.0		33.0	63.0	
Yellow Time (s)	4.0	4.0	4.0	3.5	3.5	3.5	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	0.5	0.5	0.5	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		4.0	4.0	5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		Max	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		7.0			7.0	
Flash Dont Walk (s)	21.0	21.0	21.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		18.1	18.1		19.1	19.1	6.9	40.1		33.1	73.2	
Actuated g/C Ratio		0.17	0.17		0.18	0.18	0.06	0.38		0.31	0.69	
v/c Ratio		0.75	0.45		0.55	0.12	0.19	0.33		0.30	0.11	
Control Delay		63.5	8.7		51.4	0.7	52.9	22.8		30.9	7.3	
Queue Delay		0.0	0.0		0.0	0.0	0.0	4.8		0.0	0.0	
Total Delay		63.5	8.7		51.4	0.7	52.9	27.6		30.9	7.3	
LOS		E	A		D	A	D	C		C	A	
Approach Delay		32.7			35.9			28.8			14.3	
Approach LOS		C			D			C			B	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	106.4
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	25.0
Intersection LOS:	C
Intersection Capacity Utilization:	46.7%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 17: Dockweiler Drive/Arch Street & 12th Street



Queues

17: Dockweiler Drive/Arch Street & 12th Street

01/25/2023



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	152	196	98	43	22	435	163	391
v/c Ratio	0.75	0.45	0.55	0.12	0.19	0.33	0.30	0.11
Control Delay	63.5	8.7	51.4	0.7	52.9	22.8	30.9	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0
Total Delay	63.5	8.7	51.4	0.7	52.9	27.6	30.9	7.3
Queue Length 50th (ft)	99	0	61	0	14	97	83	23
Queue Length 95th (ft)	170	59	116	0	43	156	156	65
Internal Link Dist (ft)	311		762			126		343
Turn Bay Length (ft)							180	
Base Capacity (vph)	497	771	419	728	167	1306	550	3488
Starvation Cap Reductn	0	0	0	0	0	787	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.25	0.23	0.06	0.13	0.84	0.30	0.11

Intersection Summary

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/25/2023

							Ø1	Ø2	Ø7	Ø8
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT				
Lane Configurations										
Traffic Volume (vph)	160	140	280	140	160	450				
Future Volume (vph)	160	140	280	140	160	450				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	150	0		0	0					
Storage Lanes	1	1		0	1					
Taper Length (ft)	25				25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95				
Frt		0.850	0.955							
Flt Protected	0.950				0.950					
Satd. Flow (prot)	1770	1583	1779	0	1770	3539				
Flt Permitted	0.950				0.950					
Satd. Flow (perm)	1770	1583	1779	0	1770	3539				
Right Turn on Red		Yes		Yes						
Satd. Flow (RTOR)		152	17							
Link Speed (mph)	30		45			45				
Link Distance (ft)	1067		195			206				
Travel Time (s)	24.3		3.0			3.1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Adj. Flow (vph)	174	152	304	152	174	489				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	174	152	456	0	174	489				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Right	Left	Left				
Median Width(ft)	12		12			12				
Link Offset(ft)	0		0			0				
Crosswalk Width(ft)	16		16			16				
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)	15	9		9	15					
Number of Detectors	1	1	2		1	2				
Detector Template	Left	Right	Thru		Left	Thru				
Leading Detector (ft)	20	20	100		20	100				
Trailing Detector (ft)	0	0	0		0	0				
Detector 1 Position(ft)	0	0	0		0	0				
Detector 1 Size(ft)	20	20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0				
Detector 2 Position(ft)			94			94				
Detector 2 Size(ft)			6			6				
Detector 2 Type			Cl+Ex			Cl+Ex				
Detector 2 Channel										
Detector 2 Extend (s)			0.0			0.0				
Turn Type	Prot	Perm	NA		Prot	NA				
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8
Permitted Phases		7 8								

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/25/2023

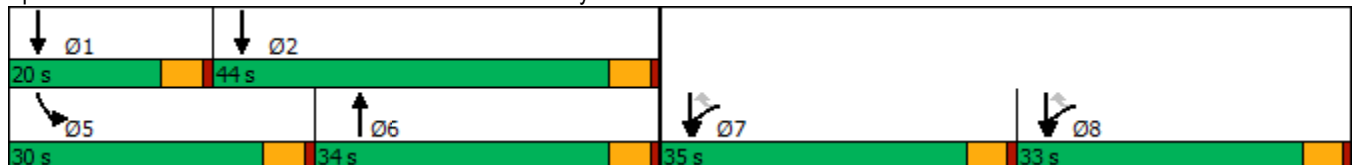


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		20.0	23.0	33.0	33.0
Total Split (s)			34.0		30.0		20.0	44.0	35.0	33.0
Total Split (%)			25.8%		22.7%		15%	33%	27%	25%
Maximum Green (s)			29.0		25.0		15.0	39.0	30.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Ped	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	27.0	27.0	29.4		13.7	85.2				
Actuated g/C Ratio	0.32	0.32	0.35		0.16	1.00				
v/c Ratio	0.31	0.25	0.73		0.61	0.14				
Control Delay	23.9	4.9	34.1		44.2	0.1				
Queue Delay	0.0	0.0	0.0		0.3	0.0				
Total Delay	23.9	4.9	34.1		44.5	0.1				
LOS	C	A	C		D	A				
Approach Delay	15.1		34.1			11.7				
Approach LOS	B		C			B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 85.2
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 19.5
 Intersection LOS: B
 Intersection Capacity Utilization 53.5%
 ICU Level of Service A
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

01/25/2023
























Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	174	152	456	174	489
v/c Ratio	0.31	0.25	0.73	0.61	0.14
Control Delay	23.9	4.9	34.1	44.2	0.1
Queue Delay	0.0	0.0	0.0	0.3	0.0
Total Delay	23.9	4.9	34.1	44.5	0.1
Queue Length 50th (ft)	69	0	202	87	0
Queue Length 95th (ft)	130	41	#440	167	0
Internal Link Dist (ft)	987		115		126
Turn Bay Length (ft)	150				
Base Capacity (vph)	979	943	624	526	3472
Starvation Cap Reductn	0	0	0	88	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.16	0.73	0.40	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
19: Valle Del Oro & Dockweiler Drive

01/25/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	570	30	380	370	10	20	10	410	0	10	10
Future Volume (vph)	10	570	30	380	370	10	20	10	410	0	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	100		100	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.874			0.932	
Flt Protected	0.950			0.950				0.998				
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1625	0	0	1736	0
Flt Permitted	0.485			0.354				0.988				
Satd. Flow (perm)	903	1863	1583	659	1863	1583	0	1609	0	0	1736	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			27			11		366			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5381			3919			2619			300	
Travel Time (s)		122.3			89.1			59.5			6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	620	33	413	402	11	22	11	446	0	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	620	33	413	402	11	0	479	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		6			

Lanes, Volumes, Timings
19: Valle Del Oro & Dockweiler Drive

01/25/2023

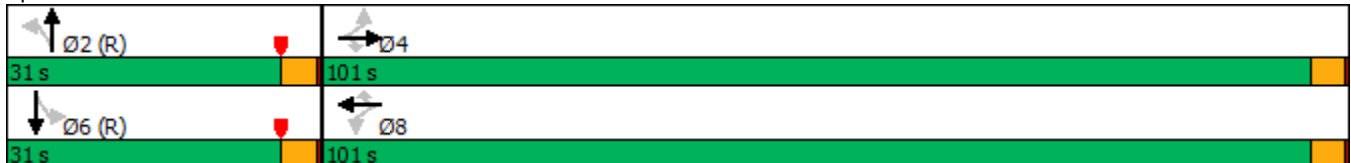


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	101.0	101.0	101.0	101.0	101.0	101.0	31.0	31.0		31.0	31.0	
Total Split (%)	76.5%	76.5%	76.5%	76.5%	76.5%	76.5%	23.5%	23.5%		23.5%	23.5%	
Maximum Green (s)	97.0	97.0	97.0	97.0	97.0	97.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	93.1	93.1	93.1	93.1	93.1	93.1		30.9			30.9	
Actuated g/C Ratio	0.71	0.71	0.71	0.71	0.71	0.71		0.23			0.23	
v/c Ratio	0.02	0.47	0.03	0.89	0.31	0.01		0.73			0.05	
Control Delay	4.8	9.6	2.1	35.0	5.6	0.8		17.9			27.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	4.8	9.6	2.1	35.0	5.6	0.8		17.9			27.8	
LOS	A	A	A	C	A	A		B			C	
Approach Delay		9.1			20.2			17.9			27.8	
Approach LOS		A			C			B			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 16.0
 Intersection LOS: B
 Intersection Capacity Utilization 94.7%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 19: Valle Del Oro & Dockweiler Drive



Queues

19: Valle Del Oro & Dockweiler Drive

01/25/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	620	33	413	402	11	479	22
v/c Ratio	0.02	0.47	0.03	0.89	0.31	0.01	0.73	0.05
Control Delay	4.8	9.6	2.1	35.0	5.6	0.8	17.9	27.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	9.6	2.1	35.0	5.6	0.8	17.9	27.8
Queue Length 50th (ft)	2	188	1	147	79	0	86	8
Queue Length 95th (ft)	7	254	10	#417	100	m0	152	32
Internal Link Dist (ft)		5301			3839		2539	220
Turn Bay Length (ft)	100		100	100		100		
Base Capacity (vph)	663	1369	1170	484	1369	1166	656	414
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.45	0.03	0.85	0.29	0.01	0.73	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/25/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	800	170	220	2260	490	600
Future Volume (vph)	800	170	220	2260	490	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.997	0.850				0.850
Flt Protected	0.953		0.950			
Satd. Flow (prot)	3434	1441	1770	3539	3539	1583
Flt Permitted	0.953		0.950			
Satd. Flow (perm)	3434	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	2	125				652
Link Speed (mph)	30			50	50	
Link Distance (ft)	3919			2905	621	
Travel Time (s)	89.1			39.6	8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	870	185	239	2457	533	652
Shared Lane Traffic (%)		10%				
Lane Group Flow (vph)	889	166	239	2457	533	652
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/25/2023

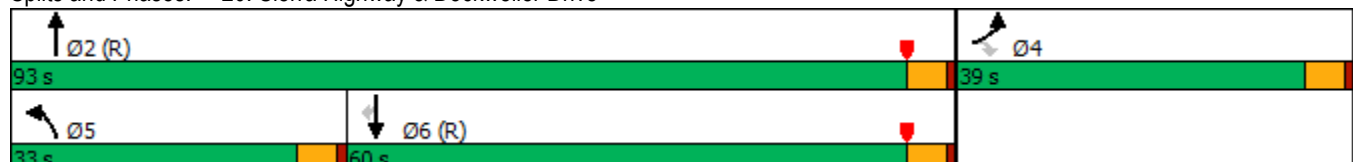


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	15.0	21.0	30.0	30.0
Total Split (s)	39.0	39.0	33.0	93.0	60.0	60.0
Total Split (%)	29.5%	29.5%	25.0%	70.5%	45.5%	45.5%
Maximum Green (s)	34.0	34.0	28.0	88.0	55.0	55.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	34.0	34.0	22.5	88.0	60.5	60.5
Actuated g/C Ratio	0.26	0.26	0.17	0.67	0.46	0.46
v/c Ratio	1.00	0.36	0.79	1.04	0.33	0.60
Control Delay	76.8	15.2	53.7	46.9	24.8	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.8	15.2	53.7	46.9	24.8	10.3
LOS	E	B	D	D	C	B
Approach Delay	67.1			47.5	16.8	
Approach LOS	E			D	B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 44.3
 Intersection LOS: D
 Intersection Capacity Utilization 95.4%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/25/2023



























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	889	166	239	2457	533	652
v/c Ratio	1.00	0.36	0.79	1.04	0.33	0.60
Control Delay	76.8	15.2	53.7	46.9	24.8	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.8	15.2	53.7	46.9	24.8	10.3
Queue Length 50th (ft)	~403	42	193	~760	118	52
Queue Length 95th (ft)	#542	m101	m147	m376	230	282
Internal Link Dist (ft)	3839			2825	541	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	886	463	375	2359	1623	1079
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.36	0.64	1.04	0.33	0.60

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/25/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	50	10	90	30	560	10	2180	890	280	940	20
Future Volume (vph)	30	50	10	90	30	560	10	2180	890	280	940	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		0	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.734			0.720			0.950			0.950		
Satd. Flow (perm)	1367	3539	1583	1341	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			211			445			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		816			677			2247			787	
Travel Time (s)		12.4			10.3			30.6			10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	54	11	98	33	609	11	2370	967	304	1022	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	54	11	98	33	609	11	2370	967	304	1022	22
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8		6		6		2

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/25/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	20.0	20.0	20.0	37.0	37.0	37.0	15.0	20.0	20.0	15.0	39.0	39.0
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	18.0	68.0	68.0	25.0	75.0	75.0
Total Split (%)	29.5%	29.5%	29.5%	29.5%	29.5%	29.5%	13.6%	51.5%	51.5%	18.9%	56.8%	56.8%
Maximum Green (s)	34.0	34.0	34.0	34.0	34.0	34.0	13.0	63.0	63.0	20.0	70.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	34.0	34.0	34.0	34.0	34.0	34.0	10.0	63.0	63.0	20.0	85.0	85.0
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26	0.26	0.08	0.48	0.48	0.15	0.64	0.64
v/c Ratio	0.09	0.06	0.02	0.28	0.04	1.08	0.08	1.40	0.98	1.13	0.45	0.02
Control Delay	38.3	37.3	0.1	42.0	37.0	91.6	60.1	211.5	24.0	142.2	13.5	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	8.2	0.0	1.1	0.0	0.0	0.0	0.0
Total Delay	38.3	37.3	0.1	42.0	37.0	99.8	60.1	212.6	24.0	142.2	13.5	1.1
LOS	D	D	A	D	D	F	E	F	C	F	B	A
Approach Delay		33.5			89.3			157.6			42.3	
Approach LOS		C			F			F			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.40
 Intersection Signal Delay: 118.2 Intersection LOS: F
 Intersection Capacity Utilization 115.8% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/25/2023














Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	33	54	11	98	33	609	11	2370	967	304	1022	22
v/c Ratio	0.09	0.06	0.02	0.28	0.04	1.08	0.08	1.40	0.98	1.13	0.45	0.02
Control Delay	38.3	37.3	0.1	42.0	37.0	91.6	60.1	211.5	24.0	142.2	13.5	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	8.2	0.0	1.1	0.0	0.0	0.0	0.0
Total Delay	38.3	37.3	0.1	42.0	37.0	99.8	60.1	212.6	24.0	142.2	13.5	1.1
Queue Length 50th (ft)	22	18	0	68	11	~439	9	~1433	316	~304	228	0
Queue Length 95th (ft)	50	36	0	120	25	#674	m9	m#1366	m282	#494	362	m4
Internal Link Dist (ft)		736			597			2167			707	
Turn Bay Length (ft)			150			150	150			375		150
Base Capacity (vph)	352	911	481	345	911	564	174	1689	988	268	2279	1039
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	26	0	448	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.06	0.02	0.28	0.04	1.13	0.06	1.91	0.98	1.13	0.45	0.02

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/25/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	90	40	2830	70	790	1010
Future Volume (vph)	90	40	2830	70	790	1010
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		0	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Frt		0.850	0.996			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3525	0	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3525	0	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		43	3			
Link Speed (mph)	30		50			50
Link Distance (ft)	615		787			1009
Travel Time (s)	14.0		10.7			13.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	43	3076	76	859	1098
Shared Lane Traffic (%)						
Lane Group Flow (vph)	98	43	3152	0	859	1098
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/25/2023

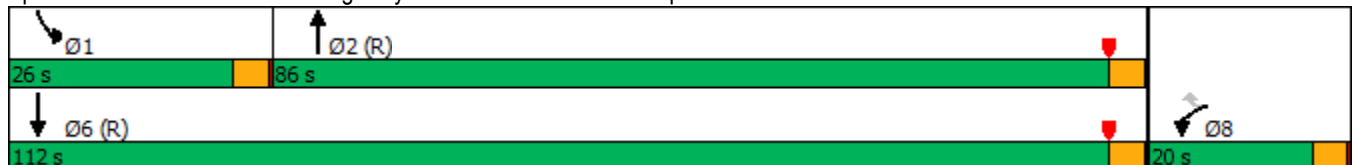


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		8.0	20.0
Total Split (s)	20.0	20.0	86.0		26.0	112.0
Total Split (%)	15.2%	15.2%	65.2%		19.7%	84.8%
Maximum Green (s)	16.0	16.0	82.0		22.0	108.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	12.3	12.3	82.0		25.7	111.7
Actuated g/C Ratio	0.09	0.09	0.62		0.19	0.85
v/c Ratio	0.59	0.23	1.44		1.29	0.37
Control Delay	71.7	17.9	218.8		182.6	2.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	71.7	17.9	218.8		182.6	2.8
LOS	E	B	F		F	A
Approach Delay	55.3		218.8			81.7
Approach LOS	E		F			F

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.44
 Intersection Signal Delay: 163.3
 Intersection LOS: F
 Intersection Capacity Utilization 118.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR 14 Southbound Ramps



Queues

22: Sierra Highway & SR 14 Southbound Ramps

01/25/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	98	43	3152	859	1098
v/c Ratio	0.59	0.23	1.44	1.29	0.37
Control Delay	71.7	17.9	218.8	182.6	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	71.7	17.9	218.8	182.6	2.8
Queue Length 50th (ft)	82	0	~1908	~484	85
Queue Length 95th (ft)	139	36	m#1231	#654	126
Internal Link Dist (ft)	535		707		929
Turn Bay Length (ft)				160	
Base Capacity (vph)	214	229	2190	667	2994
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.46	0.19	1.44	1.29	0.37

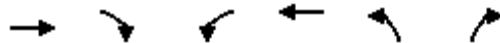
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/25/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	290	0	0	330	230	190
Future Volume (vph)	290	0	0	330	230	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	677			645	774	
Travel Time (s)	10.3			9.8	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	0	0	359	250	207
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	359	250	207
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	28.5%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
 23: SR 14 Northbound Ramps & Placerita Canyon Road

01/25/2023

Intersection						
Int Delay, s/veh	6.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	290	0	0	330	230	190
Future Vol, veh/h	290	0	0	330	230	190
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	315	0	0	359	250	207

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	495 158
Stage 1	-	-	-	-	315 -
Stage 2	-	-	-	-	180 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	504 859
Stage 1	-	0	0	-	713 -
Stage 2	-	0	0	-	833 -
Platoon blocked, %	-			-	
Mov Cap-1 Maneuver	-	-	-	-	504 859
Mov Cap-2 Maneuver	-	-	-	-	504 -
Stage 1	-	-	-	-	713 -
Stage 2	-	-	-	-	833 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	504	859	-	-
HCM Lane V/C Ratio	0.496	0.24	-	-
HCM Control Delay (s)	19	10.5	-	-
HCM Lane LOS	C	B	-	-
HCM 95th %tile Q(veh)	2.7	0.9	-	-

***Future with Project
with DDEP Conditions (Traffic Signal)***

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	880	250	670	1840	70	450	642	170	210	2569	450
Future Volume (vph)	140	880	250	670	1840	70	450	642	170	210	2569	450
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	0		230
Storage Lanes	3		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			136			186			112
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			2037			1105	
Travel Time (s)		13.2			11.3			30.9			16.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	21.0	36.0	22.0	21.0	36.0	36.0	22.0	45.0	45.0	30.0	53.0	21.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

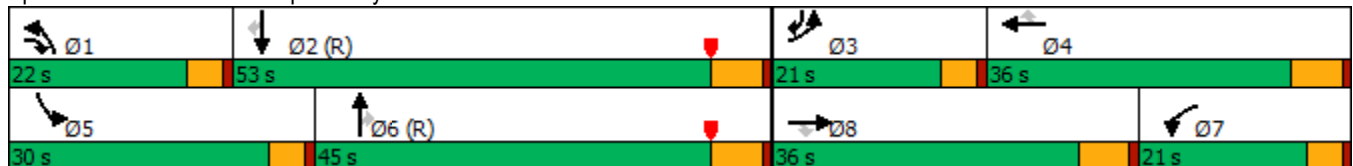


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	15.9%	27.3%	16.7%	15.9%	27.3%	27.3%	16.7%	34.1%	34.1%	22.7%	40.2%	15.9%
Maximum Green (s)	16.5	30.0	17.5	16.5	30.0	30.0	17.5	39.0	39.0	25.5	47.0	16.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	7.9	29.2	47.2	19.8	41.1	41.1	18.0	54.3	54.3	12.7	49.0	60.9
Actuated g/C Ratio	0.06	0.22	0.36	0.15	0.31	0.31	0.14	0.41	0.41	0.10	0.37	0.46
v/c Ratio	0.51	0.67	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.17	0.62
Control Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	37.3	14.6	68.7	120.8	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	37.3	14.6	68.7	120.8	23.8
LOS	E	D	B	F	E	A	F	D	B	E	F	C
Approach Delay		43.9			109.4			55.1			103.9	
Approach LOS		D			F			E			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 105 (80%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.42
 Intersection Signal Delay: 89.1
 Intersection LOS: F
 Intersection Capacity Utilization 95.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
v/c Ratio	0.51	0.67	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.17	0.62
Control Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	37.3	14.6	68.7	120.8	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	12.3	239.5	66.2	0.5	95.8	37.3	14.6	68.7	120.8	23.8
Queue Length 50th (ft)	45	218	63	~438	~500	0	~232	156	38	98	~828	240
Queue Length 95th (ft)	69	252	115	#589	#621	0	#334	183	105	139	#895	348
Internal Link Dist (ft)		790			665			1957			1025	
Turn Bay Length (ft)	270		265	280		340	300					230
Base Capacity (vph)	642	1553	638	513	1993	586	468	2636	760	676	2378	892
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.62	0.43	1.42	1.00	0.13	1.04	0.26	0.24	0.34	1.17	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

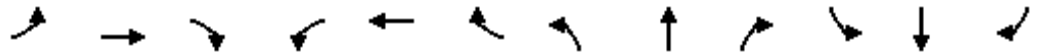


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔	↕↕↕	↔↔
Traffic Volume (vph)	360	900	40	569	1000	410	20	572	291	470	1829	1560
Future Volume (vph)	360	900	40	569	1000	410	20	572	291	470	1829	1560
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		225	450		400
Storage Lanes	3		0	3		1	1		1	1		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5055	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5055	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				99			112			477
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			888			2037	
Travel Time (s)		32.4			35.4			13.5			30.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	978	43	618	1087	446	22	622	316	511	1988	1696
Shared Lane Traffic (%)												
Lane Group Flow (vph)	391	1021	0	618	1087	446	22	622	316	511	1988	1696
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	26.0	39.0		31.0	44.0	20.0	19.0	42.0	31.0	20.0	43.0	26.0

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

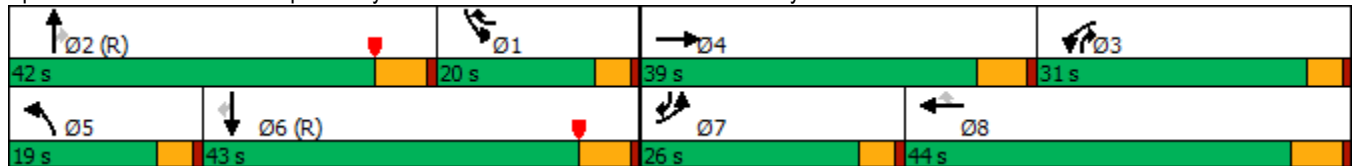


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	19.7%	29.5%		23.5%	33.3%	15.2%	14.4%	31.8%	23.5%	15.2%	32.6%	19.7%
Maximum Green (s)	21.5	33.0		26.5	38.0	15.5	14.5	36.0	26.5	15.5	37.0	21.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	22.0	33.4		25.0	36.4	52.4	7.7	41.6	70.6	16.0	54.0	80.0
Actuated g/C Ratio	0.17	0.25		0.19	0.28	0.40	0.06	0.32	0.53	0.12	0.41	0.61
v/c Ratio	0.47	0.80		0.65	0.78	0.65	0.21	0.39	0.35	1.23	0.96	0.90
Control Delay	51.9	51.1		53.0	48.1	18.8	52.5	30.6	5.7	138.1	22.0	16.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	51.1		53.0	48.1	18.8	52.5	30.6	5.7	138.1	22.0	16.9
LOS	D	D		D	D	B	D	C	A	F	C	B
Approach Delay		51.3			43.4			22.9			34.1	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.23
 Intersection Signal Delay: 38.0 Intersection LOS: D
 Intersection Capacity Utilization 87.2% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	391	1021	618	1087	446	22	622	316	511	1988	1696
v/c Ratio	0.47	0.80	0.65	0.78	0.65	0.21	0.39	0.35	1.23	0.96	0.90
Control Delay	51.9	51.1	53.0	48.1	18.8	52.5	30.6	5.7	138.1	22.0	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	51.1	53.0	48.1	18.8	52.5	30.6	5.7	138.1	22.0	16.9
Queue Length 50th (ft)	108	294	177	313	140	18	182	49	~275	~665	775
Queue Length 95th (ft)	143	349	214	356	195	m34	164	75	m#225	m#480	m634
Internal Link Dist (ft)		2060		2257			808			1957	
Turn Bay Length (ft)						250		225	450		400
Base Capacity (vph)	831	1344	1020	1540	687	201	1603	885	416	2081	1877
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.76	0.61	0.71	0.65	0.11	0.39	0.36	1.23	0.96	0.90

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	357	565	1253	1918	510
Future Volume (vph)	140	357	565	1253	1918	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		5				440
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4834	2595	
Travel Time (s)	44.4			65.9	39.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	388	614	1362	2085	554
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	388	614	1362	2085	554
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

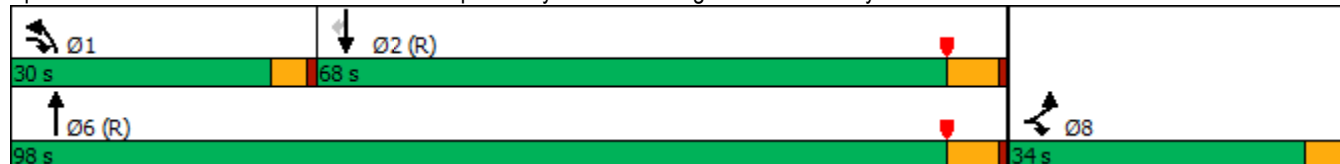


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effct Green (s)	30.0	59.8	25.8	94.0	64.2	64.2
Actuated g/C Ratio	0.23	0.45	0.20	0.71	0.49	0.49
v/c Ratio	0.38	0.31	0.92	0.54	1.21	0.56
Control Delay	46.4	23.4	66.0	10.7	125.8	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	23.4	66.0	10.7	125.8	4.8
LOS	D	C	E	B	F	A
Approach Delay	29.9			27.9	100.4	
Approach LOS	C			C	F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 77 (58%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.21
 Intersection Signal Delay: 65.2
 Intersection LOS: E
 Intersection Capacity Utilization 86.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	152	388	614	1362	2085	554
v/c Ratio	0.38	0.31	0.92	0.54	1.21	0.56
Control Delay	46.4	23.4	66.0	10.7	125.8	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	23.4	66.0	10.7	125.8	4.8
Queue Length 50th (ft)	111	115	232	480	~1182	63
Queue Length 95th (ft)	178	157	#365	97	m#1289	m61
Internal Link Dist (ft)	2848			4754	2515	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	402	1269	676	2520	1720	995
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.31	0.91	0.54	1.21	0.56

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	94	680	1218	72	490	1355
Future Volume (vph)	94	680	1218	72	490	1355
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.882	0.850		0.850		
Flt Protected	0.989				0.950	
Satd. Flow (prot)	3152	1441	3539	1583	3433	3539
Flt Permitted	0.989				0.950	
Satd. Flow (perm)	3152	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	350	350		55		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4834
Travel Time (s)	10.9		27.3			65.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	102	739	1324	78	533	1473
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	472	369	1324	78	533	1473
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/24/2023

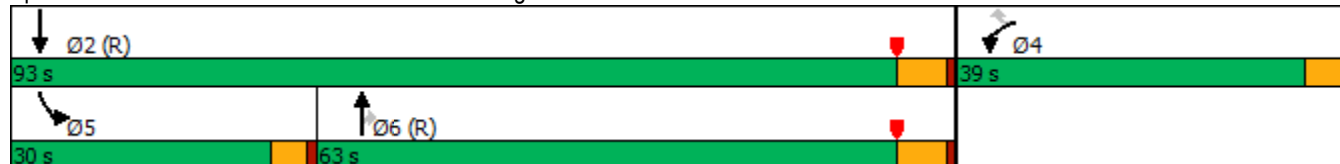


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	14.7	14.7	79.1	79.1	26.2	109.3
Actuated g/C Ratio	0.11	0.11	0.60	0.60	0.20	0.83
v/c Ratio	0.71	0.78	0.62	0.08	0.78	0.50
Control Delay	20.2	18.8	39.6	21.7	45.7	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	18.8	39.6	21.7	45.7	6.2
LOS	C	B	D	C	D	A
Approach Delay	19.6		38.6			16.7
Approach LOS	B		D			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 24.5
 Intersection LOS: C
 Intersection Capacity Utilization 68.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023























Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	472	369	1324	78	533	1473
v/c Ratio	0.71	0.78	0.62	0.08	0.78	0.50
Control Delay	20.2	18.8	39.6	21.7	45.7	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	18.8	39.6	21.7	45.7	6.2
Queue Length 50th (ft)	51	16	537	34	235	288
Queue Length 95th (ft)	96	125	695	81	m218	m159
Internal Link Dist (ft)	558		1922			4754
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1092	639	2120	970	721	2929
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.58	0.62	0.08	0.74	0.50

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	125	0	430	10	1060	181	289	1580	0
Future Volume (vph)	0	0	0	125	0	430	10	1060	181	289	1580	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	100		100	100		0
Storage Lanes	0		0	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor				0.99			1.00		0.95	0.99		
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	0	0	3433	0	1531	1770	3539	1583	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	0	0	3391	0	1531	1761	3539	1506	3407	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						467			45			
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		183			612			1314			3196	
Travel Time (s)		5.0			11.9			19.9			48.4	
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	136	0	467	11	1152	197	314	1717	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	136	0	467	11	1152	197	314	1717	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		48			48			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)				50		50	50	50	50	50	50	
Trailing Detector (ft)				0		0	0	0	0	0	0	
Detector 1 Position(ft)				0		0	0	0	0	0	0	
Detector 1 Size(ft)				50		50	50	50	50	50	50	
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type				Prot		Prot	Prot	NA	pm+ov	Prot	NA	
Protected Phases				3		9!	5	2!	3	1	6	
Permitted Phases									2			
Detector Phase				3		9	5	2	3	1	6	
Switch Phase												

Lanes, Volumes, Timings
 5: Railroad Avenue & 13th Street

01/24/2023

Lane Group	Ø8	Ø10
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	8	10
Permitted Phases		
Detector Phase		
Switch Phase		

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/24/2023

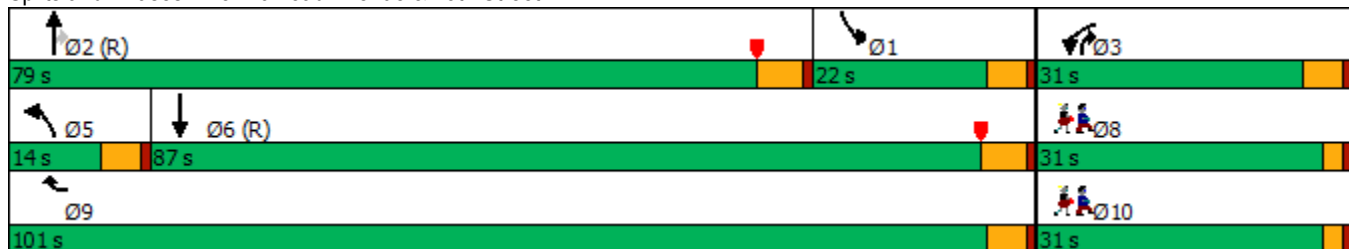


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)				10.0		9.0	9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				15.0		14.0	14.0	23.5	15.0	14.0	25.0	
Total Split (s)				31.0		101.0	14.0	79.0	31.0	22.0	87.0	
Total Split (%)				23.5%		76.5%	10.6%	59.8%	23.5%	16.7%	65.9%	
Maximum Green (s)				26.0		96.0	9.0	73.5	26.0	17.0	81.5	
Yellow Time (s)				4.0		4.0	4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0		1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				-1.0		-1.0	-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)				4.0		4.0	4.5	3.5	4.0	4.5	3.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None		None	None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				12.2		111.8	9.5	90.3	102.0	17.5	109.5	
Actuated g/C Ratio				0.09		0.85	0.07	0.68	0.77	0.13	0.83	
v/c Ratio				0.43		0.34	0.09	0.48	0.17	0.69	0.58	
Control Delay				44.9		11.8	62.6	16.3	4.4	64.9	4.5	
Queue Delay				0.0		1.0	0.0	0.0	0.0	0.0	0.0	
Total Delay				44.9		12.8	62.6	16.3	4.4	64.9	4.5	
LOS				D		B	E	B	A	E	A	
Approach Delay					20.1			14.9			13.8	
Approach LOS					C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 15.2 Intersection LOS: B
 Intersection Capacity Utilization 69.9% ICU Level of Service C
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & 13th Street



Lane Group	Ø8	Ø10
Minimum Initial (s)	7.0	4.0
Minimum Split (s)	31.0	16.0
Total Split (s)	31.0	31.0
Total Split (%)	23%	23%
Maximum Green (s)	28.0	28.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	21.0	6.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

5: Railroad Avenue & 13th Street

01/24/2023



Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	136	467	11	1152	197	314	1717
v/c Ratio	0.43	0.34	0.09	0.48	0.17	0.69	0.58
Control Delay	44.9	11.8	62.6	16.3	4.4	64.9	4.5
Queue Delay	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	12.8	62.6	16.3	4.4	64.9	4.5
Queue Length 50th (ft)	29	247	10	241	48	143	36
Queue Length 95th (ft)	48	358	m21	275	56	193	604
Internal Link Dist (ft)				1234			3116
Turn Bay Length (ft)			100		100	100	
Base Capacity (vph)	702	1368	127	2421	1233	455	2936
Starvation Cap Reductn	0	621	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.63	0.09	0.48	0.16	0.69	0.58

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations	↖↖	↙	↖↖	↑↑	↓↓	↘			
Traffic Volume (vph)	423	100	290	848	1223	482			
Future Volume (vph)	423	100	290	848	1223	482			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		109				302			
Link Speed (mph)	35			35	45				
Link Distance (ft)	374			1566	1314				
Travel Time (s)	7.3			30.5	19.9				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	460	109	315	922	1329	524			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	460	109	315	922	1329	524			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	24			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	52.0	30.0	20.0	30.0	30.0

Lanes, Volumes, Timings

6: Railroad Avenue & Lyons Avenue

01/24/2023

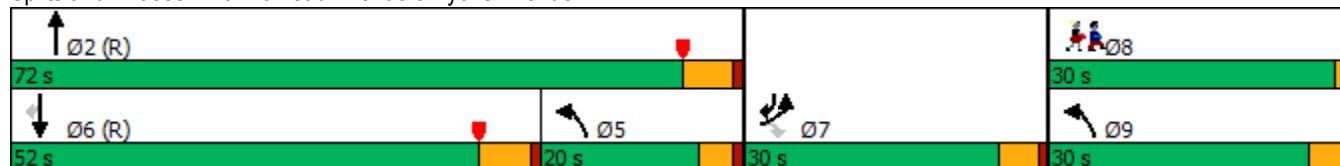


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	39.4%	22.7%	15%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	46.0	25.0	15.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effect Green (s)	24.5	24.5	23.0	86.2	68.5	93.0			
Actuated g/C Ratio	0.19	0.19	0.17	0.65	0.52	0.70			
v/c Ratio	0.72	0.29	0.53	0.40	0.72	0.44			
Control Delay	91.2	45.8	21.7	15.1	27.8	3.5			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	91.2	45.8	21.7	15.1	27.8	3.5			
LOS	F	D	C	B	C	A			
Approach Delay	82.5			16.8	20.9				
Approach LOS	F			B	C				

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	103 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	29.1
Intersection LOS:	C
Intersection Capacity Utilization	64.1%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023

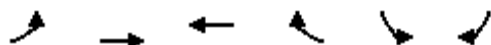


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	460	109	315	922	1329	524
v/c Ratio	0.72	0.29	0.53	0.40	0.72	0.44
Control Delay	91.2	45.8	21.7	15.1	27.8	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.2	45.8	21.7	15.1	27.8	3.5
Queue Length 50th (ft)	215	66	61	172	343	0
Queue Length 95th (ft)	273	122	78	208	490	161
Internal Link Dist (ft)	294			1486	1234	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	685	403	1092	2310	1836	1222
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.27	0.29	0.40	0.72	0.43

Intersection Summary

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

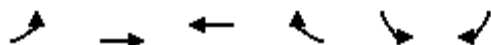
01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1120	570	1028	1243	0	
Future Volume (vph)	0	1120	570	1028	1243	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.97			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1117			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1645		1196		
Travel Time (s)		6.2	28.0		23.3		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1217	620	1117	1351	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1217	620	1117	1351	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		62.0	15.0	70.0	70.0	47.0	
Total Split (%)		47.0%	11.4%	53.0%	53.0%	36%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023

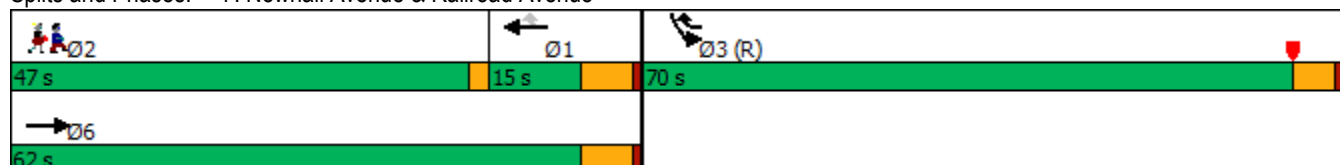


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		56.0	9.0	64.0	64.0		45.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		58.0	58.0	124.0	66.0		
Actuated g/C Ratio		0.44	0.44	0.94	0.50		
v/c Ratio		0.78	0.76	0.42	0.79		
Control Delay		36.0	16.3	2.2	8.1		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		36.0	16.3	2.2	8.1		
LOS		D	B	A	A		
Approach Delay		36.0	7.2		8.1		
Approach LOS		D	A		A		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	20 (15%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.79
Intersection Signal Delay:	15.6
Intersection LOS:	B
Intersection Capacity Utilization:	73.1%
ICU Level of Service:	D
Analysis Period (min):	15

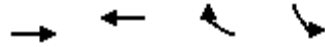
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1217	620	1117	1351
v/c Ratio	0.78	0.76	0.42	0.79
Control Delay	36.0	16.3	2.2	8.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	36.0	16.3	2.2	8.1
Queue Length 50th (ft)	461	115	37	30
Queue Length 95th (ft)	552	144	47	77
Internal Link Dist (ft)	282	1565		1116
Turn Bay Length (ft)				
Base Capacity (vph)	1555	818	2655	1716
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.78	0.76	0.42	0.79
Intersection Summary				

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↗	↑↑↑	↑↑↑		↘	↗
Traffic Volume (vph)	140	1502	1279	30	330	110
Future Volume (vph)	140	1502	1279	30	330	110
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.997			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5070	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5070	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			4			120
Link Speed (mph)		40	40		30	
Link Distance (ft)		1545	3086		2703	
Travel Time (s)		26.3	52.6		61.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	1633	1390	33	359	120
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	1633	1423	0	359	120
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	25.0	98.0	73.0		34.0	34.0

Lanes, Volumes, Timings
 8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	18.9%	74.2%	55.3%		25.8%	25.8%
Maximum Green (s)	20.5	92.0	67.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	21.0	94.8	69.8		29.2	29.2
Actuated g/C Ratio	0.16	0.72	0.53		0.22	0.22
v/c Ratio	0.54	0.45	0.53		0.92	0.27
Control Delay	59.1	9.8	10.0		62.8	7.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	59.1	9.8	10.0		62.8	7.3
LOS	E	A	A		E	A
Approach Delay		14.0	10.0		48.9	
Approach LOS		B	A		D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 50 (38%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 17.0
 Intersection LOS: B
 Intersection Capacity Utilization 61.4%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	152	1633	1423	359	120
v/c Ratio	0.54	0.45	0.53	0.92	0.27
Control Delay	59.1	9.8	10.0	62.8	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	9.8	10.0	62.8	7.3
Queue Length 50th (ft)	131	238	147	253	9
Queue Length 95th (ft)	m163	253	164	#478	m34
Internal Link Dist (ft)		1465	3006	2623	
Turn Bay Length (ft)	150				
Base Capacity (vph)	281	3653	2684	402	452
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.45	0.53	0.89	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	1282	10	810	739	216	10	130	110	554	870	270
Future Volume (vph)	190	1282	10	810	739	216	10	130	110	554	870	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		350
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4907	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4907	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			235			161		59	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3086			633			398			2854	
Travel Time (s)		52.6			10.8			9.0			64.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	1393	11	880	803	235	11	141	120	602	946	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	1393	11	880	803	235	11	141	120	602	1239	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	45.0	45.0	25.0	45.0	45.0	20.0	20.0	20.0	42.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

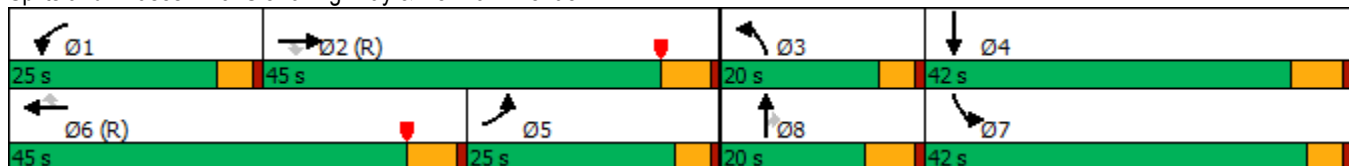


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	34.1%	34.1%	18.9%	34.1%	34.1%	15.2%	15.2%	15.2%	31.8%	31.8%	
Maximum Green (s)	20.5	39.0	39.0	20.5	39.0	39.0	15.5	14.0	14.0	37.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	41.0	41.0	21.0	41.0	41.0	6.5	12.6	10.6	41.4	53.6	
Actuated g/C Ratio	0.16	0.31	0.31	0.16	0.31	0.31	0.05	0.10	0.08	0.31	0.41	
v/c Ratio	0.38	0.88	0.02	1.61	0.51	0.36	0.07	0.42	0.44	1.08	0.61	
Control Delay	60.5	58.6	0.1	319.2	38.6	5.7	60.5	59.6	7.9	82.0	13.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.5	58.6	0.1	319.2	38.6	5.7	60.5	59.6	7.9	82.0	13.0	
LOS	E	E	A	F	D	A	E	E	A	F	B	
Approach Delay		58.5			163.3			36.8			35.6	
Approach LOS		E			F			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 121 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.61
 Intersection Signal Delay: 85.6
 Intersection LOS: F
 Intersection Capacity Utilization 95.5%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	207	1393	11	880	803	235	11	141	120	602	1239
v/c Ratio	0.38	0.88	0.02	1.61	0.51	0.36	0.07	0.42	0.44	1.08	0.61
Control Delay	60.5	58.6	0.1	319.2	38.6	5.7	60.5	59.6	7.9	82.0	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	58.6	0.1	319.2	38.6	5.7	60.5	59.6	7.9	82.0	13.0
Queue Length 50th (ft)	88	422	0	~556	206	0	4	61	0	~585	173
Queue Length 95th (ft)	m123	489	m0	#686	249	60	14	94	26	m#746	m342
Internal Link Dist (ft)		3006			553			318			2774
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1579	568	546	1579	653	416	428	311	555	2028
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.88	0.02	1.61	0.51	0.36	0.03	0.33	0.39	1.08	0.61

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Volume (vph)	0	371	1625	10	887	0	0	0	0	10	10	798
Future Volume (vph)	0	371	1625	10	887	0	0	0	0	10	10	798
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.897	0.850									0.850
Fl _t Protected				0.950							0.976	
Satd. Flow (prot)	0	3041	1441	1770	3539	0	0	0	0	0	1818	1583
Fl _t Permitted				0.950							0.976	
Satd. Flow (perm)	0	3041	1441	1770	3539	0	0	0	0	0	1818	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		633			469			446			465	
Travel Time (s)		10.8			8.0			10.1			10.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	403	1766	11	964	0	0	0	0	11	11	867
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1286	883	11	964	0	0	0	0	0	22	867
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	83.7%
ICU Level of Service	E
Analysis Period (min)	15

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	371	1625	10	887	0	0	0	0	10	10	798
Future Vol, veh/h	0	371	1625	10	887	0	0	0	0	10	10	798
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082378240	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	403	1766	11	964	0	0	0	0	11	11	867

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	403	0	0		1188	1389	-
Stage 1	-	-	-	-	-	-		986	986	-
Stage 2	-	-	-	-	-	-		202	403	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	1152	-	0		181	141	0
Stage 1	0	-	-	-	-	0		322	324	0
Stage 2	0	-	-	-	-	0		812	598	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1152	-	-		179	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		179	0	-
Stage 1	-	-	-	-	-	-		322	0	-
Stage 2	-	-	-	-	-	-		804	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	27.9
HCM LOS			D

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1152	-	179	-
HCM Lane V/C Ratio	-	-	0.009	-	0.121	-
HCM Control Delay (s)	-	-	8.2	-	27.9	0
HCM Lane LOS	-	-	A	-	D	A
HCM 95th %tile Q(veh)	-	-	0	-	0.4	-

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	390	0	0	60	0	10
Future Volume (vph)	390	0	0	60	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr _t						0.865
Fl _t Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Fl _t Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	469			639	290	
Travel Time (s)	8.0			10.9	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	424	0	0	65	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	424	0	0	65	0	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	83.7%
Analysis Period (min)	15
	ICU Level of Service E

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	390	0	0	60	0	10
Future Vol, veh/h	390	0	0	60	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	424	0	0	65	0	11

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	-	-	-	212
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	0	0	-	794
Stage 1	-	0	0	-	-
Stage 2	-	0	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	794
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	794	-	-
HCM Lane V/C Ratio	0.014	-	-
HCM Control Delay (s)	9.6	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	1229	0	0	811	582	270	10	279	0	0	0
Future Volume (vph)	180	1229	0	0	811	582	270	10	279	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.937				0.850			
Flt Protected	0.950						0.950	0.956				
Satd. Flow (prot)	1770	3539	0	0	4765	0	1681	1692	1583	0	0	0
Flt Permitted	0.950						0.950	0.956				
Satd. Flow (perm)	1770	3539	0	0	4765	0	1681	1692	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					212				85			
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		722			1900			440			464	
Travel Time (s)		12.3			32.4			10.0			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	1336	0	0	882	633	293	11	303	0	0	0
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	196	1336	0	0	1515	0	152	152	303	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

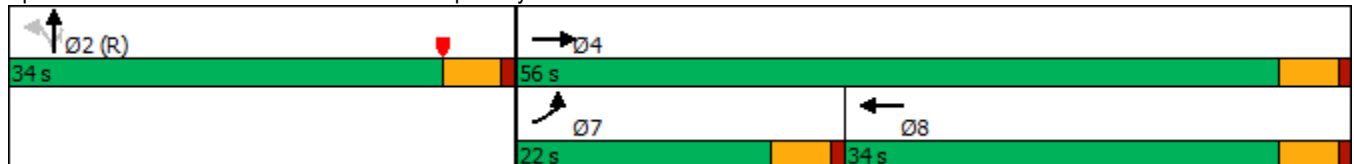


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			5.0		10.0	10.0	10.0			
Minimum Split (s)	15.0	23.0			23.0		33.0	33.0	33.0			
Total Split (s)	22.0	56.0			34.0		34.0	34.0	34.0			
Total Split (%)	24.4%	62.2%			37.8%		37.8%	37.8%	37.8%			
Maximum Green (s)	17.0	51.0			29.0		29.0	29.0	29.0			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.4	49.6			30.2		30.4	30.4	30.4			
Actuated g/C Ratio	0.16	0.55			0.34		0.34	0.34	0.34			
v/c Ratio	0.69	0.69			0.93dr		0.27	0.27	0.51			
Control Delay	48.6	16.6			31.0		24.1	24.0	21.0			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	48.6	16.6			31.0		24.1	24.0	21.0			
LOS	D	B			C		C	C	C			
Approach Delay		20.7			31.0			22.5				
Approach LOS		C			C			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 25.2
 Intersection LOS: C
 Intersection Capacity Utilization 59.6%
 ICU Level of Service B
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

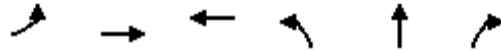
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	196	1336	1515	152	152	303
v/c Ratio	0.69	0.69	0.93dr	0.27	0.27	0.51
Control Delay	48.6	16.6	31.0	24.1	24.0	21.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	16.6	31.0	24.1	24.0	21.0
Queue Length 50th (ft)	106	258	253	67	67	99
Queue Length 95th (ft)	174	330	#356	118	118	180
Internal Link Dist (ft)		642	1820		360	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	334	2005	1740	567	571	590
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.67	0.87	0.27	0.27	0.51

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	888	130	250	803	127	200	240	200	152	400	270
Future Volume (vph)	140	888	130	250	803	127	200	240	200	152	400	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.980				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116		25				217			112
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1900			5304			887				1679
Travel Time (s)		32.4			90.4			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	965	141	272	873	138	217	261	217	165	435	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	965	141	272	1011	0	217	261	217	165	435	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

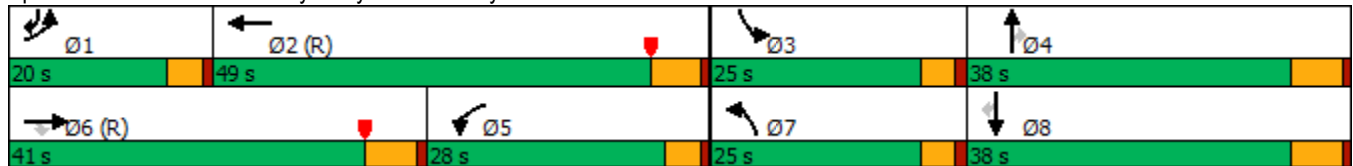
01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	41.0	41.0	28.0	49.0		25.0	38.0	38.0	25.0	38.0	20.0
Total Split (%)	15.2%	31.1%	31.1%	21.2%	37.1%		18.9%	28.8%	28.8%	18.9%	28.8%	15.2%
Maximum Green (s)	15.5	35.0	35.0	23.5	43.0		20.5	32.0	32.0	20.5	32.0	15.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	12.3	47.9	47.9	24.0	59.6		20.1	26.3	26.3	17.8	24.0	40.3
Actuated g/C Ratio	0.09	0.36	0.36	0.18	0.45		0.15	0.20	0.20	0.13	0.18	0.31
v/c Ratio	0.51	0.81	0.23	0.91	0.45		0.86	0.40	0.46	0.74	0.70	0.52
Control Delay	62.7	45.0	9.3	67.1	10.2		85.3	47.6	8.8	74.4	56.6	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	45.0	9.3	67.1	10.2		85.3	47.6	8.8	74.4	56.6	25.2
LOS	E	D	A	E	B		F	D	A	E	E	C
Approach Delay		43.1			22.2			47.3			49.6	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 38.7
 Intersection LOS: D
 Intersection Capacity Utilization 73.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	965	141	272	1011	217	261	217	165	435	293
v/c Ratio	0.51	0.81	0.23	0.91	0.45	0.86	0.40	0.46	0.74	0.70	0.52
Control Delay	62.7	45.0	9.3	67.1	10.2	85.3	47.6	8.8	74.4	56.6	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	45.0	9.3	67.1	10.2	85.3	47.6	8.8	74.4	56.6	25.2
Queue Length 50th (ft)	64	394	14	229	167	182	103	0	136	185	126
Queue Length 95th (ft)	98	#550	65	#400	164	#318	142	68	213	233	195
Internal Link Dist (ft)		1820			5224		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	389	1197	609	300	2264	262	850	541	262	881	603
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.81	0.23	0.91	0.45	0.83	0.31	0.40	0.63	0.49	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	1090	60	127	1089	387	110	120	122	502	90	230
Future Volume (vph)	200	1090	60	127	1089	387	110	120	122	502	90	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			227			133			250
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5304			2371			465				790
Travel Time (s)		103.3			46.2			9.1				12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1185	65	138	1184	421	120	130	133	546	98	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	217	1185	65	138	1184	421	120	130	133	546	98	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

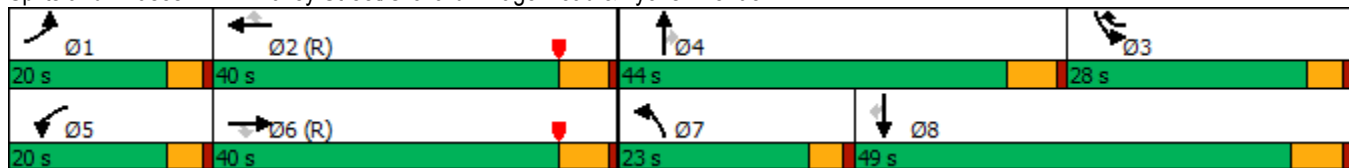


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	14.7	57.9	57.9	17.0	60.2	88.9	14.9	12.5	12.5	28.7	26.2	26.2
Actuated g/C Ratio	0.11	0.44	0.44	0.13	0.46	0.67	0.11	0.09	0.09	0.22	0.20	0.20
v/c Ratio	0.61	0.82	0.09	0.65	0.67	0.34	0.65	0.40	0.53	0.73	0.27	0.50
Control Delay	57.0	59.1	6.7	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	59.1	6.7	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
LOS	E	E	A	E	D	A	E	E	B	D	D	A
Approach Delay		56.5			31.6			48.4			40.4	
Approach LOS		E			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 42.9
 Intersection LOS: D
 Intersection Capacity Utilization 68.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	217	1185	65	138	1184	421	120	130	133	546	98	250
v/c Ratio	0.61	0.82	0.09	0.65	0.67	0.34	0.65	0.40	0.53	0.73	0.27	0.50
Control Delay	57.0	59.1	6.7	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	59.1	6.7	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
Queue Length 50th (ft)	100	547	3	101	550	61	99	56	0	226	72	0
Queue Length 95th (ft)	m129	#766	m16	m110	m627	m185	162	87	62	272	119	69
Internal Link Dist (ft)		5224			2291			385			710	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	402	1448	755	229	1775	1250	237	1036	508	754	613	686
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.82	0.09	0.60	0.67	0.34	0.51	0.13	0.26	0.72	0.16	0.36

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	593	950	60	732	30	580	110	40	40	170	190
Future Volume (vph)	130	593	950	60	732	30	580	110	40	40	170	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1616	3539	1468	1637	3539	1356	3132	1863	1471	1671	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			383			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2371			962			528				401
Travel Time (s)		46.2			18.7			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	645	1033	65	796	33	630	120	43	43	185	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	645	1033	65	796	33	630	120	43	43	185	207
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

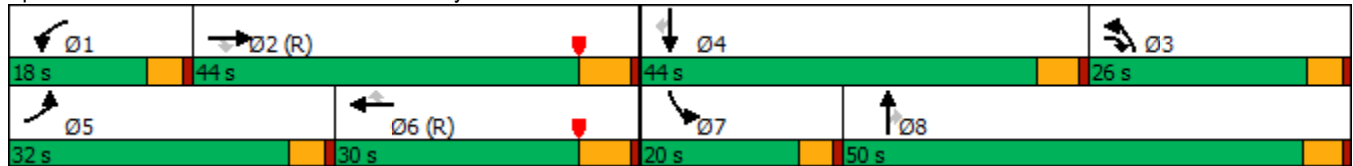


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	32.0	44.0	26.0	18.0	30.0	30.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	24.2%	33.3%	19.7%	13.6%	22.7%	22.7%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	27.5	38.0	21.5	13.5	24.0	24.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		32.0	32.0		32.0	32.0
Pedestrian Calls (#/hr)		27			27	27		43	43		43	43
Act Effct Green (s)	17.1	45.4	72.7	10.8	36.9	36.9	27.3	54.8	54.8	9.2	34.7	34.7
Actuated g/C Ratio	0.13	0.34	0.55	0.08	0.28	0.28	0.21	0.42	0.42	0.07	0.26	0.26
v/c Ratio	0.66	0.53	1.04	0.49	0.80	0.07	0.92	0.16	0.06	0.36	0.39	0.44
Control Delay	69.2	28.2	55.0	77.8	45.5	0.5	71.2	26.4	0.2	66.1	41.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2	28.2	55.0	77.8	45.5	0.5	71.2	26.4	0.2	66.1	41.0	15.5
LOS	E	C	E	E	D	A	E	C	A	E	D	B
Approach Delay		46.6			46.2			60.6			31.3	
Approach LOS		D			D			E			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 49 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 47.7 Intersection LOS: D
 Intersection Capacity Utilization 100.1% ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	141	645	1033	65	796	33	630	120	43	43	185	207
v/c Ratio	0.66	0.53	1.04	0.49	0.80	0.07	0.92	0.16	0.06	0.36	0.39	0.44
Control Delay	69.2	28.2	55.0	77.8	45.5	0.5	71.2	26.4	0.2	66.1	41.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2	28.2	55.0	77.8	45.5	0.5	71.2	26.4	0.2	66.1	41.0	15.5
Queue Length 50th (ft)	104	231	~624	56	365	0	~324	65	0	36	123	42
Queue Length 95th (ft)	m140	229	#895	96	#493	1	#444	114	0	74	191	113
Internal Link Dist (ft)		2291			882			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	350	1217	993	175	990	501	687	773	690	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.53	1.04	0.37	0.80	0.07	0.92	0.16	0.06	0.21	0.34	0.40

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	77	190	17	44	0	420	23	35	0	13	92
Future Volume (vph)	163	77	190	17	44	0	420	23	35	0	13	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.910				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3221	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	3433	3221	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			207					38				132
Link Speed (mph)		35			30			25				30
Link Distance (ft)		612			408			505				500
Travel Time (s)		11.9			9.3			13.8				11.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	84	207	18	48	0	457	25	38	0	14	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	84	207	18	48	0	457	63	0	0	14	100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				36
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Over	Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023

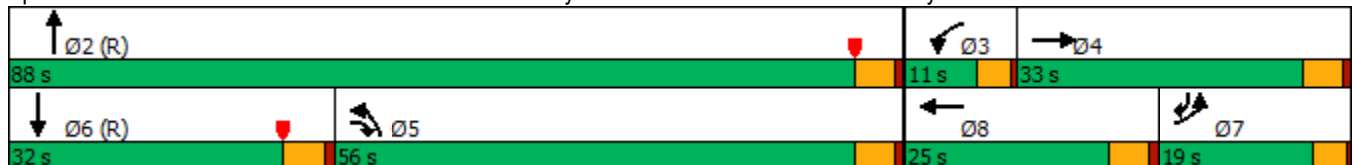


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	21.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	19.0	33.0	56.0	11.0	25.0		56.0	88.0			32.0	19.0
Total Split (%)	14.4%	25.0%	42.4%	8.3%	18.9%		42.4%	66.7%			24.2%	14.4%
Maximum Green (s)	15.0	28.0	51.0	7.0	20.0		51.0	83.0			27.0	15.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	12.6	19.6	51.0	6.4	10.4		51.0	98.0			42.0	12.6
Actuated g/C Ratio	0.10	0.15	0.39	0.05	0.08		0.39	0.74			0.32	0.10
v/c Ratio	0.54	0.30	0.17	0.21	0.33		0.34	0.03			0.01	0.37
Control Delay	64.8	53.8	0.3	65.9	63.6		29.6	2.9			34.5	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	64.8	53.8	0.3	65.9	63.6		29.6	2.9			34.5	7.6
LOS	E	D	A	E	E		C	A			C	A
Approach Delay		34.3			64.2			26.4			10.9	
Approach LOS		C			E			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 10 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 30.2
 Intersection LOS: C
 Intersection Capacity Utilization 38.3%
 ICU Level of Service A
 Analysis Period (min) 15

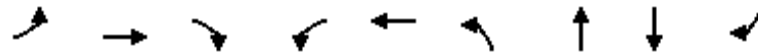
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	177	84	207	18	48	457	63	14	100
v/c Ratio	0.54	0.30	0.17	0.21	0.33	0.34	0.03	0.01	0.37
Control Delay	64.8	53.8	0.3	65.9	63.6	29.6	2.9	34.5	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.8	53.8	0.3	65.9	63.6	29.6	2.9	34.5	7.6
Queue Length 50th (ft)	83	69	0	15	40	141	2	4	0
Queue Length 95th (ft)	m121	m115	1	42	81	186	10	13	27
Internal Link Dist (ft)		532			328		425	420	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	392	395	1203	93	282	1326	2401	1126	297
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.21	0.17	0.19	0.17	0.34	0.03	0.01	0.34

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Traffic Volume (vph)	30	10	30	140	20	124	40	324	199	40	171	10
Future Volume (vph)	30	10	30	140	20	124	40	324	199	40	171	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	200		0
Storage Lanes	0		1	0		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Frt			0.850			0.850		0.943			0.992	
Flt Protected		0.964			0.958		0.950			0.950		
Satd. Flow (prot)	0	1796	1583	0	1785	1583	1770	3337	0	1770	5045	0
Flt Permitted		0.698			0.722		0.950			0.950		
Satd. Flow (perm)	0	1300	1583	0	1345	1583	1770	3337	0	1770	5045	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			74			135		116			9	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		391			842			164			505	
Travel Time (s)		10.7			23.0			2.5			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	11	33	152	22	135	43	352	216	43	186	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	33	0	174	135	43	568	0	43	197	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4		4						

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0		20.0	20.0	
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	19.0	55.0		26.0	62.0	
Total Split (%)	38.6%	38.6%	38.6%	38.6%	38.6%	38.6%	14.4%	41.7%		19.7%	47.0%	
Maximum Green (s)	47.0	47.0	47.0	47.0	47.0	47.0	15.0	51.0		22.0	58.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		Max	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0			5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		18.7	18.7		18.7	18.7	7.9	51.1		22.1	69.5	
Actuated g/C Ratio		0.18	0.18		0.18	0.18	0.08	0.49		0.21	0.67	
v/c Ratio		0.19	0.10		0.72	0.34	0.32	0.33		0.11	0.06	
Control Delay		37.1	0.7		57.0	8.5	53.0	13.8		36.2	7.7	
Queue Delay		0.0	0.0		0.0	0.0	0.2	21.4		0.0	0.0	
Total Delay		37.1	0.7		57.0	8.5	53.2	35.2		36.2	7.7	
LOS		D	A		E	A	D	D		D	A	
Approach Delay		21.5			35.8			36.5			12.8	
Approach LOS		C			D			D			B	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	103.9
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	30.8
Intersection LOS:	C
Intersection Capacity Utilization:	44.1%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 17: Dockweiler Drive/Arch Street & 12th Street



Queues

17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	44	33	174	135	43	568	43	197
v/c Ratio	0.19	0.10	0.72	0.34	0.32	0.33	0.11	0.06
Control Delay	37.1	0.7	57.0	8.5	53.0	13.8	36.2	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.2	21.4	0.0	0.0
Total Delay	37.1	0.7	57.0	8.5	53.2	35.2	36.2	7.7
Queue Length 50th (ft)	25	0	110	0	27	89	23	16
Queue Length 95th (ft)	56	2	183	49	66	150	58	34
Internal Link Dist (ft)	311		762			84		425
Turn Bay Length (ft)							200	
Base Capacity (vph)	589	758	610	791	256	1701	375	3379
Starvation Cap Reductn	0	0	0	0	43	1135	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.04	0.29	0.17	0.20	1.00	0.11	0.06

Intersection Summary

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Lane Configurations										
Traffic Volume (vph)	70	133	431	140	84	267				
Future Volume (vph)	70	133	431	140	84	267				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	100	0		0	0					
Storage Lanes	1	1		0	1					
Taper Length (ft)	25				25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95				
Frt		0.850	0.967							
Flt Protected	0.950				0.950					
Satd. Flow (prot)	1770	1583	1801	0	1770	3539				
Flt Permitted	0.950				0.950					
Satd. Flow (perm)	1770	1583	1801	0	1770	3539				
Right Turn on Red		Yes		Yes						
Satd. Flow (RTOR)		145	13							
Link Speed (mph)	30		45			45				
Link Distance (ft)	1101		354			164				
Travel Time (s)	25.0		5.4			2.5				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Adj. Flow (vph)	76	145	468	152	91	290				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	76	145	620	0	91	290				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Right	Left	Left				
Median Width(ft)	12		12			12				
Link Offset(ft)	0		0			0				
Crosswalk Width(ft)	16		16			16				
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)	15	9		9	15					
Number of Detectors	1	1	2		1	2				
Detector Template	Left	Right	Thru		Left	Thru				
Leading Detector (ft)	20	20	100		20	100				
Trailing Detector (ft)	0	0	0		0	0				
Detector 1 Position(ft)	0	0	0		0	0				
Detector 1 Size(ft)	20	20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0				
Detector 2 Position(ft)			94			94				
Detector 2 Size(ft)			6			6				
Detector 2 Type			Cl+Ex			Cl+Ex				
Detector 2 Channel										
Detector 2 Extend (s)			0.0			0.0				
Turn Type	Prot	Perm	NA		Prot	NA				
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8
Permitted Phases		7 8								

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023

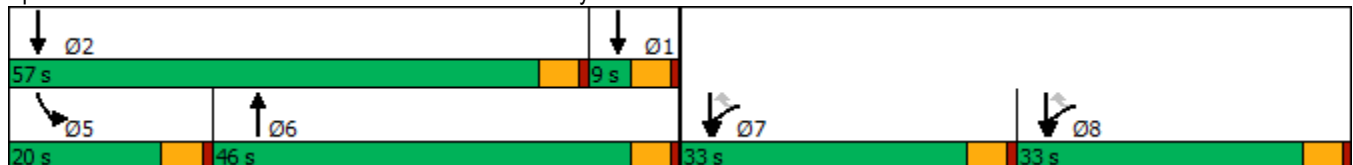


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		9.0	23.0	33.0	33.0
Total Split (s)			46.0		20.0		9.0	57.0	33.0	33.0
Total Split (%)			34.8%		15.2%		7%	43%	25%	25%
Maximum Green (s)			41.0		15.0		4.0	52.0	28.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lag	Lead	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Min	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	20.5	20.5	41.5		9.7	84.1				
Actuated g/C Ratio	0.24	0.24	0.49		0.12	1.00				
v/c Ratio	0.18	0.29	0.69		0.44	0.08				
Control Delay	27.8	6.6	23.5		43.8	0.0				
Queue Delay	0.0	0.0	0.0		0.8	0.0				
Total Delay	27.8	6.6	23.5		44.6	0.0				
LOS	C	A	C		D	A				
Approach Delay	13.9		23.5			10.7				
Approach LOS	B		C			B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 84.1
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 17.8
 Intersection LOS: B
 Intersection Capacity Utilization 52.2%
 ICU Level of Service A
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

01/24/2023
























Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	76	145	620	91	290
v/c Ratio	0.18	0.29	0.69	0.44	0.08
Control Delay	27.8	6.6	23.5	43.8	0.0
Queue Delay	0.0	0.0	0.0	0.8	0.0
Total Delay	27.8	6.6	23.5	44.6	0.0
Queue Length 50th (ft)	33	0	244	46	0
Queue Length 95th (ft)	71	44	#467	98	0
Internal Link Dist (ft)	1021		274		84
Turn Bay Length (ft)	100				
Base Capacity (vph)	891	869	896	319	3539
Starvation Cap Reductn	0	0	0	88	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.17	0.69	0.39	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
19: Valle Del Oro & Dockweiler Drive

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	327	20	390	551	10	10	10	270	10	10	10
Future Volume (vph)	10	327	20	390	551	10	10	10	270	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	100		100	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.874			0.955	
Flt Protected	0.950			0.950				0.998			0.984	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1625	0	0	1750	0
Flt Permitted	0.312			0.485				0.993			0.890	
Satd. Flow (perm)	581	1863	1583	903	1863	1583	0	1617	0	0	1583	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			22			8		293			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5199			3882			2703			372	
Travel Time (s)		118.2			88.2			61.4			8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	355	22	424	599	11	11	11	293	11	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	355	22	424	599	11	0	315	0	0	33	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		6			

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

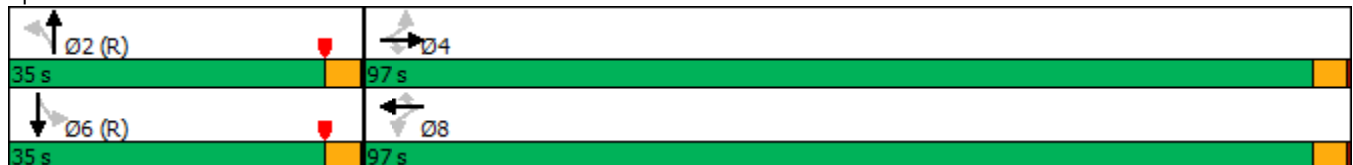


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	97.0	97.0	97.0	97.0	97.0	97.0	35.0	35.0		35.0	35.0	
Total Split (%)	73.5%	73.5%	73.5%	73.5%	73.5%	73.5%	26.5%	26.5%		26.5%	26.5%	
Maximum Green (s)	93.0	93.0	93.0	93.0	93.0	93.0	31.0	31.0		31.0	31.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	78.7	78.7	78.7	78.7	78.7	78.7		45.3			45.3	
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.60	0.60		0.34			0.34	
v/c Ratio	0.03	0.32	0.02	0.79	0.54	0.01		0.42			0.06	
Control Delay	7.0	13.1	2.2	24.2	12.9	0.6		3.5			28.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	7.0	13.1	2.2	24.2	12.9	0.6		3.5			28.1	
LOS	A	B	A	C	B	A		A			C	
Approach Delay		12.3			17.4			3.5			28.1	
Approach LOS		B			B			A			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 14.0
 Intersection LOS: B
 Intersection Capacity Utilization 66.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 19: Valle Del Oro & Dockweiler Drive



Queues

19: Valle Del Oro & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	355	22	424	599	11	315	33
v/c Ratio	0.03	0.32	0.02	0.79	0.54	0.01	0.42	0.06
Control Delay	7.0	13.1	2.2	24.2	12.9	0.6	3.5	28.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.0	13.1	2.2	24.2	12.9	0.6	3.5	28.1
Queue Length 50th (ft)	3	133	0	231	218	1	12	13
Queue Length 95th (ft)	9	142	8	329	212	m0	34	43
Internal Link Dist (ft)		5119			3802		2623	292
Turn Bay Length (ft)	100		100	100		100		
Base Capacity (vph)	409	1312	1121	636	1312	1117	747	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.27	0.02	0.67	0.46	0.01	0.42	0.06

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	417	319	269	318	1374	592
Future Volume (vph)	417	319	269	318	1374	592
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.974	0.850				0.850
Flt Protected	0.960		0.950			
Satd. Flow (prot)	3379	1441	1770	3539	3539	1583
Flt Permitted	0.960		0.950			
Satd. Flow (perm)	3379	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	18	250				290
Link Speed (mph)	30			50	50	
Link Distance (ft)	3882			2854	2872	
Travel Time (s)	88.2			38.9	39.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	453	347	292	346	1493	643
Shared Lane Traffic (%)		28%				
Lane Group Flow (vph)	550	250	292	346	1493	643
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023

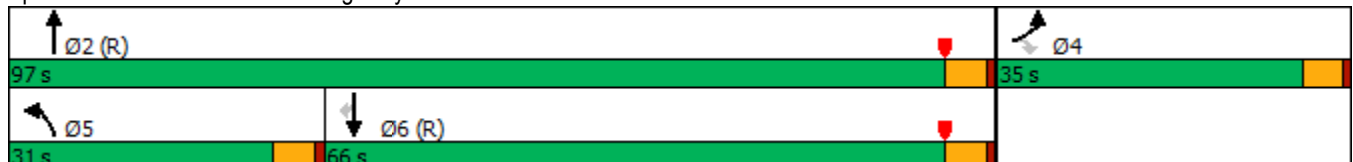


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	21.0	21.0	30.0	30.0
Total Split (s)	35.0	35.0	31.0	97.0	66.0	66.0
Total Split (%)	26.5%	26.5%	23.5%	73.5%	50.0%	50.0%
Maximum Green (s)	30.0	30.0	26.0	92.0	61.0	61.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	25.9	25.9	30.1	96.1	61.0	61.0
Actuated g/C Ratio	0.20	0.20	0.23	0.73	0.46	0.46
v/c Ratio	0.81	0.52	0.72	0.13	0.91	0.72
Control Delay	56.6	14.1	36.8	3.6	36.8	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	14.1	36.8	3.6	36.8	19.7
LOS	E	B	D	A	D	B
Approach Delay	43.3			18.8	31.6	
Approach LOS	D			B	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 31.9
 Intersection LOS: C
 Intersection Capacity Utilization 80.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	550	250	292	346	1493	643
v/c Ratio	0.81	0.52	0.72	0.13	0.91	0.72
Control Delay	56.6	14.1	36.8	3.6	36.8	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	14.1	36.8	3.6	36.8	19.7
Queue Length 50th (ft)	228	54	188	18	470	242
Queue Length 95th (ft)	286	100	#362	53	m548	m290
Internal Link Dist (ft)	3802			2774	2792	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	781	520	403	2576	1635	887
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.48	0.72	0.13	0.91	0.72

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	47	14	380	38	680	28	413	214	550	1591	69
Future Volume (vph)	19	47	14	380	38	680	28	413	214	550	1591	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		0	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.729			0.722			0.950			0.950		
Satd. Flow (perm)	1358	3539	1583	1345	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			715			233			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		715			720			2872			794	
Travel Time (s)		10.8			10.9			39.2			10.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	51	15	413	41	739	30	449	233	598	1729	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	51	15	413	41	739	30	449	233	598	1729	75
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8			6			2

Lanes, Volumes, Timings

21: Sierra Highway & Placerita Canyon Road

01/24/2023

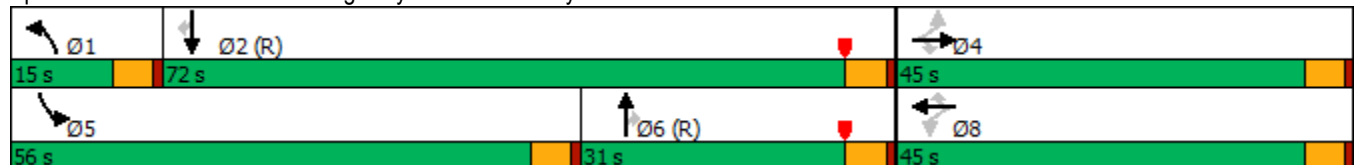


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.0	21.0	21.0	37.0	37.0	37.0	15.0	21.0	21.0	15.0	39.0	39.0
Total Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	15.0	31.0	31.0	56.0	72.0	72.0
Total Split (%)	34.1%	34.1%	34.1%	34.1%	34.1%	34.1%	11.4%	23.5%	23.5%	42.4%	54.5%	54.5%
Maximum Green (s)	40.0	40.0	40.0	40.0	40.0	40.0	10.0	26.0	26.0	51.0	67.0	67.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	40.0	40.0	40.0	40.0	40.0	40.0	10.0	29.1	29.1	47.9	73.0	73.0
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30	0.30	0.08	0.22	0.22	0.36	0.55	0.55
v/c Ratio	0.05	0.05	0.03	1.01	0.04	0.76	0.22	0.57	0.44	0.93	0.88	0.08
Control Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.6	49.3	24.2	53.2	28.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Total Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.6	49.3	24.2	53.2	30.0	3.8
LOS	C	C	A	F	C	A	E	D	C	D	C	A
Approach Delay		27.2			39.2			41.7			35.0	
Approach LOS		C			D			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 37.0
 Intersection LOS: D
 Intersection Capacity Utilization 92.5%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	51	15	413	41	739	30	449	233	598	1729	75
v/c Ratio	0.05	0.05	0.03	1.01	0.04	0.76	0.22	0.57	0.44	0.93	0.88	0.08
Control Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.6	49.3	24.2	53.2	28.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Total Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.6	49.3	24.2	53.2	30.0	3.8
Queue Length 50th (ft)	13	16	0	~363	13	15	17	211	100	474	733	11
Queue Length 95th (ft)	34	32	0	#578	27	149	m37	270	169	#683	#918	m14
Internal Link Dist (ft)		635			640			2792			714	
Turn Bay Length (ft)			150			150	150			375		150
Base Capacity (vph)	411	1072	548	407	1072	978	134	781	530	683	1957	901
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	79	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.05	0.03	1.01	0.04	0.76	0.22	0.57	0.44	0.88	0.92	0.08

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	39	40	907	324	1210	2231
Future Volume (vph)	39	40	907	324	1210	2231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		0	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Frt		0.850	0.961			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3401	0	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3401	0	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		43	45			
Link Speed (mph)	30		50			50
Link Distance (ft)	717		794			675
Travel Time (s)	16.3		10.8			9.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	43	986	352	1315	2425
Shared Lane Traffic (%)						
Lane Group Flow (vph)	42	43	1338	0	1315	2425
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

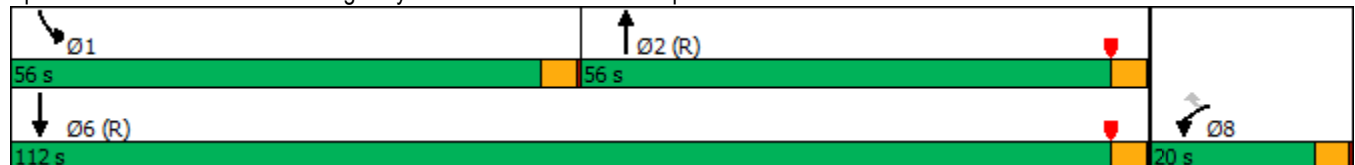


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		8.0	20.0
Total Split (s)	20.0	20.0	56.0		56.0	112.0
Total Split (%)	15.2%	15.2%	42.4%		42.4%	84.8%
Maximum Green (s)	16.0	16.0	52.0		52.0	108.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	8.5	8.5	57.2		56.2	118.2
Actuated g/C Ratio	0.06	0.06	0.43		0.43	0.90
v/c Ratio	0.37	0.30	0.89		0.90	0.77
Control Delay	67.4	21.6	37.7		44.7	5.4
Queue Delay	0.0	0.0	0.0		0.0	0.5
Total Delay	67.4	21.6	37.7		44.7	5.8
LOS	E	C	D		D	A
Approach Delay	44.2		37.7			19.5
Approach LOS	D		D			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 24.6
 Intersection LOS: C
 Intersection Capacity Utilization 83.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR-14 Southbound Ramps



Queues

22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	42	43	1338	1315	2425
v/c Ratio	0.37	0.30	0.89	0.90	0.77
Control Delay	67.4	21.6	37.7	44.7	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.5
Total Delay	67.4	21.6	37.7	44.7	5.8
Queue Length 50th (ft)	35	0	412	507	297
Queue Length 95th (ft)	74	38	#707	637	467
Internal Link Dist (ft)	637		714		595
Turn Bay Length (ft)				160	
Base Capacity (vph)	214	229	1498	1463	3167
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	297
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.19	0.89	0.90	0.84

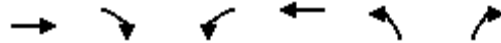
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	220	0	0	790	448	100
Future Volume (vph)	220	0	0	790	448	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	720			392	651	
Travel Time (s)	10.9			5.9	14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	0	0	859	487	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	0	0	859	487	109
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	53.3%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
 23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023

Intersection						
Int Delay, s/veh	46.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	220	0	0	790	448	100
Future Vol, veh/h	220	0	0	790	448	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	239	0	0	859	487	109

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	669 120
Stage 1	-	-	-	-	239 -
Stage 2	-	-	-	-	430 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	~ 391 909
Stage 1	-	0	0	-	778 -
Stage 2	-	0	0	-	624 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	~ 391 909
Mov Cap-2 Maneuver	-	-	-	-	~ 391 -
Stage 1	-	-	-	-	778 -
Stage 2	-	-	-	-	624 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	132.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	391	909	-	-
HCM Lane V/C Ratio	1.245	0.12	-	-
HCM Control Delay (s)	160	9.5	-	-
HCM Lane LOS	F	A	-	-
HCM 95th %tile Q(veh)	20.8	0.4	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	820	1800	360	390	1320	430	450	1969	650	410	1530	230
Future Volume (vph)	820	1800	360	390	1320	430	450	1969	650	410	1530	230
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	300		230
Storage Lanes	3		1	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	1583	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62			295			299			99
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			1975			1020	
Travel Time (s)		13.2			11.3			29.9			15.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	25.0	39.0	26.0	22.0	36.0	36.0	26.0	45.0	45.0	26.0	45.0	25.0

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

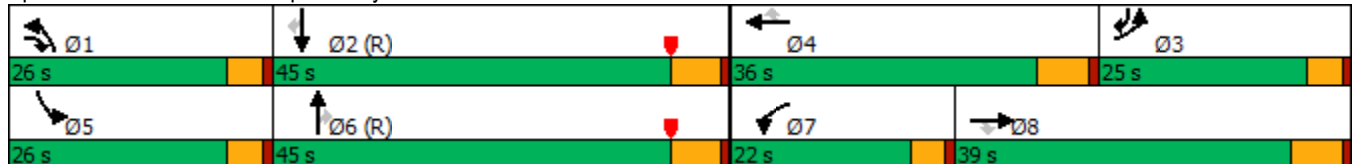


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	29.5%	19.7%	16.7%	27.3%	27.3%	19.7%	34.1%	34.1%	19.7%	34.1%	18.9%
Maximum Green (s)	20.5	33.0	21.5	17.5	30.0	30.0	21.5	39.0	39.0	21.5	39.0	20.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	21.0	35.4	60.3	17.6	32.0	32.0	20.9	43.0	43.0	20.0	42.1	63.1
Actuated g/C Ratio	0.16	0.27	0.46	0.13	0.24	0.24	0.16	0.33	0.33	0.15	0.32	0.48
v/c Ratio	1.12	1.14	0.52	0.92	0.92	0.77	0.90	1.02	0.99	0.86	0.81	0.31
Control Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.7	38.6	24.1	71.2	45.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.7	38.6	24.1	71.2	45.5	7.5
LOS	F	F	C	F	E	C	E	D	C	E	D	A
Approach Delay		105.3			57.2			41.0			46.3	
Approach LOS		F			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 55 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 64.0
 Intersection LOS: E
 Intersection Capacity Utilization 90.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
v/c Ratio	1.12	1.14	0.52	0.92	0.92	0.77	0.90	1.02	0.99	0.86	0.81	0.31
Control Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.7	38.6	24.1	71.2	45.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	23.8	83.3	59.6	26.1	75.7	38.6	24.1	71.2	45.5	7.5
Queue Length 50th (ft)	~311	~572	194	187	350	142	230	~591	~516	192	385	40
Queue Length 95th (ft)	#400	#647	290	#281	#417	285	m196	m293	m101	251	433	70
Internal Link Dist (ft)		790			665			1895			940	
Turn Bay Length (ft)	270		265	280		340	300			300		230
Base Capacity (vph)	793	1716	768	468	1553	607	572	2088	717	572	2043	808
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	1.14	0.51	0.91	0.92	0.77	0.85	1.02	0.99	0.78	0.81	0.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔↔	↕↕↕	↔↔↔
Traffic Volume (vph)	1040	1620	10	395	990	160	20	2139	619	220	1550	590
Future Volume (vph)	1040	1620	10	395	990	160	20	2139	619	220	1550	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.88
Fr't		0.999				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5080	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5080	0	4990	5085	1583	1770	5085	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				124			112			562
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			3555			1975	
Travel Time (s)		32.4			35.4			53.9			29.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1130	1761	11	429	1076	174	22	2325	673	239	1685	641
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1130	1772	0	429	1076	174	22	2325	673	239	1685	641
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			48			48	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	40.0	48.0		22.0	30.0	20.0	18.0	42.0	22.0	20.0	44.0	40.0
Total Split (%)	30.3%	36.4%		16.7%	22.7%	15.2%	13.6%	31.8%	16.7%	15.2%	33.3%	30.3%
Maximum Green (s)	35.5	42.0		17.5	24.0	15.5	13.5	36.0	17.5	15.5	38.0	35.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

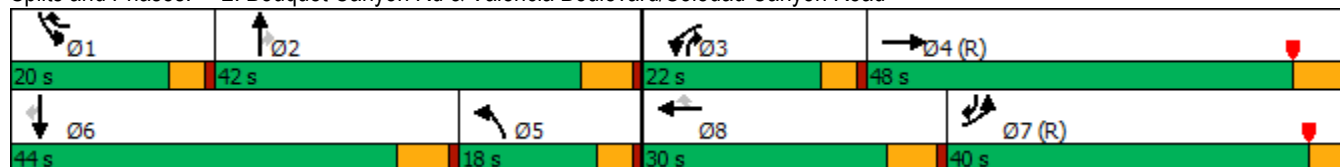


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	None	None	None	Max	None	None	None	C-Max
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effect Green (s)	36.0	44.8		17.2	26.0	40.3	10.9	39.7	60.9	14.3	47.2	87.2
Actuated g/C Ratio	0.27	0.34		0.13	0.20	0.31	0.08	0.30	0.46	0.11	0.36	0.66
v/c Ratio	0.83	1.03		0.66	1.07	0.31	0.15	1.52	0.85	0.64	0.93	0.32
Control Delay	51.5	71.5		59.9	100.4	6.9	53.4	266.1	28.5	48.2	51.8	2.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	71.5		59.9	100.4	6.9	53.4	266.1	28.5	48.2	51.8	2.3
LOS	D	E		E	F	A	D	F	C	D	D	A
Approach Delay		63.7			80.4			211.6				39.1
Approach LOS		E			F			F				D

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 92 (70%), Referenced to phase 4:EBT and 7:EBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.52
 Intersection Signal Delay: 104.2 Intersection LOS: F
 Intersection Capacity Utilization 100.0% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1130	1772	429	1076	174	22	2325	673	239	1685	641
v/c Ratio	0.83	1.03	0.66	1.07	0.31	0.15	1.52	0.85	0.64	0.93	0.32
Control Delay	51.5	71.5	59.9	100.4	6.9	53.4	266.1	28.5	48.2	51.8	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	71.5	59.9	100.4	6.9	53.4	266.1	28.5	48.2	51.8	2.3
Queue Length 50th (ft)	324	~603	124	~374	15	17	~1030	460	105	~611	42
Queue Length 95th (ft)	380	#701	163	#469	41	m18	m#909	m452	m130	#705	m45
Internal Link Dist (ft)		2060		2257			3475			1895	
Turn Bay Length (ft)											
Base Capacity (vph)	1360	1726	680	1001	588	187	1530	799	416	1818	2031
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	1.03	0.63	1.07	0.30	0.12	1.52	0.84	0.57	0.93	0.32

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	740	941	817	1958	1795	450
Future Volume (vph)	740	941	817	1958	1795	450
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		7				414
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4671	3555	
Travel Time (s)	44.4			63.7	53.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	804	1023	888	2128	1951	489
Shared Lane Traffic (%)						
Lane Group Flow (vph)	804	1023	888	2128	1951	489
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

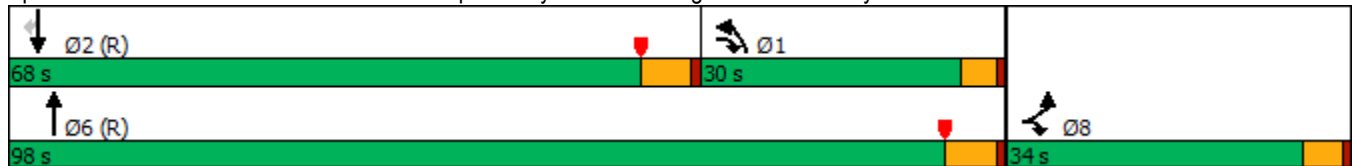


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	30.0	60.0	26.0	94.0	64.0	64.0
Actuated g/C Ratio	0.23	0.45	0.20	0.71	0.48	0.48
v/c Ratio	2.00	0.81	1.31	0.84	1.14	0.50
Control Delay	486.5	36.8	182.9	9.3	91.9	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	486.5	36.8	182.9	9.3	91.9	3.1
LOS	F	D	F	A	F	A
Approach Delay	234.7			60.4	74.1	
Approach LOS	F			E	E	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.00
 Intersection Signal Delay: 108.8
 Intersection LOS: F
 Intersection Capacity Utilization 123.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	804	1023	888	2128	1951	489
v/c Ratio	2.00	0.81	1.31	0.84	1.14	0.50
Control Delay	486.5	36.8	182.9	9.3	91.9	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	486.5	36.8	182.9	9.3	91.9	3.1
Queue Length 50th (ft)	~1072	418	~513	233	~1052	36
Queue Length 95th (ft)	#1319	520	m#574	m282	#1192	m46
Internal Link Dist (ft)	2848			4591	3475	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	402	1270	676	2520	1715	980
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.00	0.81	1.31	0.84	1.14	0.50

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	103	790	1465	104	890	1915
Future Volume (vph)	103	790	1465	104	890	1915
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.881	0.850		0.850		
Flt Protected	0.990				0.950	
Satd. Flow (prot)	3152	1441	3539	1583	3433	3539
Flt Permitted	0.990				0.950	
Satd. Flow (perm)	3152	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	343	343		66		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4671
Travel Time (s)	10.9		27.3			63.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	859	1592	113	967	2082
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	542	429	1592	113	967	2082
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	20.5	20.5	59.0	59.0	40.5	103.5
Actuated g/C Ratio	0.16	0.16	0.45	0.45	0.31	0.78
v/c Ratio	0.69	0.84	1.01	0.15	0.92	0.75
Control Delay	22.5	25.7	55.7	16.2	50.4	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	25.7	55.7	16.2	50.4	8.1
LOS	C	C	E	B	D	A
Approach Delay	23.9		53.1			21.5
Approach LOS	C		D			C

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 37 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 31.3
 Intersection Capacity Utilization 87.2%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023























Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	542	429	1592	113	967	2082
v/c Ratio	0.69	0.84	1.01	0.15	0.92	0.75
Control Delay	22.5	25.7	55.7	16.2	50.4	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	25.7	55.7	16.2	50.4	8.1
Queue Length 50th (ft)	83	78	~470	27	372	155
Queue Length 95th (ft)	124	202	#874	m63	m#555	m706
Internal Link Dist (ft)	558		1922			4591
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1087	634	1581	744	1052	2773
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.68	1.01	0.15	0.92	0.75

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	251	0	439	10	1560	296	398	1610	0
Future Volume (vph)	0	0	0	251	0	439	10	1560	296	398	1610	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	140		0
Storage Lanes	0		0	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	0	0	3433	0	1583	1770	3539	1583	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	0	0	3433	0	1583	1770	3539	1583	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						477			21			
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		337			628			1217			3340	
Travel Time (s)		9.2			17.1			18.4			50.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	273	0	477	11	1696	322	433	1750	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	273	0	477	11	1696	322	433	1750	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	2	1	1	2	
Detector Template				Left		Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)				20		20	20	100	20	20	100	
Trailing Detector (ft)				0		0	0	0	0	0	0	
Detector 1 Position(ft)				0		0	0	0	0	0	0	
Detector 1 Size(ft)				20		20	20	6	20	20	6	
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type				Prot		Prot	Prot	NA	pm+ov	Prot	NA	
Protected Phases				3		9!	5	2!	3	1	6	
Permitted Phases									2			

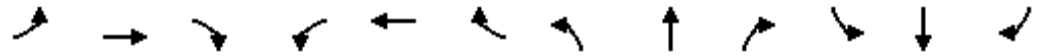
Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/24/2023

Lane Group	Ø8	Ø10
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	8	10
Permitted Phases		

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/24/2023

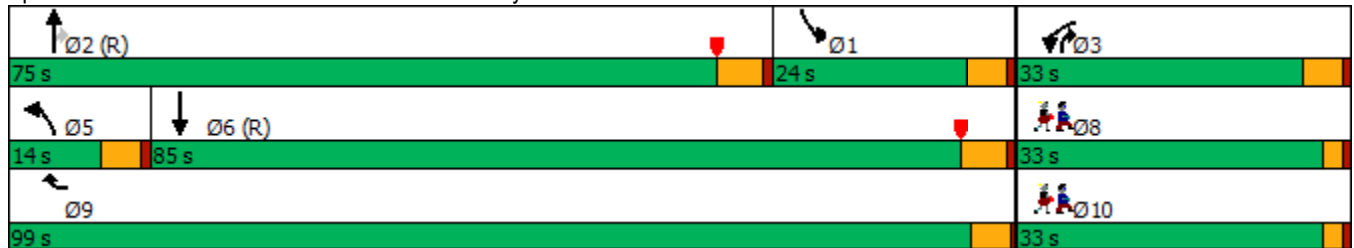


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				3		9	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)				10.0		4.0	9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				33.0		14.0	14.0	23.5	33.0	14.0	23.5	
Total Split (s)				33.0		99.0	14.0	75.0	33.0	24.0	85.0	
Total Split (%)				25.0%		75.0%	10.6%	56.8%	25.0%	18.2%	64.4%	
Maximum Green (s)				28.0		94.5	9.0	69.5	28.0	19.0	79.5	
Yellow Time (s)				4.0		4.0	4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0		0.5	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0		4.5	5.0	5.5	5.0	5.0	5.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None		None	None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effect Green (s)				16.0		106.5	9.0	81.5	103.0	19.0	102.7	
Actuated g/C Ratio				0.12		0.81	0.07	0.62	0.78	0.14	0.78	
v/c Ratio				0.66		0.35	0.09	0.78	0.26	0.88	0.64	
Control Delay				62.9		0.9	57.7	14.9	2.4	76.5	9.7	
Queue Delay				0.0		0.2	0.0	0.0	0.0	0.0	0.0	
Total Delay				62.9		1.1	57.7	14.9	2.4	76.5	9.7	
LOS				E		A	E	B	A	E	A	
Approach Delay						23.6		13.2			23.0	
Approach LOS						C		B			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 19.1 Intersection LOS: B
 Intersection Capacity Utilization 78.6% ICU Level of Service D
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/24/2023

Lane Group	Ø8	Ø10
Detector Phase		
Switch Phase		
Minimum Initial (s)	4.0	4.0
Minimum Split (s)	31.0	16.0
Total Split (s)	33.0	33.0
Total Split (%)	25%	25%
Maximum Green (s)	30.0	30.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	21.0	6.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

5: Railroad Avenue & Driveway/13th Street

01/24/2023



Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	273	477	11	1696	322	433	1750
v/c Ratio	0.66	0.35	0.09	0.78	0.26	0.88	0.64
Control Delay	62.9	0.9	57.7	14.9	2.4	76.5	9.7
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	1.1	57.7	14.9	2.4	76.5	9.7
Queue Length 50th (ft)	118	4	9	315	15	204	478
Queue Length 95th (ft)	162	9	m12	434	54	#287	816
Internal Link Dist (ft)				1137			3260
Turn Bay Length (ft)	110		100		570	140	
Base Capacity (vph)	728	1369	120	2185	1239	494	2753
Starvation Cap Reductn	0	323	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.46	0.09	0.78	0.26	0.88	0.64

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations	↔↔	↗	↔↔	↕↕	↕↕	↗			
Traffic Volume (vph)	551	120	210	1405	908	803			
Future Volume (vph)	551	120	210	1405	908	803			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		130				519			
Link Speed (mph)	35			35	45				
Link Distance (ft)	1347			1246	1217				
Travel Time (s)	26.2			24.3	18.4				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	599	130	228	1527	987	873			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	599	130	228	1527	987	873			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	34			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	42.0	30.0	30.0	30.0	30.0

Lanes, Volumes, Timings

6: Railroad Avenue & Lyons Avenue

01/24/2023

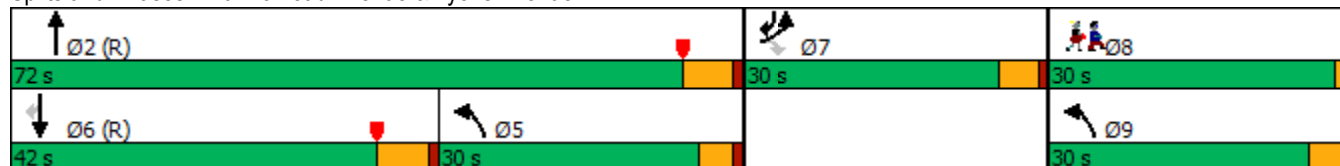


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	31.8%	22.7%	23%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	36.0	25.0	25.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effct Green (s)	31.3	31.3	23.4	79.9	61.2	92.6			
Actuated g/C Ratio	0.24	0.24	0.18	0.61	0.46	0.70			
v/c Ratio	0.74	0.27	0.37	0.71	0.60	0.69			
Control Delay	64.4	21.1	24.8	28.0	22.7	7.0			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	64.4	21.1	24.8	28.0	22.7	7.0			
LOS	E	C	C	C	C	A			
Approach Delay	56.6			27.6	15.3				
Approach LOS	E			C	B				

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	27.2
Intersection LOS:	C
Intersection Capacity Utilization:	62.4%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023



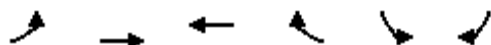
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	599	130	228	1527	987	873
v/c Ratio	0.74	0.27	0.37	0.71	0.60	0.69
Control Delay	64.4	21.1	24.8	28.0	22.7	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.4	21.1	24.8	28.0	22.7	7.0
Queue Length 50th (ft)	159	29	52	592	164	68
Queue Length 95th (ft)	#332	88	53	441	351	350
Internal Link Dist (ft)	1267			1166	1137	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	814	474	1352	2142	1641	1265
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.27	0.17	0.71	0.60	0.69

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

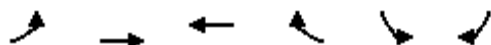
01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1520	960	1365	828	0	
Future Volume (vph)	0	1520	960	1365	828	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.98			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1084			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1913		1540		
Travel Time (s)		6.2	32.6		30.0		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1652	1043	1484	900	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1652	1043	1484	900	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		82.0	38.0	50.0	50.0	44.0	
Total Split (%)		62.1%	28.8%	37.9%	37.9%	33%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023

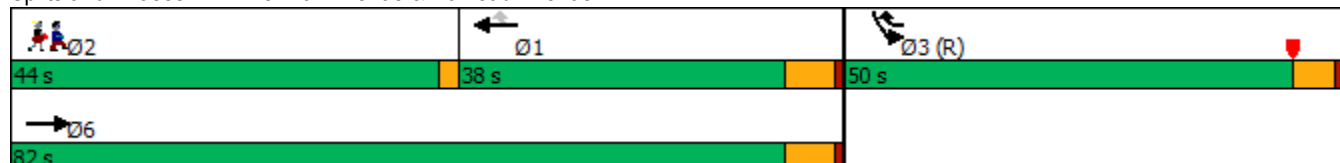


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		76.0	32.0	44.0	44.0		42.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		78.0	78.0	124.0	46.0		
Actuated g/C Ratio		0.59	0.59	0.94	0.35		
v/c Ratio		0.79	0.95	0.56	0.75		
Control Delay		24.3	32.1	3.5	19.5		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		24.3	32.1	3.5	19.5		
LOS		C	C	A	B		
Approach Delay		24.3	15.3		19.5		
Approach LOS		C	B		B		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	32 (24%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.95
Intersection Signal Delay:	19.0
Intersection LOS:	B
Intersection Capacity Utilization	80.8%
ICU Level of Service	D
Analysis Period (min)	15

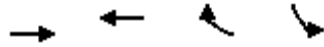
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1652	1043	1484	900
v/c Ratio	0.79	0.95	0.56	0.75
Control Delay	24.3	32.1	3.5	19.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.3	32.1	3.5	19.5
Queue Length 50th (ft)	543	375	119	169
Queue Length 95th (ft)	643	#1155	89	101
Internal Link Dist (ft)	282	1833		1460
Turn Bay Length (ft)				
Base Capacity (vph)	2091	1100	2642	1196
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.79	0.95	0.56	0.75

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↗	↑↑↑	↑↑↑		↘	↗
Traffic Volume (vph)	240	2019	1290	90	60	130
Future Volume (vph)	240	2019	1290	90	60	130
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	3			2	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.990			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5034	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5034	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			11			141
Link Speed (mph)		40	40		30	
Link Distance (ft)		1403	3070		2619	
Travel Time (s)		23.9	52.3		59.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	2195	1402	98	65	141
Shared Lane Traffic (%)						
Lane Group Flow (vph)	261	2195	1500	0	65	141
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	35.0	98.0	63.0		34.0	34.0

Lanes, Volumes, Timings
 8: Newhall Avenue & Valle Del Oro

01/24/2023

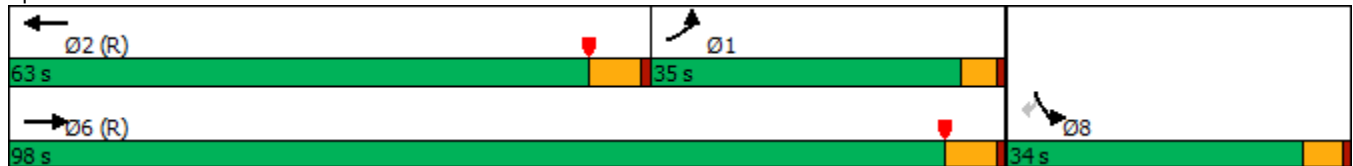


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	26.5%	74.2%	47.7%		25.8%	25.8%
Maximum Green (s)	30.5	92.0	57.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	31.0	112.8	77.8		11.2	11.2
Actuated g/C Ratio	0.23	0.85	0.59		0.08	0.08
v/c Ratio	0.63	0.51	0.51		0.43	0.54
Control Delay	54.6	3.2	4.7		61.9	15.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	54.6	3.2	4.7		61.9	15.2
LOS	D	A	A		E	B
Approach Delay	8.7		4.7		29.9	
Approach LOS	A		A		C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 53 (40%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 8.3
 Intersection Capacity Utilization 53.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

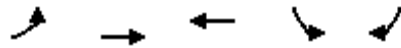
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023



























Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	261	2195	1500	65	141
v/c Ratio	0.63	0.51	0.51	0.43	0.54
Control Delay	54.6	3.2	4.7	61.9	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.6	3.2	4.7	61.9	15.2
Queue Length 50th (ft)	219	173	75	52	13
Queue Length 95th (ft)	m280	202	86	m59	m22
Internal Link Dist (ft)		1323	2990	2539	
Turn Bay Length (ft)	150				
Base Capacity (vph)	415	4344	2970	402	468
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.63	0.51	0.51	0.16	0.30

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	1709	10	240	1120	814	50	1490	260	247	290	200
Future Volume (vph)	370	1709	10	240	1120	814	50	1490	260	247	290	200
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		300
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.939	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4775	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	1770	4775	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			273			162		132	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3070			687			398			2905	
Travel Time (s)		52.3			11.7			9.0			66.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	1858	11	261	1217	885	54	1620	283	268	315	217
Shared Lane Traffic (%)												
Lane Group Flow (vph)	402	1858	11	261	1217	885	54	1620	283	268	532	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	50.0	50.0	20.0	45.0	45.0	20.0	42.0	42.0	20.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

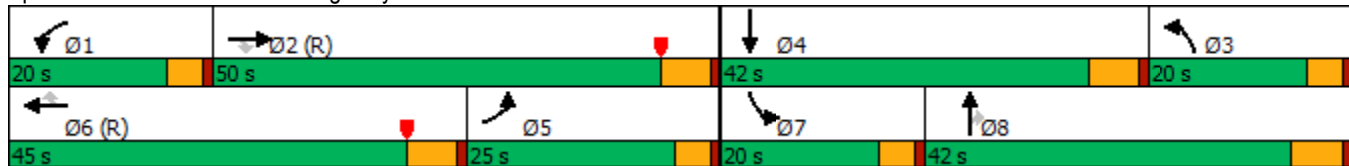


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	37.9%	37.9%	15.2%	34.1%	34.1%	15.2%	31.8%	31.8%	15.2%	31.8%	
Maximum Green (s)	20.5	44.0	44.0	15.5	39.0	39.0	15.5	36.0	36.0	15.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	47.3	47.3	14.7	41.0	41.0	28.4	38.0	36.0	16.0	27.6	
Actuated g/C Ratio	0.16	0.36	0.36	0.11	0.31	0.31	0.22	0.29	0.27	0.12	0.21	
v/c Ratio	0.74	1.02	0.02	0.68	0.77	1.30	0.07	1.59	0.52	1.25	0.48	
Control Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	303.3	20.4	185.5	29.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	303.3	20.4	185.5	29.1	
LOS	E	F	A	E	D	F	D	F	C	F	C	
Approach Delay		79.6			95.7			255.1			81.5	
Approach LOS		E			F			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.59
 Intersection Signal Delay: 131.4 Intersection LOS: F
 Intersection Capacity Utilization 112.1% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023





















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	402	1858	11	261	1217	885	54	1620	283	268	532
v/c Ratio	0.74	1.02	0.02	0.68	0.77	1.30	0.07	1.59	0.52	1.25	0.48
Control Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	303.3	20.4	185.5	29.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	303.3	20.4	185.5	29.1
Queue Length 50th (ft)	181	~624	0	111	345	~803	18	~1039	84	~279	89
Queue Length 95th (ft)	243	#751	m0	158	403	#1059	37	#1178	175	m#470	m157
Internal Link Dist (ft)		2990			607			318			2825
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1821	662	416	1579	679	790	1018	549	214	1609
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	1.02	0.02	0.63	0.77	1.30	0.07	1.59	0.52	1.25	0.33

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	999	1357	20	1954	0	0	0	0	10	0	410
Future Volume (vph)	0	999	1357	20	1954	0	0	0	0	10	0	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.942	0.850									0.850
Fl _t Protected				0.950							0.950	
Satd. Flow (prot)	0	3194	1441	1770	3539	0	0	0	0	0	1770	1583
Fl _t Permitted				0.950							0.950	
Satd. Flow (perm)	0	3194	1441	1770	3539	0	0	0	0	0	1770	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		687			492			504			602	
Travel Time (s)		11.7			8.4			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1086	1475	22	2124	0	0	0	0	11	0	446
Shared Lane Traffic (%)			46%									
Lane Group Flow (vph)	0	1765	796	22	2124	0	0	0	0	0	11	446
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	86.1%					ICU Level of Service E						
Analysis Period (min)	15											

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	999	1357	20	1954	0	0	0	0	10	0	410
Future Vol, veh/h	0	999	1357	20	1954	0	0	0	0	10	0	410
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082488832	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1086	1475	22	2124	0	0	0	0	11	0	446

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	1086	0	0	2711	3254	-
Stage 1	-	-	-	-	-	-	2168	2168	-
Stage 2	-	-	-	-	-	-	543	1086	-
Critical Hdwy	-	-	-	4.14	-	-	6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-	3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	638	-	0	17	9	0
Stage 1	0	-	-	-	-	0	73	85	0
Stage 2	0	-	-	-	-	0	546	291	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	638	-	-	16	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	16	0	-
Stage 1	-	-	-	-	-	-	73	0	-
Stage 2	-	-	-	-	-	-	527	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	\$ 429.9
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	638	-	16	-
HCM Lane V/C Ratio	-	-	0.034	-	0.679	-
HCM Control Delay (s)	-	-	10.8	-	\$ 429.9	0
HCM Lane LOS	-	-	B	-	F	A
HCM 95th %tile Q(veh)	-	-	0.1	-	1.7	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	980	0	0	110	0	10
Future Volume (vph)	980	0	0	110	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Flt						0.865
Flt Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	492			551	676	
Travel Time (s)	8.4			9.4	15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1065	0	0	120	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1065	0	0	120	0	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	86.1% ICU Level of Service E
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	980	0	0	110	0	10
Future Vol, veh/h	980	0	0	110	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1065	0	0	120	0	11



















Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	-	-	533
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.319
Pot Cap-1 Maneuver	-	0	0	492
Stage 1	-	0	0	-
Stage 2	-	0	0	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	492
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	492	-	-
HCM Lane V/C Ratio	0.022	-	-
HCM Control Delay (s)	12.5	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	1210	0	0	869	739	480	0	425	0	0	0
Future Volume (vph)	220	1210	0	0	869	739	480	0	425	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.931				0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1770	3539	0	0	4734	0	1681	1681	1583	0	0	0
Flt Permitted	0.950						0.950	0.950				
Satd. Flow (perm)	1770	3539	0	0	4734	0	1681	1681	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					261				73			
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		1093			1835			601			382	
Travel Time (s)		18.6			31.3			13.7			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	1315	0	0	945	803	522	0	462	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	239	1315	0	0	1748	0	261	261	462	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

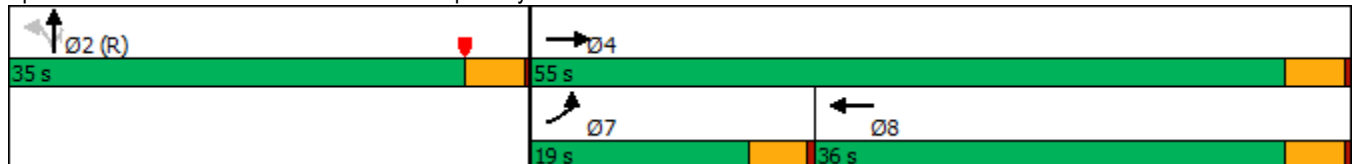


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			10.0		10.0	10.0	10.0			
Minimum Split (s)	14.5	22.5			22.5		32.5	32.5	32.5			
Total Split (s)	19.0	55.0			36.0		35.0	35.0	35.0			
Total Split (%)	21.1%	61.1%			40.0%		38.9%	38.9%	38.9%			
Maximum Green (s)	14.5	50.5			31.5		30.5	30.5	30.5			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	0.5	0.5			0.5		0.5	0.5	0.5			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	4.5			4.5		4.5	4.5	4.5			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.1	50.5			31.9		30.5	30.5	30.5			
Actuated g/C Ratio	0.16	0.56			0.35		0.34	0.34	0.34			
v/c Ratio	0.86	0.66			1.09dr		0.46	0.46	0.79			
Control Delay	66.6	15.9			36.5		26.5	26.5	34.1			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	66.6	15.9			36.5		26.5	26.5	34.1			
LOS	E	B			D		C	C	C			
Approach Delay		23.7			36.5			30.1				
Approach LOS		C			D			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 30.4
 Intersection LOS: C
 Intersection Capacity Utilization 70.1%
 ICU Level of Service C
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

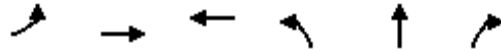
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	239	1315	1748	261	261	462
v/c Ratio	0.86	0.66	1.09dr	0.46	0.46	0.79
Control Delay	66.6	15.9	36.5	26.5	26.5	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	15.9	36.5	26.5	26.5	34.1
Queue Length 50th (ft)	133	256	308	121	121	200
Queue Length 95th (ft)	#260	327	#423	195	195	#359
Internal Link Dist (ft)		1013	1755		521	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	285	1985	1846	569	569	584
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.66	0.95	0.46	0.46	0.79

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	440	1185	250	190	1278	192	130	490	310	379	440	270
Future Volume (vph)	440	1185	250	190	1278	192	130	490	310	379	440	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t			0.850		0.980				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4984	0	1652	3303	1478	1652	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173		22				293			122
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1835			5346			887				1679
Travel Time (s)		31.3			91.1			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	478	1288	272	207	1389	209	141	533	337	412	478	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	478	1288	272	207	1598	0	141	533	337	412	478	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			10				10
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
 13: Wiley Canyon Road & Lyons Avenue

01/24/2023

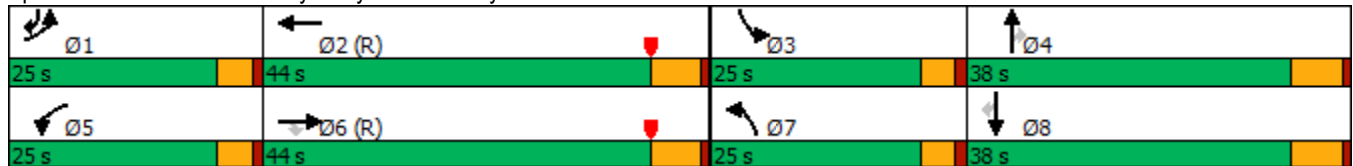


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	25.0	44.0	44.0	25.0	44.0		25.0	38.0	38.0	25.0	38.0	25.0
Total Split (%)	18.9%	33.3%	33.3%	18.9%	33.3%		18.9%	28.8%	28.8%	18.9%	28.8%	18.9%
Maximum Green (s)	20.5	38.0	38.0	20.5	38.0		20.5	32.0	32.0	20.5	32.0	20.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	23.2	45.5	45.5	20.4	42.6		16.6	29.2	29.2	21.0	33.6	60.8
Actuated g/C Ratio	0.18	0.34	0.34	0.15	0.32		0.13	0.22	0.22	0.16	0.25	0.46
v/c Ratio	0.85	1.13	0.44	0.81	0.98		0.68	0.73	0.61	1.57	0.55	0.37
Control Delay	67.8	111.0	15.4	89.9	27.0		71.3	53.7	12.4	311.6	45.3	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	111.0	15.4	89.9	27.0		71.3	53.7	12.4	311.6	45.3	14.5
LOS	E	F	B	F	C		E	D	B	F	D	B
Approach Delay		88.1			34.2			42.4			130.4	
Approach LOS		F			C			D			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.57
 Intersection Signal Delay: 72.6
 Intersection LOS: E
 Intersection Capacity Utilization 91.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	478	1288	272	207	1598	141	533	337	412	478	293
v/c Ratio	0.85	1.13	0.44	0.81	0.98	0.68	0.73	0.61	1.57	0.55	0.37
Control Delay	67.8	111.0	15.4	89.9	27.0	71.3	53.7	12.4	311.6	45.3	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	111.0	15.4	89.9	27.0	71.3	53.7	12.4	311.6	45.3	14.5
Queue Length 50th (ft)	203	~713	62	166	~554	117	222	30	~499	186	86
Queue Length 95th (ft)	#315	#875	150	m186	m69	184	276	123	#704	244	163
Internal Link Dist (ft)		1755			5266		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	562	1137	622	271	1624	262	850	598	262	881	795
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	1.13	0.44	0.76	0.98	0.54	0.63	0.56	1.57	0.54	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.





































Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 	 	 	 	 	 	 	 	 	 	 
Traffic Volume (vph)	280	1363	120	112	1490	642	100	160	99	569	150	220
Future Volume (vph)	280	1363	120	112	1490	642	100	160	99	569	150	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			275			112			239
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5346			2329			465				345
Travel Time (s)		104.1			45.4			9.1				5.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	1482	130	122	1620	698	109	174	108	618	163	239
Shared Lane Traffic (%)												
Lane Group Flow (vph)	304	1482	130	122	1620	698	109	174	108	618	163	239
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

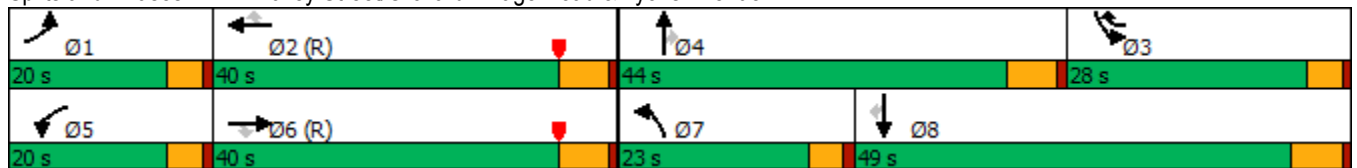
01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	18.5	51.7	51.7	15.5	48.7	83.4	14.3	14.1	14.1	34.7	34.5	34.5
Actuated g/C Ratio	0.14	0.39	0.39	0.12	0.37	0.63	0.11	0.11	0.11	0.26	0.26	0.26
v/c Ratio	0.68	1.15	0.19	0.63	1.13	0.58	0.61	0.48	0.44	0.69	0.35	0.41
Control Delay	37.0	111.3	14.8	44.2	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	111.3	14.8	44.2	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
LOS	D	F	B	D	F	B	E	E	B	D	D	A
Approach Delay		92.9			77.3			50.0			37.1	
Approach LOS		F			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 2 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.15
 Intersection Signal Delay: 73.6
 Intersection LOS: E
 Intersection Capacity Utilization 83.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	304	1482	130	122	1620	698	109	174	108	618	163	239
v/c Ratio	0.68	1.15	0.19	0.63	1.13	0.58	0.61	0.48	0.44	0.69	0.35	0.41
Control Delay	37.0	111.3	14.8	44.2	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	111.3	14.8	44.2	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
Queue Length 50th (ft)	128	~806	35	94	~868	271	90	75	0	245	114	0
Queue Length 95th (ft)	m103	m#788	m32	m80	m#891	m238	149	110	51	297	175	63
Internal Link Dist (ft)		5266			2249			385			265	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	459	1292	689	218	1436	1201	237	1036	493	902	613	679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	1.15	0.19	0.56	1.13	0.58	0.46	0.17	0.22	0.69	0.27	0.35

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	681	1560	50	913	20	970	100	60	20	120	110
Future Volume (vph)	100	681	1560	50	913	20	970	100	60	20	120	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1625	3539	1468	1639	3539	1356	3117	1863	1471	1670	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			469			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2329			1347			528				401
Travel Time (s)		45.4			26.2			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	740	1696	54	992	22	1054	109	65	22	130	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	740	1696	54	992	22	1054	109	65	22	130	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

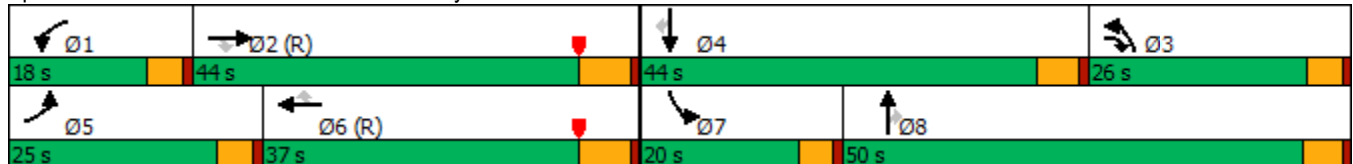


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	25.0	44.0	26.0	18.0	37.0	37.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	18.9%	33.3%	19.7%	13.6%	28.0%	28.0%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	20.5	38.0	21.5	13.5	31.0	31.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	24.0		24.0		24.0		32.0		32.0		32.0	
Pedestrian Calls (#/hr)	27		27		27		43		43		43	
Act Effct Green (s)	14.5	45.9	73.8	10.2	39.5	39.5	27.9	58.4	58.4	7.8	34.1	34.1
Actuated g/C Ratio	0.11	0.35	0.56	0.08	0.30	0.30	0.21	0.44	0.44	0.06	0.26	0.26
v/c Ratio	0.60	0.60	1.63	0.43	0.94	0.04	1.50	0.13	0.09	0.22	0.28	0.26
Control Delay	79.6	23.6	305.9	64.0	56.7	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.6	23.6	305.9	64.0	56.7	0.1	268.6	24.1	0.2	63.7	38.6	4.8
LOS	E	C	F	E	E	A	F	C	A	E	D	A
Approach Delay	214.1		55.9		232.7		25.7					
Approach LOS	F		E		F		C					

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 47 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.63
 Intersection Signal Delay: 175.5
 Intersection LOS: F
 Intersection Capacity Utilization 137.2%
 ICU Level of Service H
 Analysis Period (min) 15

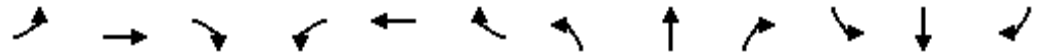
Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	109	740	1696	54	992	22	1054	109	65	22	130	120
v/c Ratio	0.60	0.60	1.63	0.43	0.94	0.04	1.50	0.13	0.09	0.22	0.28	0.26
Control Delay	79.6	23.6	305.9	64.0	56.7	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.6	23.6	305.9	64.0	56.7	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Length 50th (ft)	90	203	~2137	43	461	0	~712	58	0	18	84	0
Queue Length 95th (ft)	m113	m155	m#2024	m67	#644	m0	#846	102	0	47	138	33
Internal Link Dist (ft)		2249			1267			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	262	1230	1041	175	1059	524	702	823	726	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.60	1.63	0.31	0.94	0.04	1.50	0.13	0.09	0.11	0.24	0.23

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑	↔↔	↔	↔		↔↔	↔↔			↔↔	↔
Traffic Volume (vph)	125	59	510	31	77	0	450	18	27	0	23	163
Future Volume (vph)	125	59	510	31	77	0	450	18	27	0	23	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.911				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3224	0	0	3539	1583
Flt Permitted	0.950			0.950			0.740					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	2674	3224	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			554					29				177
Link Speed (mph)		45			30			45				30
Link Distance (ft)		628			448			423				442
Travel Time (s)		9.5			10.2			6.4				10.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	64	554	34	84	0	489	20	29	0	25	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	64	554	34	84	0	489	49	0	0	25	177
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				36
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Over	Prot	NA		pm+pt	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases							2					

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023

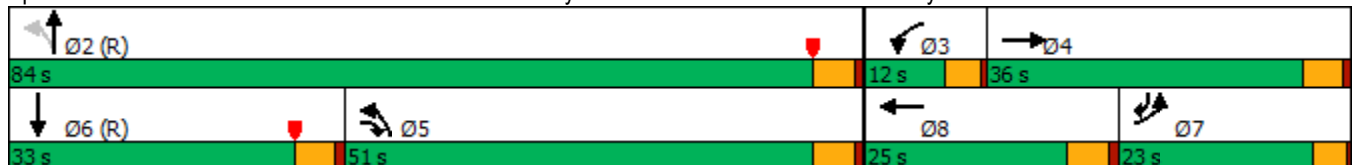


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	20.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	23.0	36.0	51.0	12.0	25.0		51.0	84.0			33.0	23.0
Total Split (%)	17.4%	27.3%	38.6%	9.1%	18.9%		38.6%	63.6%			25.0%	17.4%
Maximum Green (s)	19.0	31.0	46.0	8.0	20.0		46.0	79.0			28.0	19.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	10.6	19.4	46.0	7.2	12.0		95.4	95.4			44.4	10.6
Actuated g/C Ratio	0.08	0.15	0.35	0.05	0.09		0.72	0.72			0.34	0.08
v/c Ratio	0.49	0.23	0.42	0.35	0.50		0.22	0.02			0.02	0.61
Control Delay	61.6	50.3	0.8	70.0	67.0		6.9	3.3			31.6	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	61.6	50.3	0.8	70.0	67.0		6.9	3.3			31.6	17.3
LOS	E	D	A	E	E		A	A			C	B
Approach Delay		16.0			67.9			6.6			19.1	
Approach LOS		B			E			A			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 17.0
 Intersection LOS: B
 Intersection Capacity Utilization 42.9%
 ICU Level of Service A
 Analysis Period (min) 15

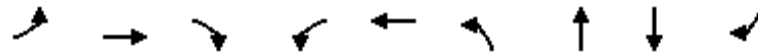
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	136	64	554	34	84	489	49	25	177
v/c Ratio	0.49	0.23	0.42	0.35	0.50	0.22	0.02	0.02	0.61
Control Delay	61.6	50.3	0.8	70.0	67.0	6.9	3.3	31.6	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	50.3	0.8	70.0	67.0	6.9	3.3	31.6	17.3
Queue Length 50th (ft)	63	58	0	28	70	60	2	7	0
Queue Length 95th (ft)	m84	m83	m0	65	122	98	9	20	71
Internal Link Dist (ft)		548			368		343	362	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	494	437	1332	107	282	2197	2339	1191	379
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.15	0.42	0.32	0.30	0.22	0.02	0.02	0.47

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Traffic Volume (vph)	120	20	180	169	10	43	20	332	178	150	404	10
Future Volume (vph)	120	20	180	169	10	43	20	332	178	150	404	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	180		0
Storage Lanes	0		1	0		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Frt			0.850			0.850		0.948			0.996	
Flt Protected		0.959			0.955		0.950			0.950		
Satd. Flow (prot)	0	1786	1583	0	1779	1583	1770	3355	0	1770	5065	0
Flt Permitted		0.447			0.548		0.950			0.950		
Satd. Flow (perm)	0	833	1583	0	1021	1583	1770	3355	0	1770	5065	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196			99		78			4	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		391			842			206			423	
Travel Time (s)		10.7			23.0			3.1			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	22	196	184	11	47	22	361	193	163	439	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	152	196	0	195	47	22	554	0	163	450	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4		4						

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	31.0	31.0	31.0	20.0	20.0	20.0	9.0	23.0		9.0	23.0	
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	13.0	47.0		34.0	68.0	
Total Split (%)	38.6%	38.6%	38.6%	38.6%	38.6%	38.6%	9.8%	35.6%		25.8%	51.5%	
Maximum Green (s)	46.0	46.0	46.0	47.0	47.0	47.0	8.0	42.0		29.0	63.0	
Yellow Time (s)	4.0	4.0	4.0	3.5	3.5	3.5	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	0.5	0.5	0.5	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		4.0	4.0	5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		Max	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		7.0			7.0	
Flash Dont Walk (s)	21.0	21.0	21.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		23.3	23.3		24.3	24.3	6.7	42.2		29.1	71.6	
Actuated g/C Ratio		0.21	0.21		0.22	0.22	0.06	0.38		0.27	0.65	
v/c Ratio		0.86	0.40		0.86	0.11	0.20	0.41		0.35	0.14	
Control Delay		80.8	7.2		73.9	0.5	56.0	23.1		36.9	9.3	
Queue Delay		0.0	0.0		0.0	0.0	0.0	13.0		0.0	0.0	
Total Delay		80.8	7.2		73.9	0.5	56.0	36.1		36.9	9.3	
LOS		F	A		E	A	E	D		D	A	
Approach Delay		39.3			59.7			36.9			16.7	
Approach LOS		D			E			D			B	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	109.7
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	33.5
Intersection LOS:	C
Intersection Capacity Utilization:	51.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 17: Dockweiler Drive/Arch Street & 12th Street



Queues

17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	152	196	195	47	22	554	163	450
v/c Ratio	0.86	0.40	0.86	0.11	0.20	0.41	0.35	0.14
Control Delay	80.8	7.2	73.9	0.5	56.0	23.1	36.9	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	13.0	0.0	0.0
Total Delay	80.8	7.2	73.9	0.5	56.0	36.1	36.9	9.3
Queue Length 50th (ft)	103	0	132	0	15	125	93	33
Queue Length 95th (ft)	183	55	220	0	45	203	174	85
Internal Link Dist (ft)	311		762			126		343
Turn Bay Length (ft)							180	
Base Capacity (vph)	350	780	439	737	129	1338	470	3306
Starvation Cap Reductn	0	0	0	0	0	762	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.25	0.44	0.06	0.17	0.96	0.35	0.14

Intersection Summary

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023

							Ø1	Ø2	Ø7	Ø8
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT				
Lane Configurations										
Traffic Volume (vph)	160	173	357	140	203	551				
Future Volume (vph)	160	173	357	140	203	551				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	150	0		0	0					
Storage Lanes	1	1		0	1					
Taper Length (ft)	25				25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95				
Frt		0.850	0.962							
Flt Protected	0.950				0.950					
Satd. Flow (prot)	1770	1583	1792	0	1770	3539				
Flt Permitted	0.950				0.950					
Satd. Flow (perm)	1770	1583	1792	0	1770	3539				
Right Turn on Red		Yes		Yes						
Satd. Flow (RTOR)		188	14							
Link Speed (mph)	30		45			45				
Link Distance (ft)	1067		195			206				
Travel Time (s)	24.3		3.0			3.1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Adj. Flow (vph)	174	188	388	152	221	599				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	174	188	540	0	221	599				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Right	Left	Left				
Median Width(ft)	12		12			12				
Link Offset(ft)	0		0			0				
Crosswalk Width(ft)	16		16			16				
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)	15	9		9	15					
Number of Detectors	1	1	2		1	2				
Detector Template	Left	Right	Thru		Left	Thru				
Leading Detector (ft)	20	20	100		20	100				
Trailing Detector (ft)	0	0	0		0	0				
Detector 1 Position(ft)	0	0	0		0	0				
Detector 1 Size(ft)	20	20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0				
Detector 2 Position(ft)			94			94				
Detector 2 Size(ft)			6			6				
Detector 2 Type			Cl+Ex			Cl+Ex				
Detector 2 Channel										
Detector 2 Extend (s)			0.0			0.0				
Turn Type	Prot	Perm	NA		Prot	NA				
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8
Permitted Phases		7 8								

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023

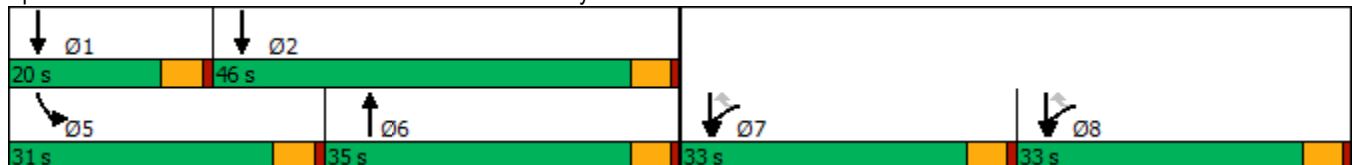


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		20.0	23.0	33.0	33.0
Total Split (s)			35.0		31.0		20.0	46.0	33.0	33.0
Total Split (%)			26.5%		23.5%		15%	35%	25%	25%
Maximum Green (s)			30.0		26.0		15.0	41.0	28.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Ped	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	30.0	30.0	30.5		16.7	92.4				
Actuated g/C Ratio	0.32	0.32	0.33		0.18	1.00				
v/c Ratio	0.30	0.29	0.90		0.69	0.17				
Control Delay	25.2	4.8	51.3		48.3	0.1				
Queue Delay	0.0	0.0	0.0		1.3	0.0				
Total Delay	25.2	4.8	51.3		49.6	0.1				
LOS	C	A	D		D	A				
Approach Delay	14.6		51.3			13.4				
Approach LOS	B		D			B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 92.4
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 25.5
 Intersection LOS: C
 Intersection Capacity Utilization 59.9%
 ICU Level of Service B
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

01/24/2023
























Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	174	188	540	221	599
v/c Ratio	0.30	0.29	0.90	0.69	0.17
Control Delay	25.2	4.8	51.3	48.3	0.1
Queue Delay	0.0	0.0	0.0	1.3	0.0
Total Delay	25.2	4.8	51.3	49.6	0.1
Queue Length 50th (ft)	74	0	287	120	0
Queue Length 95th (ft)	140	45	#645	222	0
Internal Link Dist (ft)	987		115		126
Turn Bay Length (ft)	150				
Base Capacity (vph)	933	923	600	505	3472
Starvation Cap Reductn	0	0	0	133	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.20	0.90	0.59	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	671	30	380	447	10	20	10	410	0	10	10
Future Volume (vph)	10	671	30	380	447	10	20	10	410	0	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	100		100	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.874			0.932	
Flt Protected	0.950			0.950				0.998				
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1625	0	0	1736	0
Flt Permitted	0.448			0.319				0.987				
Satd. Flow (perm)	835	1863	1583	594	1863	1583	0	1607	0	0	1736	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			25			11		313			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5381			3919			2619			300	
Travel Time (s)		122.3			89.1			59.5			6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	729	33	413	486	11	22	11	446	0	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	729	33	413	486	11	0	479	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		6			

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	104.0	104.0	104.0	104.0	104.0	104.0	28.0	28.0		28.0	28.0	
Total Split (%)	78.8%	78.8%	78.8%	78.8%	78.8%	78.8%	21.2%	21.2%		21.2%	21.2%	
Maximum Green (s)	100.0	100.0	100.0	100.0	100.0	100.0	24.0	24.0		24.0	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	100.0	100.0	100.0	100.0	100.0	100.0		24.0			24.0	
Actuated g/C Ratio	0.76	0.76	0.76	0.76	0.76	0.76		0.18			0.18	
v/c Ratio	0.02	0.52	0.03	0.92	0.34	0.01		0.87			0.07	
Control Delay	4.0	7.9	1.9	40.1	4.6	0.5		30.7			29.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	4.0	7.9	1.9	40.1	4.6	0.5		30.7			29.5	
LOS	A	A	A	D	A	A		C			C	
Approach Delay		7.6			20.6			30.7			29.5	
Approach LOS		A			C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 18.3
 Intersection LOS: B
 Intersection Capacity Utilization 100.0%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 19: Valle Del Oro & Dockweiler Drive



Queues

19: Valle Del Oro & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	729	33	413	486	11	479	22
v/c Ratio	0.02	0.52	0.03	0.92	0.34	0.01	0.87	0.07
Control Delay	4.0	7.9	1.9	40.1	4.6	0.5	30.7	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	7.9	1.9	40.1	4.6	0.5	30.7	29.5
Queue Length 50th (ft)	2	216	2	140	101	0	90	8
Queue Length 95th (ft)	7	292	9	#434	118	m1	#317	33
Internal Link Dist (ft)		5301			3839		2539	220
Turn Bay Length (ft)	100		100	100		100		
Base Capacity (vph)	632	1411	1205	450	1411	1201	548	324
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.52	0.03	0.92	0.34	0.01	0.87	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	831	240	288	2266	498	609
Future Volume (vph)	831	240	288	2266	498	609
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			0
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.996	0.850				0.850
Flt Protected	0.954		0.950			
Satd. Flow (prot)	3434	1441	1770	3539	3539	1583
Flt Permitted	0.954		0.950			
Satd. Flow (perm)	3434	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	2	170				650
Link Speed (mph)	30			50	50	
Link Distance (ft)	3919			2905	621	
Travel Time (s)	89.1			39.6	8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	903	261	313	2463	541	662
Shared Lane Traffic (%)		10%				
Lane Group Flow (vph)	929	235	313	2463	541	662
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	15.0	21.0	30.0	30.0
Total Split (s)	38.0	38.0	39.0	94.0	55.0	55.0
Total Split (%)	28.8%	28.8%	29.5%	71.2%	41.7%	41.7%
Maximum Green (s)	33.0	33.0	34.0	89.0	50.0	50.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	33.0	33.0	27.9	89.0	56.1	56.1
Actuated g/C Ratio	0.25	0.25	0.21	0.67	0.42	0.42
v/c Ratio	1.08	0.48	0.84	1.03	0.36	0.63
Control Delay	97.8	16.0	54.3	42.8	31.8	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.8	16.0	54.3	42.8	31.8	15.3
LOS	F	B	D	D	C	B
Approach Delay	81.3			44.1	22.7	
Approach LOS	F			D	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 47.5
 Intersection LOS: D
 Intersection Capacity Utilization 97.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	929	235	313	2463	541	662
v/c Ratio	1.08	0.48	0.84	1.03	0.36	0.63
Control Delay	97.8	16.0	54.3	42.8	31.8	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.8	16.0	54.3	42.8	31.8	15.3
Queue Length 50th (ft)	~460	57	264	~752	120	55
Queue Length 95th (ft)	m#590	m127	m188	m311	237	294
Internal Link Dist (ft)	3839			2825	541	
Turn Bay Length (ft)	200	200	350			
Base Capacity (vph)	860	487	455	2386	1504	1046
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.48	0.69	1.03	0.36	0.63

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	62	18	90	36	560	16	2203	898	280	964	35
Future Volume (vph)	45	62	18	90	36	560	16	2203	898	280	964	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		0	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.730			0.711			0.950			0.950		
Satd. Flow (perm)	1360	3539	1583	1324	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			211			444			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		816			677			2247			787	
Travel Time (s)		12.4			10.3			30.6			10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	67	20	98	39	609	17	2395	976	304	1048	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	67	20	98	39	609	17	2395	976	304	1048	38
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8		6				2

Lanes, Volumes, Timings
21: Sierra Highway & Placerita Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	20.0	20.0	20.0	37.0	37.0	37.0	15.0	20.0	20.0	15.0	39.0	39.0
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	18.0	68.0	68.0	25.0	75.0	75.0
Total Split (%)	29.5%	29.5%	29.5%	29.5%	29.5%	29.5%	13.6%	51.5%	51.5%	18.9%	56.8%	56.8%
Maximum Green (s)	34.0	34.0	34.0	34.0	34.0	34.0	13.0	63.0	63.0	20.0	70.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	34.0	34.0	34.0	34.0	34.0	34.0	10.0	63.0	63.0	20.0	82.0	82.0
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26	0.26	0.08	0.48	0.48	0.15	0.62	0.62
v/c Ratio	0.14	0.07	0.04	0.29	0.04	1.08	0.13	1.42	0.99	1.13	0.48	0.04
Control Delay	39.2	37.4	0.2	42.1	37.1	91.6	59.2	217.7	25.5	141.8	15.9	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	8.2	0.0	1.1	0.0	0.0	0.0	0.0
Total Delay	39.2	37.4	0.2	42.1	37.1	99.8	59.2	218.8	25.5	141.8	15.9	2.2
LOS	D	D	A	D	D	F	E	F	C	F	B	A
Approach Delay		32.6			88.9			162.3			43.0	
Approach LOS		C			F			F			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.42
 Intersection Signal Delay: 120.3 Intersection LOS: F
 Intersection Capacity Utilization 116.4% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	67	20	98	39	609	17	2395	976	304	1048	38
v/c Ratio	0.14	0.07	0.04	0.29	0.04	1.08	0.13	1.42	0.99	1.13	0.48	0.04
Control Delay	39.2	37.4	0.2	42.1	37.1	91.6	59.2	217.7	25.5	141.8	15.9	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	8.2	0.0	1.1	0.0	0.0	0.0	0.0
Total Delay	39.2	37.4	0.2	42.1	37.1	99.8	59.2	218.8	25.5	141.8	15.9	2.2
Queue Length 50th (ft)	32	23	0	68	13	~439	14	~1460	329	~304	241	1
Queue Length 95th (ft)	67	42	0	121	28	#674	m13	m#1363	m277	#496	376	m13
Internal Link Dist (ft)		736			597			2167			707	
Turn Bay Length (ft)			150			150	150			375		150
Base Capacity (vph)	350	911	481	341	911	564	174	1689	987	268	2198	1005
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	27	0	464	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.07	0.04	0.29	0.04	1.13	0.10	1.96	0.99	1.13	0.48	0.04

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	105	40	2861	78	790	1034
Future Volume (vph)	105	40	2861	78	790	1034
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		0	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Frt		0.850	0.996			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3525	0	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3525	0	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		43	4			
Link Speed (mph)	30		50			50
Link Distance (ft)	615		787			1009
Travel Time (s)	14.0		10.7			13.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	43	3110	85	859	1124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	43	3195	0	859	1124
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023

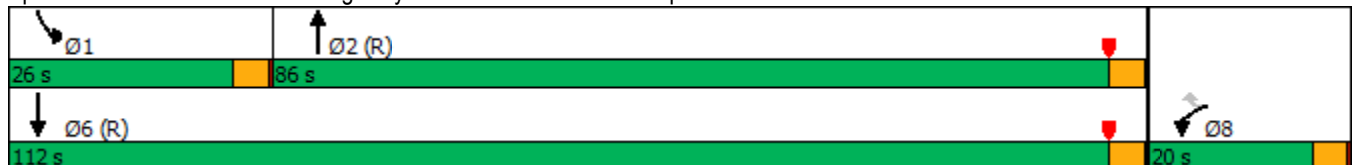


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		8.0	20.0
Total Split (s)	20.0	20.0	86.0		26.0	112.0
Total Split (%)	15.2%	15.2%	65.2%		19.7%	84.8%
Maximum Green (s)	16.0	16.0	82.0		22.0	108.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	13.2	13.2	82.0		24.8	110.8
Actuated g/C Ratio	0.10	0.10	0.62		0.19	0.84
v/c Ratio	0.64	0.22	1.46		1.33	0.38
Control Delay	73.5	17.5	227.3		201.5	3.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	73.5	17.5	227.3		201.5	3.1
LOS	E	B	F		F	A
Approach Delay	58.2		227.3			89.0
Approach LOS	E		F			F

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.46
 Intersection Signal Delay: 170.9
 Intersection LOS: F
 Intersection Capacity Utilization 119.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR 14 Southbound Ramps



Queues

22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	114	43	3195	859	1124
v/c Ratio	0.64	0.22	1.46	1.33	0.38
Control Delay	73.5	17.5	227.3	201.5	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	73.5	17.5	227.3	201.5	3.1
Queue Length 50th (ft)	95	0	~1947	~498	95
Queue Length 95th (ft)	158	36	m#1248	#654	131
Internal Link Dist (ft)	535		707		929
Turn Bay Length (ft)				160	
Base Capacity (vph)	214	229	2191	644	2970
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.19	1.46	1.33	0.38

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

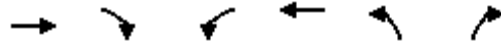
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↗
Traffic Volume (vph)	290	0	0	330	236	190
Future Volume (vph)	290	0	0	330	236	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	677			645	774	
Travel Time (s)	10.3			9.8	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	0	0	359	257	207
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	359	257	207
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	28.9%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	6.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	↘
Traffic Vol, veh/h	290	0	0	330	236	190
Future Vol, veh/h	290	0	0	330	236	190
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	315	0	0	359	257	207

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	495 158
Stage 1	-	-	-	-	315 -
Stage 2	-	-	-	-	180 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	-	0	0	-	504 859
Stage 1	-	0	0	-	713 -
Stage 2	-	0	0	-	833 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	504 859
Mov Cap-2 Maneuver	-	-	-	-	504 -
Stage 1	-	-	-	-	713 -
Stage 2	-	-	-	-	833 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	504	859	-	-
HCM Lane V/C Ratio	0.509	0.24	-	-
HCM Control Delay (s)	19.3	10.5	-	-
HCM Lane LOS	C	B	-	-
HCM 95th %tile Q(veh)	2.8	0.9	-	-

***Future with Project
with DDEP Conditions (Traffic Signal)
with Mitigation***

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	880	250	670	1840	70	450	642	170	210	2569	450
Future Volume (vph)	140	880	250	670	1840	70	450	642	170	210	2569	450
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	0		230
Storage Lanes	3		2	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	0.88	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	2787	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	2787	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			136			186			112
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		870			745			2037			1105	
Travel Time (s)		13.2			11.3			30.9			16.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	21.0	36.0	22.0	21.0	36.0	36.0	22.0	45.0	45.0	30.0	53.0	21.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

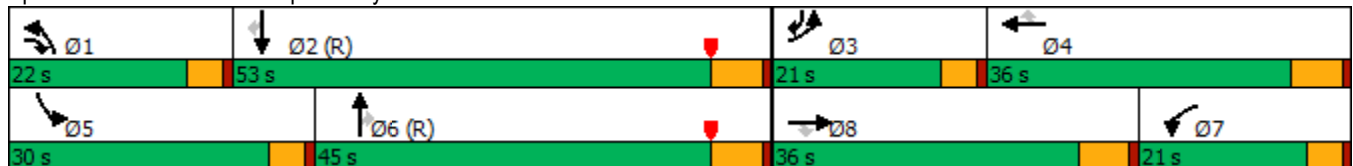


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	15.9%	27.3%	16.7%	15.9%	27.3%	27.3%	16.7%	34.1%	34.1%	22.7%	40.2%	15.9%
Maximum Green (s)	16.5	30.0	17.5	16.5	30.0	30.0	17.5	39.0	39.0	25.5	47.0	16.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	7.9	29.2	47.2	19.8	41.1	41.1	18.0	54.3	54.3	12.7	49.0	60.9
Actuated g/C Ratio	0.06	0.22	0.36	0.15	0.31	0.31	0.14	0.41	0.41	0.10	0.37	0.46
v/c Ratio	0.51	0.67	0.25	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.17	0.62
Control Delay	65.9	49.4	10.1	239.5	66.2	0.5	105.1	19.8	4.8	68.7	120.8	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	10.1	239.5	66.2	0.5	105.1	19.8	4.8	68.7	120.8	23.8
LOS	E	D	B	F	E	A	F	B	A	E	F	C
Approach Delay		43.5			109.4			48.2			103.9	
Approach LOS		D			F			D			F	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 127 (96%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.42
 Intersection Signal Delay: 88.0
 Intersection LOS: F
 Intersection Capacity Utilization 95.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	957	272	728	2000	76	489	698	185	228	2792	489
v/c Ratio	0.51	0.67	0.25	1.42	1.00	0.13	1.04	0.26	0.24	0.69	1.17	0.62
Control Delay	65.9	49.4	10.1	239.5	66.2	0.5	105.1	19.8	4.8	68.7	120.8	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	49.4	10.1	239.5	66.2	0.5	105.1	19.8	4.8	68.7	120.8	23.8
Queue Length 50th (ft)	45	218	34	~438	~500	0	~234	99	15	98	~828	240
Queue Length 95th (ft)	69	252	57	#589	#621	0	#350	128	38	139	#895	348
Internal Link Dist (ft)		790			665			1957			1025	
Turn Bay Length (ft)	270		265	280		340	300					230
Base Capacity (vph)	642	1553	1069	513	1993	586	468	2636	760	676	2378	892
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.62	0.25	1.42	1.00	0.13	1.04	0.26	0.24	0.34	1.17	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔	↕↕↕	↔↔
Traffic Volume (vph)	360	900	40	569	1000	410	20	572	291	470	1829	1560
Future Volume (vph)	360	900	40	569	1000	410	20	572	291	470	1829	1560
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		225	450		400
Storage Lanes	3		0	3		1	1		1	1		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.86	1.00	0.97	0.91	0.88
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5055	0	4990	5085	1583	1770	6408	1583	3433	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5055	0	4990	5085	1583	1770	6408	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				99			112			477
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			888			2037	
Travel Time (s)		32.4			35.4			13.5			30.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	978	43	618	1087	446	22	622	316	511	1988	1696
Shared Lane Traffic (%)												
Lane Group Flow (vph)	391	1021	0	618	1087	446	22	622	316	511	1988	1696
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	26.0	39.0		31.0	44.0	20.0	19.0	42.0	31.0	20.0	43.0	26.0

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

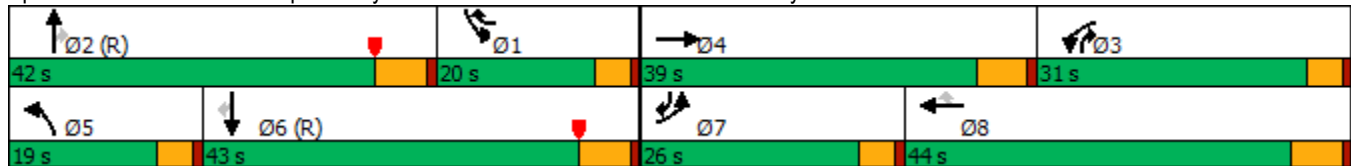


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	19.7%	29.5%		23.5%	33.3%	15.2%	14.4%	31.8%	23.5%	15.2%	32.6%	19.7%
Maximum Green (s)	21.5	33.0		26.5	38.0	15.5	14.5	36.0	26.5	15.5	37.0	21.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	22.0	33.4		25.0	36.4	52.4	7.7	41.6	70.6	16.0	54.0	80.0
Actuated g/C Ratio	0.17	0.25		0.19	0.28	0.40	0.06	0.32	0.53	0.12	0.41	0.61
v/c Ratio	0.47	0.80		0.65	0.78	0.65	0.21	0.31	0.35	1.23	0.96	0.90
Control Delay	51.9	51.1		53.0	48.1	18.8	52.5	28.5	5.6	149.9	38.0	9.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	51.1		53.0	48.1	18.8	52.5	28.5	5.6	149.9	38.0	9.7
LOS	D	D		D	D	B	D	C	A	F	D	A
Approach Delay		51.3			43.4			21.5			40.2	
Approach LOS		D			D			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.23
 Intersection Signal Delay: 40.7
 Intersection LOS: D
 Intersection Capacity Utilization 87.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	391	1021	618	1087	446	22	622	316	511	1988	1696
v/c Ratio	0.47	0.80	0.65	0.78	0.65	0.21	0.31	0.35	1.23	0.96	0.90
Control Delay	51.9	51.1	53.0	48.1	18.8	52.5	28.5	5.6	149.9	38.0	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	51.1	53.0	48.1	18.8	52.5	28.5	5.6	149.9	38.0	9.7
Queue Length 50th (ft)	108	294	177	313	140	18	144	49	~272	~655	175
Queue Length 95th (ft)	143	349	214	356	195	m34	123	75	m#221	m#456	m117
Internal Link Dist (ft)		2060		2257			808			1957	
Turn Bay Length (ft)						250		225	450		400
Base Capacity (vph)	831	1344	1020	1540	687	201	2020	885	416	2081	1877
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.76	0.61	0.71	0.65	0.11	0.31	0.36	1.23	0.96	0.90

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	357	565	1253	1918	510
Future Volume (vph)	140	357	565	1253	1918	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.91	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		5				554
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4834	2595	
Travel Time (s)	44.4			65.9	39.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	388	614	1362	2085	554
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	388	614	1362	2085	554
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

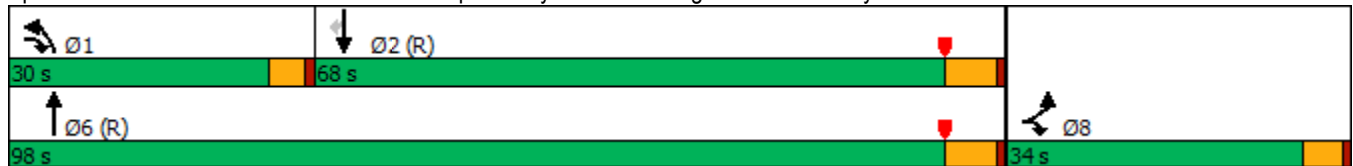


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effct Green (s)	30.6	60.5	25.8	93.4	63.5	63.5
Actuated g/C Ratio	0.23	0.46	0.20	0.71	0.48	0.48
v/c Ratio	0.37	0.30	0.92	0.54	0.85	0.53
Control Delay	46.0	23.1	66.0	11.4	25.0	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.0	23.1	66.0	11.4	25.0	3.3
LOS	D	C	E	B	C	A
Approach Delay	29.6			28.4	20.4	
Approach LOS	C			C	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 77 (58%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 24.4
 Intersection LOS: C
 Intersection Capacity Utilization 70.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	152	388	614	1362	2085	554
v/c Ratio	0.37	0.30	0.92	0.54	0.85	0.53
Control Delay	46.0	23.1	66.0	11.4	25.0	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.0	23.1	66.0	11.4	25.0	3.3
Queue Length 50th (ft)	111	115	232	480	694	46
Queue Length 95th (ft)	178	157	#365	97	m732	m42
Internal Link Dist (ft)	2848			4754	2515	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	411	1282	676	2520	2465	1052
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.30	0.91	0.54	0.85	0.53

Intersection Summary

















95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (vph)	94	680	1218	72	490	1355
Future Volume (vph)	94	680	1218	72	490	1355
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.95
Frt	0.882	0.850		0.850		
Flt Protected	0.989				0.950	
Satd. Flow (prot)	3152	1441	3539	1583	3433	3539
Flt Permitted	0.989				0.950	
Satd. Flow (perm)	3152	1441	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	350	350		55		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4834
Travel Time (s)	10.9		27.3			65.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	102	739	1324	78	533	1473
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	472	369	1324	78	533	1473
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
 4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	14.7	14.7	79.1	79.1	26.2	109.3
Actuated g/C Ratio	0.11	0.11	0.60	0.60	0.20	0.83
v/c Ratio	0.71	0.78	0.62	0.08	0.78	0.50
Control Delay	20.2	18.8	39.6	21.7	52.7	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	18.8	39.6	21.7	52.7	5.8
LOS	C	B	D	C	D	A
Approach Delay	19.6		38.6			18.3
Approach LOS	B		D			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 25.3
 Intersection LOS: C
 Intersection Capacity Utilization 68.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023























Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	472	369	1324	78	533	1473
v/c Ratio	0.71	0.78	0.62	0.08	0.78	0.50
Control Delay	20.2	18.8	39.6	21.7	52.7	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	18.8	39.6	21.7	52.7	5.8
Queue Length 50th (ft)	51	16	537	34	235	176
Queue Length 95th (ft)	96	125	695	81	m294	188
Internal Link Dist (ft)	558		1922			4754
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1092	639	2120	970	721	2929
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.58	0.62	0.08	0.74	0.50

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	125	0	430	10	1060	181	289	1580	0
Future Volume (vph)	0	0	0	125	0	430	10	1060	181	289	1580	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	100		100	100		0
Storage Lanes	0		0	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor				0.99			1.00		0.95	0.99		
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	0	0	3433	0	1531	1770	3539	1583	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	0	0	3391	0	1531	1761	3539	1506	3407	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						467			45			
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		183			612			1314			3196	
Travel Time (s)		5.0			11.9			19.9			48.4	
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	136	0	467	11	1152	197	314	1717	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	136	0	467	11	1152	197	314	1717	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		48			48			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)				50		50	50	50	50	50	50	
Trailing Detector (ft)				0		0	0	0	0	0	0	
Detector 1 Position(ft)				0		0	0	0	0	0	0	
Detector 1 Size(ft)				50		50	50	50	50	50	50	
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type				Prot		Prot	Prot	NA	pm+ov	Prot	NA	
Protected Phases				3		9!	5	2!	3	1	6	
Permitted Phases									2			
Detector Phase				3		9	5	2	3	1	6	
Switch Phase												

Lanes, Volumes, Timings
 5: Railroad Avenue & 13th Street

01/24/2023

Lane Group	Ø8	Ø10
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	8	10
Permitted Phases		
Detector Phase		
Switch Phase		

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/24/2023

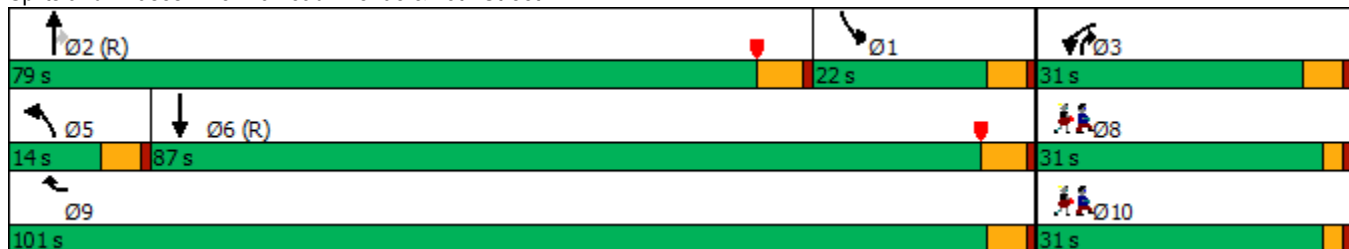


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)				10.0		9.0	9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				15.0		14.0	14.0	23.5	15.0	14.0	25.0	
Total Split (s)				31.0		101.0	14.0	79.0	31.0	22.0	87.0	
Total Split (%)				23.5%		76.5%	10.6%	59.8%	23.5%	16.7%	65.9%	
Maximum Green (s)				26.0		96.0	9.0	73.5	26.0	17.0	81.5	
Yellow Time (s)				4.0		4.0	4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0		1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				-1.0		-1.0	-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)				4.0		4.0	4.5	3.5	4.0	4.5	3.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None		None	None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effect Green (s)				12.2		111.8	9.5	90.3	102.0	17.5	109.5	
Actuated g/C Ratio				0.09		0.85	0.07	0.68	0.77	0.13	0.83	
v/c Ratio				0.43		0.34	0.09	0.48	0.17	0.69	0.58	
Control Delay				44.9		11.8	62.6	16.3	4.4	68.1	5.0	
Queue Delay				0.0		1.0	0.0	0.0	0.0	0.0	0.0	
Total Delay				44.9		12.8	62.6	16.3	4.4	68.1	5.0	
LOS				D		B	E	B	A	E	A	
Approach Delay					20.1			14.9			14.8	
Approach LOS					C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 15.6 Intersection LOS: B
 Intersection Capacity Utilization 69.9% ICU Level of Service C
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & 13th Street



Lane Group	Ø8	Ø10
Minimum Initial (s)	7.0	4.0
Minimum Split (s)	31.0	16.0
Total Split (s)	31.0	31.0
Total Split (%)	23%	23%
Maximum Green (s)	28.0	28.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	21.0	6.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

5: Railroad Avenue & 13th Street

01/24/2023



Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	136	467	11	1152	197	314	1717
v/c Ratio	0.43	0.34	0.09	0.48	0.17	0.69	0.58
Control Delay	44.9	11.8	62.6	16.3	4.4	68.1	5.0
Queue Delay	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	12.8	62.6	16.3	4.4	68.1	5.0
Queue Length 50th (ft)	29	247	10	241	48	143	36
Queue Length 95th (ft)	48	358	m21	275	56	193	622
Internal Link Dist (ft)				1234			3116
Turn Bay Length (ft)			100		100	100	
Base Capacity (vph)	702	1368	127	2421	1233	455	2936
Starvation Cap Reductn	0	621	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.63	0.09	0.48	0.16	0.69	0.58

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations	↔↔	↗	↔↔	↕↕	↕↕	↗			
Traffic Volume (vph)	423	100	290	848	1223	482			
Future Volume (vph)	423	100	290	848	1223	482			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		109				302			
Link Speed (mph)	35			35	45				
Link Distance (ft)	374			1566	1314				
Travel Time (s)	7.3			30.5	19.9				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	460	109	315	922	1329	524			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	460	109	315	922	1329	524			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	24			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	52.0	30.0	20.0	30.0	30.0

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023

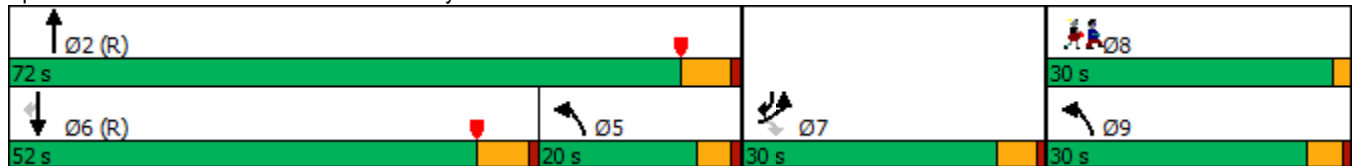


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	39.4%	22.7%	15%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	46.0	25.0	15.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effect Green (s)	24.5	24.5	23.0	86.2	68.5	93.0			
Actuated g/C Ratio	0.19	0.19	0.17	0.65	0.52	0.70			
v/c Ratio	0.72	0.29	0.53	0.40	0.72	0.44			
Control Delay	91.6	46.2	21.7	15.1	25.2	3.4			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	91.6	46.2	21.7	15.1	25.2	3.4			
LOS	F	D	C	B	C	A			
Approach Delay	82.9			16.8	19.0				
Approach LOS	F			B	B				

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	103 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	28.2
Intersection LOS:	C
Intersection Capacity Utilization	64.1%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	460	109	315	922	1329	524
v/c Ratio	0.72	0.29	0.53	0.40	0.72	0.44
Control Delay	91.6	46.2	21.7	15.1	25.2	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.6	46.2	21.7	15.1	25.2	3.4
Queue Length 50th (ft)	215	69	61	172	296	0
Queue Length 95th (ft)	273	123	78	208	490	170
Internal Link Dist (ft)	294			1486	1234	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	685	403	1092	2310	1836	1222
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.27	0.29	0.40	0.72	0.43

Intersection Summary

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1120	570	1028	1243	0	
Future Volume (vph)	0	1120	570	1028	1243	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.97			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1117			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1645		1196		
Travel Time (s)		6.2	28.0		23.3		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1217	620	1117	1351	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1217	620	1117	1351	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		62.0	15.0	70.0	70.0	47.0	
Total Split (%)		47.0%	11.4%	53.0%	53.0%	36%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023

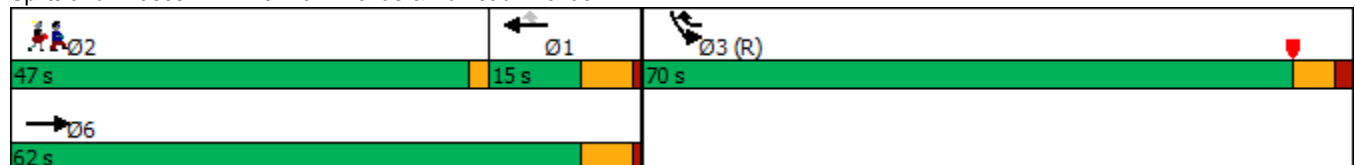


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		56.0	9.0	64.0	64.0		45.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		58.0	58.0	124.0	66.0		
Actuated g/C Ratio		0.44	0.44	0.94	0.50		
v/c Ratio		0.78	0.76	0.42	0.79		
Control Delay		36.0	16.3	2.2	8.0		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		36.0	16.3	2.2	8.0		
LOS		D	B	A	A		
Approach Delay		36.0	7.2		8.0		
Approach LOS		D	A		A		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	20 (15%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.79
Intersection Signal Delay:	15.6
Intersection LOS:	B
Intersection Capacity Utilization:	73.1%
ICU Level of Service:	D
Analysis Period (min):	15

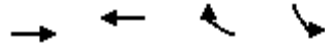
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1217	620	1117	1351
v/c Ratio	0.78	0.76	0.42	0.79
Control Delay	36.0	16.3	2.2	8.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	36.0	16.3	2.2	8.0
Queue Length 50th (ft)	461	115	37	30
Queue Length 95th (ft)	552	144	47	77
Internal Link Dist (ft)	282	1565		1116
Turn Bay Length (ft)				
Base Capacity (vph)	1555	818	2655	1716
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.78	0.76	0.42	0.79
Intersection Summary				

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑↔		↙	↘
Traffic Volume (vph)	140	1502	1279	30	330	110
Future Volume (vph)	140	1502	1279	30	330	110
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.997			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5070	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5070	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			4			120
Link Speed (mph)		40	40		30	
Link Distance (ft)		1545	3086		2703	
Travel Time (s)		26.3	52.6		61.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	1633	1390	33	359	120
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	1633	1423	0	359	120
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	25.0	98.0	73.0		34.0	34.0

Lanes, Volumes, Timings

8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	18.9%	74.2%	55.3%		25.8%	25.8%
Maximum Green (s)	20.5	92.0	67.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	21.0	94.8	69.8		29.2	29.2
Actuated g/C Ratio	0.16	0.72	0.53		0.22	0.22
v/c Ratio	0.54	0.45	0.53		0.92	0.27
Control Delay	59.1	9.8	10.0		62.8	7.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	59.1	9.8	10.0		62.8	7.4
LOS	E	A	A		E	A
Approach Delay	14.0		10.0		48.9	
Approach LOS	B		A		D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 50 (38%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 17.0
 Intersection LOS: B
 Intersection Capacity Utilization 61.4%
 ICU Level of Service B
 Analysis Period (min) 15

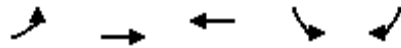
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	152	1633	1423	359	120
v/c Ratio	0.54	0.45	0.53	0.92	0.27
Control Delay	59.1	9.8	10.0	62.8	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	9.8	10.0	62.8	7.4
Queue Length 50th (ft)	131	238	147	253	9
Queue Length 95th (ft)	m163	253	164	#478	m34
Internal Link Dist (ft)		1465	3006	2623	
Turn Bay Length (ft)	150				
Base Capacity (vph)	281	3653	2684	402	452
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.45	0.53	0.89	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔	↑↑↑	↔
Traffic Volume (vph)	190	1282	10	810	739	216	10	130	110	554	870	270
Future Volume (vph)	190	1282	10	810	739	216	10	130	110	554	870	270
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		350
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	1770	4907	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	1770	4907	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			235			161		59	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3086			633			398			2854	
Travel Time (s)		52.6			10.8			9.0			64.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	1393	11	880	803	235	11	141	120	602	946	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	1393	11	880	803	235	11	141	120	602	1239	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	45.0	45.0	25.0	45.0	45.0	20.0	20.0	20.0	42.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

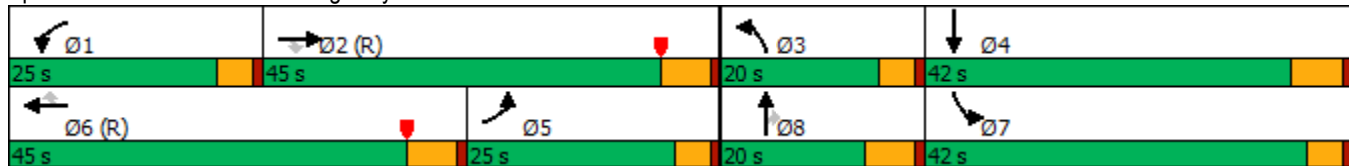


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	34.1%	34.1%	18.9%	34.1%	34.1%	15.2%	15.2%	15.2%	31.8%	31.8%	
Maximum Green (s)	20.5	39.0	39.0	20.5	39.0	39.0	15.5	14.0	14.0	37.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	41.0	41.0	21.0	41.0	41.0	6.5	11.0	9.0	43.0	53.6	
Actuated g/C Ratio	0.16	0.31	0.31	0.16	0.31	0.31	0.05	0.08	0.07	0.33	0.41	
v/c Ratio	0.38	0.88	0.02	1.61	0.51	0.36	0.07	0.33	0.47	1.05	0.61	
Control Delay	60.5	58.6	0.1	319.2	38.6	5.7	60.5	58.8	9.0	67.7	13.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.5	58.6	0.1	319.2	38.6	5.7	60.5	58.8	9.0	67.7	13.0	
LOS	E	E	A	F	D	A	E	E	A	E	B	
Approach Delay		58.5			163.3			36.9			30.9	
Approach LOS		E			F			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 121 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.61
 Intersection Signal Delay: 84.1
 Intersection Capacity Utilization 95.2%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service F

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023





















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	207	1393	11	880	803	235	11	141	120	602	1239
v/c Ratio	0.38	0.88	0.02	1.61	0.51	0.36	0.07	0.33	0.47	1.05	0.61
Control Delay	60.5	58.6	0.1	319.2	38.6	5.7	60.5	58.8	9.0	67.7	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	58.6	0.1	319.2	38.6	5.7	60.5	58.8	9.0	67.7	13.0
Queue Length 50th (ft)	88	422	0	~556	206	0	4	42	0	~565	173
Queue Length 95th (ft)	m123	489	m0	#686	249	60	14	65	26	m#715	m342
Internal Link Dist (ft)		3006			553			318			2774
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1579	568	546	1579	653	416	616	311	576	2028
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.88	0.02	1.61	0.51	0.36	0.03	0.23	0.39	1.05	0.61

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	371	1625	10	887	0	0	0	0	10	10	798
Future Volume (vph)	0	371	1625	10	887	0	0	0	0	10	10	798
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.897	0.850									0.850
Fl _t Protected				0.950							0.976	
Satd. Flow (prot)	0	3041	1441	1770	3539	0	0	0	0	0	1818	1583
Fl _t Permitted				0.950							0.976	
Satd. Flow (perm)	0	3041	1441	1770	3539	0	0	0	0	0	1818	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		633			469			446			465	
Travel Time (s)		10.8			8.0			10.1			10.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	403	1766	11	964	0	0	0	0	11	11	867
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1286	883	11	964	0	0	0	0	0	22	867
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary
 Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 83.7% ICU Level of Service E
 Analysis Period (min) 15

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	371	1625	10	887	0	0	0	0	10	10	798
Future Vol, veh/h	0	371	1625	10	887	0	0	0	0	10	10	798
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082378240	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	403	1766	11	964	0	0	0	0	11	11	867

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	403	0	0		1188	1389	-
Stage 1	-	-	-	-	-	-		986	986	-
Stage 2	-	-	-	-	-	-		202	403	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	1152	-	0		181	141	0
Stage 1	0	-	-	-	-	0		322	324	0
Stage 2	0	-	-	-	-	0		812	598	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1152	-	-		179	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		179	0	-
Stage 1	-	-	-	-	-	-		322	0	-
Stage 2	-	-	-	-	-	-		804	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	27.9
HCM LOS			D

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1152	-	179	-
HCM Lane V/C Ratio	-	-	0.009	-	0.121	-
HCM Control Delay (s)	-	-	8.2	-	27.9	0
HCM Lane LOS	-	-	A	-	D	A
HCM 95th %tile Q(veh)	-	-	0	-	0.4	-

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	390	0	0	60	0	10
Future Volume (vph)	390	0	0	60	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr t						0.865
Flt Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	469			639	290	
Travel Time (s)	8.0			10.9	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	424	0	0	65	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	424	0	0	65	0	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	83.7%
Analysis Period (min)	15
	ICU Level of Service E

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	390	0	0	60	0	10
Future Vol, veh/h	390	0	0	60	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	424	0	0	65	0	11

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	-	-	-	212
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	0	0	-	794
Stage 1	-	0	0	-	-
Stage 2	-	0	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	794
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	794	-	-
HCM Lane V/C Ratio	0.014	-	-
HCM Control Delay (s)	9.6	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	1229	0	0	811	582	270	10	279	0	0	0
Future Volume (vph)	180	1229	0	0	811	582	270	10	279	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.937				0.850			
Flt Protected	0.950						0.950	0.956				
Satd. Flow (prot)	1770	3539	0	0	4765	0	1681	1692	1583	0	0	0
Flt Permitted	0.950						0.950	0.956				
Satd. Flow (perm)	1770	3539	0	0	4765	0	1681	1692	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					212				85			
Link Speed (mph)		40			40			30				30
Link Distance (ft)		722			1900			440				464
Travel Time (s)		12.3			32.4			10.0				10.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	1336	0	0	882	633	293	11	303	0	0	0
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	196	1336	0	0	1515	0	152	152	303	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

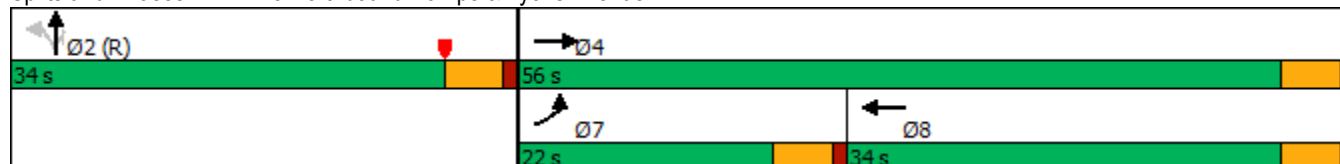


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			5.0		10.0	10.0	10.0			
Minimum Split (s)	15.0	23.0			23.0		33.0	33.0	33.0			
Total Split (s)	22.0	56.0			34.0		34.0	34.0	34.0			
Total Split (%)	24.4%	62.2%			37.8%		37.8%	37.8%	37.8%			
Maximum Green (s)	17.0	51.0			29.0		29.0	29.0	29.0			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.4	49.6			30.2		30.4	30.4	30.4			
Actuated g/C Ratio	0.16	0.55			0.34		0.34	0.34	0.34			
v/c Ratio	0.69	0.69			0.93dr		0.27	0.27	0.51			
Control Delay	48.6	16.6			31.0		24.1	24.0	21.0			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	48.6	16.6			31.0		24.1	24.0	21.0			
LOS	D	B			C		C	C	C			
Approach Delay		20.7			31.0			22.5				
Approach LOS		C			C			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 25.2 Intersection LOS: C
 Intersection Capacity Utilization 59.6% ICU Level of Service B
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

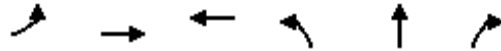
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	196	1336	1515	152	152	303
v/c Ratio	0.69	0.69	0.93dr	0.27	0.27	0.51
Control Delay	48.6	16.6	31.0	24.1	24.0	21.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	16.6	31.0	24.1	24.0	21.0
Queue Length 50th (ft)	106	258	253	67	67	99
Queue Length 95th (ft)	174	330	#356	118	118	180
Internal Link Dist (ft)		642	1820		360	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	334	2005	1740	567	571	590
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.67	0.87	0.27	0.27	0.51

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	888	130	250	803	127	200	240	200	152	400	270
Future Volume (vph)	140	888	130	250	803	127	200	240	200	152	400	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	2		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	0.97	0.95	1.00
Fr _t			0.850		0.980				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4984	0	1652	3303	1478	3204	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4984	0	1652	3303	1478	3204	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116		25				217			112
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1900			5304			887				1679
Travel Time (s)		32.4			90.4			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	965	141	272	873	138	217	261	217	165	435	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	965	141	272	1011	0	217	261	217	165	435	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			20				20
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

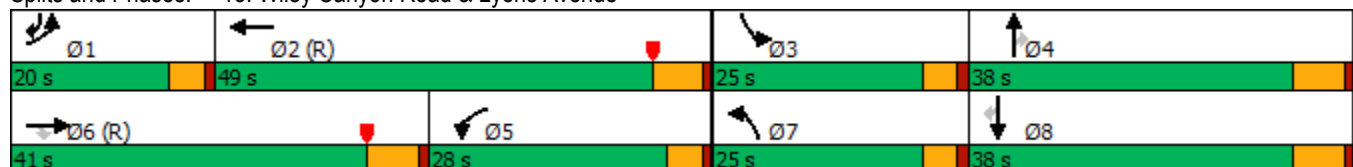


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	41.0	41.0	28.0	49.0		25.0	38.0	38.0	25.0	38.0	20.0
Total Split (%)	15.2%	31.1%	31.1%	21.2%	37.1%		18.9%	28.8%	28.8%	18.9%	28.8%	15.2%
Maximum Green (s)	15.5	35.0	35.0	23.5	43.0		20.5	32.0	32.0	20.5	32.0	15.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	12.3	47.9	47.9	24.0	59.6		20.1	31.5	31.5	12.6	24.0	40.3
Actuated g/C Ratio	0.09	0.36	0.36	0.18	0.45		0.15	0.24	0.24	0.10	0.18	0.31
v/c Ratio	0.51	0.81	0.23	0.91	0.45		0.86	0.33	0.42	0.54	0.70	0.52
Control Delay	62.7	45.0	9.3	67.1	10.2		85.3	42.3	7.5	63.2	56.6	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	45.0	9.3	67.1	10.2		85.3	42.3	7.5	63.2	56.6	25.2
LOS	E	D	A	E	B		F	D	A	E	E	C
Approach Delay		43.1			22.2			44.8				47.5
Approach LOS		D			C			D				D

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 37.9 Intersection LOS: D
 Intersection Capacity Utilization 73.9% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	965	141	272	1011	217	261	217	165	435	293
v/c Ratio	0.51	0.81	0.23	0.91	0.45	0.86	0.33	0.42	0.54	0.70	0.52
Control Delay	62.7	45.0	9.3	67.1	10.2	85.3	42.3	7.5	63.2	56.6	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	45.0	9.3	67.1	10.2	85.3	42.3	7.5	63.2	56.6	25.2
Queue Length 50th (ft)	64	394	14	229	167	182	96	0	70	185	126
Queue Length 95th (ft)	98	#550	65	#400	164	#318	135	64	105	233	195
Internal Link Dist (ft)		1820			5224		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	389	1197	609	300	2264	262	851	541	509	881	603
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.81	0.23	0.91	0.45	0.83	0.31	0.40	0.32	0.49	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	1090	60	127	1089	387	110	120	122	502	90	230
Future Volume (vph)	200	1090	60	127	1089	387	110	120	122	502	90	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	4746	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	4746	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			227			133			250
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5304			2371			465				790
Travel Time (s)		103.3			46.2			9.1				12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1185	65	138	1184	421	120	130	133	546	98	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	217	1185	65	138	1184	421	120	130	133	546	98	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

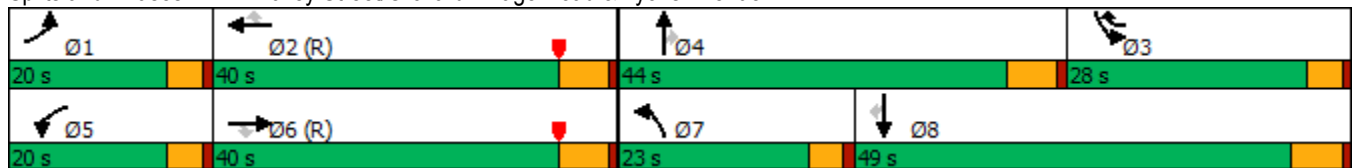


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	14.7	57.9	57.9	17.0	60.2	88.9	14.9	12.5	12.5	28.7	26.2	26.2
Actuated g/C Ratio	0.11	0.44	0.44	0.13	0.46	0.67	0.11	0.09	0.09	0.22	0.20	0.20
v/c Ratio	0.61	0.57	0.09	0.65	0.67	0.34	0.65	0.40	0.53	0.73	0.27	0.50
Control Delay	57.2	52.2	6.8	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	52.2	6.8	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
LOS	E	D	A	E	D	A	E	E	B	D	D	A
Approach Delay		50.9			31.6			48.4			40.4	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 41.1
 Intersection LOS: D
 Intersection Capacity Utilization 66.8%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	217	1185	65	138	1184	421	120	130	133	546	98	250
v/c Ratio	0.61	0.57	0.09	0.65	0.67	0.34	0.65	0.40	0.53	0.73	0.27	0.50
Control Delay	57.2	52.2	6.8	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	52.2	6.8	62.6	37.4	4.9	71.3	59.5	16.9	53.9	46.0	8.5
Queue Length 50th (ft)	100	371	3	101	550	61	99	56	0	226	72	0
Queue Length 95th (ft)	m127	438	m17	m110	m627	m185	162	87	62	272	119	69
Internal Link Dist (ft)		5224			2291			385			710	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	402	2081	755	229	1775	1250	237	1036	508	754	613	686
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.57	0.09	0.60	0.67	0.34	0.51	0.13	0.26	0.72	0.16	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	593	950	60	732	30	580	110	40	40	170	190
Future Volume (vph)	130	593	950	60	732	30	580	110	40	40	170	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1616	3539	1468	1637	3539	1356	3132	1863	1471	1671	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			383			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2371			962			528				401
Travel Time (s)		46.2			18.7			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	645	1033	65	796	33	630	120	43	43	185	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	645	1033	65	796	33	630	120	43	43	185	207
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22			22	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

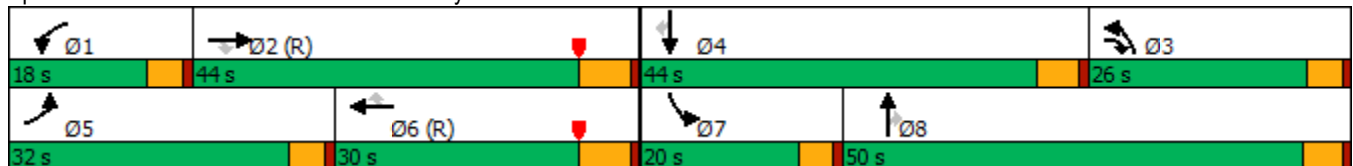


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	32.0	44.0	26.0	18.0	30.0	30.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	24.2%	33.3%	19.7%	13.6%	22.7%	22.7%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	27.5	38.0	21.5	13.5	24.0	24.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	24.0		24.0		24.0		32.0		32.0		32.0	
Pedestrian Calls (#/hr)	27		27		27		43		43		43	
Act Effct Green (s)	17.1	45.4	72.7	10.8	36.9	36.9	27.3	54.8	54.8	9.2	34.7	34.7
Actuated g/C Ratio	0.13	0.34	0.55	0.08	0.28	0.28	0.21	0.42	0.42	0.07	0.26	0.26
v/c Ratio	0.66	0.53	1.04	0.49	0.80	0.07	0.92	0.16	0.06	0.36	0.39	0.44
Control Delay	65.2	31.1	60.3	76.4	46.8	0.5	71.2	26.4	0.2	66.1	41.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.2	31.1	60.3	76.4	46.8	0.5	71.2	26.4	0.2	66.1	41.0	15.5
LOS	E	C	E	E	D	A	E	C	A	E	D	B
Approach Delay	50.3		47.3		60.6		31.3					
Approach LOS	D		D		E		C					

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 49 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 49.6 Intersection LOS: D
 Intersection Capacity Utilization 100.1% ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	141	645	1033	65	796	33	630	120	43	43	185	207
v/c Ratio	0.66	0.53	1.04	0.49	0.80	0.07	0.92	0.16	0.06	0.36	0.39	0.44
Control Delay	65.2	31.1	60.3	76.4	46.8	0.5	71.2	26.4	0.2	66.1	41.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.2	31.1	60.3	76.4	46.8	0.5	71.2	26.4	0.2	66.1	41.0	15.5
Queue Length 50th (ft)	90	296	~623	55	373	0	~324	65	0	36	123	42
Queue Length 95th (ft)	m160	246	#911	96	#493	1	#444	114	0	74	191	113
Internal Link Dist (ft)		2291			882			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	350	1217	993	175	990	501	687	773	690	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.53	1.04	0.37	0.80	0.07	0.92	0.16	0.06	0.21	0.34	0.40

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	77	190	17	44	0	420	23	35	0	13	92
Future Volume (vph)	163	77	190	17	44	0	420	23	35	0	13	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.910				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3221	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	3433	3221	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			207					38				132
Link Speed (mph)		35			30			25				30
Link Distance (ft)		612			408			505				500
Travel Time (s)		11.9			9.3			13.8				11.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	84	207	18	48	0	457	25	38	0	14	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	84	207	18	48	0	457	63	0	0	14	100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				36
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Over	Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	21.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	19.0	33.0	56.0	11.0	25.0		56.0	88.0			32.0	19.0
Total Split (%)	14.4%	25.0%	42.4%	8.3%	18.9%		42.4%	66.7%			24.2%	14.4%
Maximum Green (s)	15.0	28.0	51.0	7.0	20.0		51.0	83.0			27.0	15.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	12.6	19.6	51.0	6.4	10.4		51.0	98.0			42.0	12.6
Actuated g/C Ratio	0.10	0.15	0.39	0.05	0.08		0.39	0.74			0.32	0.10
v/c Ratio	0.54	0.30	0.17	0.21	0.33		0.34	0.03			0.01	0.37
Control Delay	64.8	53.8	0.3	65.9	63.6		29.6	2.9			34.5	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	64.8	53.8	0.3	65.9	63.6		29.6	2.9			34.5	7.6
LOS	E	D	A	E	E		C	A			C	A
Approach Delay		34.3			64.2			26.4			10.9	
Approach LOS		C			E			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 10 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 30.2
 Intersection LOS: C
 Intersection Capacity Utilization 38.3%
 ICU Level of Service A
 Analysis Period (min) 15

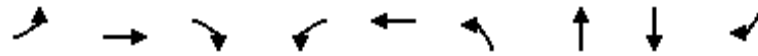
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	177	84	207	18	48	457	63	14	100
v/c Ratio	0.54	0.30	0.17	0.21	0.33	0.34	0.03	0.01	0.37
Control Delay	64.8	53.8	0.3	65.9	63.6	29.6	2.9	34.5	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.8	53.8	0.3	65.9	63.6	29.6	2.9	34.5	7.6
Queue Length 50th (ft)	83	69	0	15	40	141	2	4	0
Queue Length 95th (ft)	m121	m115	1	42	81	186	10	13	27
Internal Link Dist (ft)		532			328		425	420	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	392	395	1203	93	282	1326	2401	1126	297
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.21	0.17	0.19	0.17	0.34	0.03	0.01	0.34

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Traffic Volume (vph)	30	10	30	140	20	124	40	324	199	40	171	10
Future Volume (vph)	30	10	30	140	20	124	40	324	199	40	171	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	200		0
Storage Lanes	0		1	0		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Frt			0.850			0.850		0.943			0.992	
Flt Protected		0.964			0.958		0.950			0.950		
Satd. Flow (prot)	0	1796	1583	0	1785	1583	1770	3337	0	1770	5045	0
Flt Permitted		0.698			0.722		0.950			0.950		
Satd. Flow (perm)	0	1300	1583	0	1345	1583	1770	3337	0	1770	5045	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			74			135		116			9	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		391			842			164			505	
Travel Time (s)		10.7			23.0			2.5			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	11	33	152	22	135	43	352	216	43	186	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	33	0	174	135	43	568	0	43	197	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4			1	6		5	2
Permitted Phases	8		8	4		4						

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023

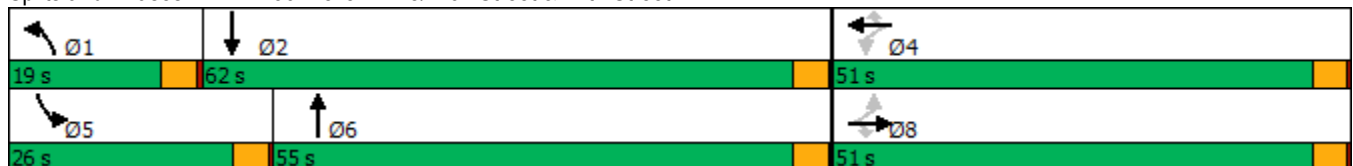


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0		20.0	20.0	
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	19.0	55.0		26.0	62.0	
Total Split (%)	38.6%	38.6%	38.6%	38.6%	38.6%	38.6%	14.4%	41.7%		19.7%	47.0%	
Maximum Green (s)	47.0	47.0	47.0	47.0	47.0	47.0	15.0	51.0		22.0	58.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		Max	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0			5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		18.7	18.7		18.7	18.7	7.9	51.1		22.1	69.5	
Actuated g/C Ratio		0.18	0.18		0.18	0.18	0.08	0.49		0.21	0.67	
v/c Ratio		0.19	0.10		0.72	0.34	0.32	0.33		0.11	0.06	
Control Delay		37.1	0.7		57.0	8.5	53.0	13.8		36.2	7.7	
Queue Delay		0.0	0.0		0.0	0.0	0.2	21.4		0.0	0.0	
Total Delay		37.1	0.7		57.0	8.5	53.2	35.2		36.2	7.7	
LOS		D	A		E	A	D	D		D	A	
Approach Delay		21.5			35.8			36.5			12.8	
Approach LOS		C			D			D			B	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	103.9
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	30.8
Intersection LOS:	C
Intersection Capacity Utilization:	44.1%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 17: Dockweiler Drive/Arch Street & 12th Street



Queues

17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	44	33	174	135	43	568	43	197
v/c Ratio	0.19	0.10	0.72	0.34	0.32	0.33	0.11	0.06
Control Delay	37.1	0.7	57.0	8.5	53.0	13.8	36.2	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.2	21.4	0.0	0.0
Total Delay	37.1	0.7	57.0	8.5	53.2	35.2	36.2	7.7
Queue Length 50th (ft)	25	0	110	0	27	89	23	16
Queue Length 95th (ft)	56	2	183	49	66	150	58	34
Internal Link Dist (ft)	311		762			84		425
Turn Bay Length (ft)							200	
Base Capacity (vph)	589	758	610	791	256	1701	375	3379
Starvation Cap Reductn	0	0	0	0	43	1135	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.04	0.29	0.17	0.20	1.00	0.11	0.06

Intersection Summary

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023

							Ø1	Ø2	Ø7	Ø8
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT				
Lane Configurations										
Traffic Volume (vph)	70	133	431	140	84	267				
Future Volume (vph)	70	133	431	140	84	267				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	100	0		0	0					
Storage Lanes	1	1		0	1					
Taper Length (ft)	25				25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95				
Frt		0.850	0.967							
Flt Protected	0.950				0.950					
Satd. Flow (prot)	1770	1583	1801	0	1770	3539				
Flt Permitted	0.950				0.950					
Satd. Flow (perm)	1770	1583	1801	0	1770	3539				
Right Turn on Red		Yes		Yes						
Satd. Flow (RTOR)		145	13							
Link Speed (mph)	30		45			45				
Link Distance (ft)	1101		354			164				
Travel Time (s)	25.0		5.4			2.5				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Adj. Flow (vph)	76	145	468	152	91	290				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	76	145	620	0	91	290				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Right	Left	Left				
Median Width(ft)	12		12			12				
Link Offset(ft)	0		0			0				
Crosswalk Width(ft)	16		16			16				
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)	15	9		9	15					
Number of Detectors	1	1	2		1	2				
Detector Template	Left	Right	Thru		Left	Thru				
Leading Detector (ft)	20	20	100		20	100				
Trailing Detector (ft)	0	0	0		0	0				
Detector 1 Position(ft)	0	0	0		0	0				
Detector 1 Size(ft)	20	20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0				
Detector 2 Position(ft)			94			94				
Detector 2 Size(ft)			6			6				
Detector 2 Type			Cl+Ex			Cl+Ex				
Detector 2 Channel										
Detector 2 Extend (s)			0.0			0.0				
Turn Type	Prot	Perm	NA		Prot	NA				
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8
Permitted Phases		7 8								

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023

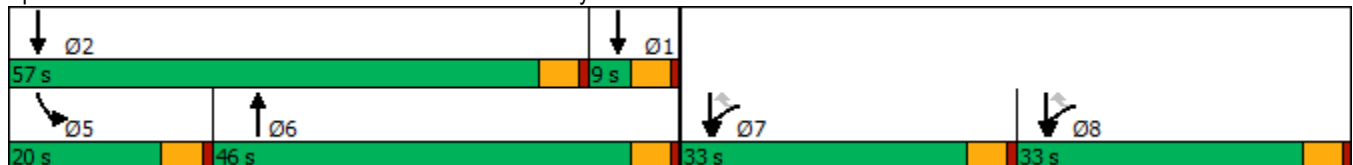


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		9.0	23.0	33.0	33.0
Total Split (s)			46.0		20.0		9.0	57.0	33.0	33.0
Total Split (%)			34.8%		15.2%		7%	43%	25%	25%
Maximum Green (s)			41.0		15.0		4.0	52.0	28.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lag	Lead	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Min	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	20.5	20.5	41.5		9.7	84.1				
Actuated g/C Ratio	0.24	0.24	0.49		0.12	1.00				
v/c Ratio	0.18	0.29	0.69		0.44	0.08				
Control Delay	27.8	6.6	23.5		43.8	0.0				
Queue Delay	0.0	0.0	0.0		0.8	0.0				
Total Delay	27.8	6.6	23.5		44.6	0.0				
LOS	C	A	C		D	A				
Approach Delay	13.9		23.5			10.7				
Approach LOS	B		C			B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 84.1
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 17.8
 Intersection LOS: B
 Intersection Capacity Utilization 52.2%
 ICU Level of Service A
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

01/24/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	76	145	620	91	290
v/c Ratio	0.18	0.29	0.69	0.44	0.08
Control Delay	27.8	6.6	23.5	43.8	0.0
Queue Delay	0.0	0.0	0.0	0.8	0.0
Total Delay	27.8	6.6	23.5	44.6	0.0
Queue Length 50th (ft)	33	0	244	46	0
Queue Length 95th (ft)	71	44	#467	98	0
Internal Link Dist (ft)	1021		274		84
Turn Bay Length (ft)	100				
Base Capacity (vph)	891	869	896	319	3539
Starvation Cap Reductn	0	0	0	88	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.17	0.69	0.39	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	327	20	390	551	10	10	10	270	10	10	10
Future Volume (vph)	10	327	20	390	551	10	10	10	270	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	100		100	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.874			0.955	
Flt Protected	0.950			0.950				0.998			0.984	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1625	0	0	1750	0
Flt Permitted	0.312			0.485				0.993			0.890	
Satd. Flow (perm)	581	1863	1583	903	1863	1583	0	1617	0	0	1583	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			22			8		293			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5199			3882			2703			372	
Travel Time (s)		118.2			88.2			61.4			8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	355	22	424	599	11	11	11	293	11	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	355	22	424	599	11	0	315	0	0	33	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		6			

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

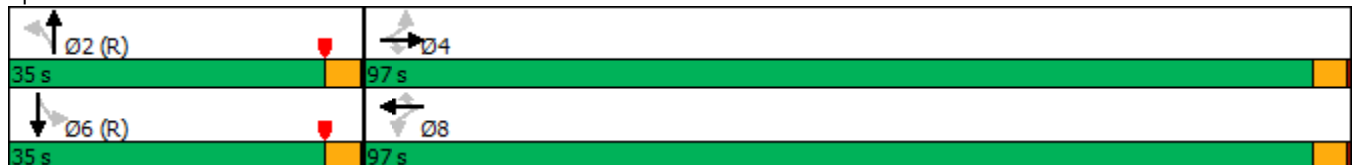


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	97.0	97.0	97.0	97.0	97.0	97.0	35.0	35.0		35.0	35.0	
Total Split (%)	73.5%	73.5%	73.5%	73.5%	73.5%	73.5%	26.5%	26.5%		26.5%	26.5%	
Maximum Green (s)	93.0	93.0	93.0	93.0	93.0	93.0	31.0	31.0		31.0	31.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	78.7	78.7	78.7	78.7	78.7	78.7		45.3			45.3	
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.60	0.60		0.34			0.34	
v/c Ratio	0.03	0.32	0.02	0.79	0.54	0.01		0.42			0.06	
Control Delay	7.0	13.1	2.2	24.2	12.9	0.6		3.5			28.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	7.0	13.1	2.2	24.2	12.9	0.6		3.5			28.1	
LOS	A	B	A	C	B	A		A			C	
Approach Delay		12.3			17.4			3.5			28.1	
Approach LOS		B			B			A			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 14.0
 Intersection LOS: B
 Intersection Capacity Utilization 66.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 19: Valle Del Oro & Dockweiler Drive



Queues

19: Valle Del Oro & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	355	22	424	599	11	315	33
v/c Ratio	0.03	0.32	0.02	0.79	0.54	0.01	0.42	0.06
Control Delay	7.0	13.1	2.2	24.2	12.9	0.6	3.5	28.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.0	13.1	2.2	24.2	12.9	0.6	3.5	28.1
Queue Length 50th (ft)	3	133	0	231	218	1	12	13
Queue Length 95th (ft)	9	142	8	328	214	m0	34	43
Internal Link Dist (ft)		5119			3802		2623	292
Turn Bay Length (ft)	100		100	100		100		
Base Capacity (vph)	409	1312	1121	636	1312	1117	747	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.27	0.02	0.67	0.46	0.01	0.42	0.06

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙↙	↗	↘	↑↑	↑↑	↗
Traffic Volume (vph)	417	319	269	318	1374	592
Future Volume (vph)	417	319	269	318	1374	592
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.974	0.850				0.850
Flt Protected	0.960		0.950			
Satd. Flow (prot)	3379	1441	1770	3539	3539	1583
Flt Permitted	0.960		0.950			
Satd. Flow (perm)	3379	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	18	250				290
Link Speed (mph)	30			50	50	
Link Distance (ft)	3882			2854	2872	
Travel Time (s)	88.2			38.9	39.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	453	347	292	346	1493	643
Shared Lane Traffic (%)		28%				
Lane Group Flow (vph)	550	250	292	346	1493	643
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	21.0	21.0	30.0	30.0
Total Split (s)	35.0	35.0	31.0	97.0	66.0	66.0
Total Split (%)	26.5%	26.5%	23.5%	73.5%	50.0%	50.0%
Maximum Green (s)	30.0	30.0	26.0	92.0	61.0	61.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	25.9	25.9	30.1	96.1	61.0	61.0
Actuated g/C Ratio	0.20	0.20	0.23	0.73	0.46	0.46
v/c Ratio	0.81	0.52	0.72	0.13	0.91	0.72
Control Delay	56.6	14.1	36.2	3.6	36.8	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	14.1	36.2	3.6	36.8	19.7
LOS	E	B	D	A	D	B
Approach Delay	43.3			18.5	31.6	
Approach LOS	D			B	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 31.9
 Intersection LOS: C
 Intersection Capacity Utilization 80.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	550	250	292	346	1493	643
v/c Ratio	0.81	0.52	0.72	0.13	0.91	0.72
Control Delay	56.6	14.1	36.2	3.6	36.8	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	14.1	36.2	3.6	36.8	19.7
Queue Length 50th (ft)	228	54	187	18	470	242
Queue Length 95th (ft)	286	100	#369	53	m548	m290
Internal Link Dist (ft)	3802			2774	2792	
Turn Bay Length (ft)	200	200	350			150
Base Capacity (vph)	781	520	403	2576	1635	887
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.48	0.72	0.13	0.91	0.72

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	47	14	380	38	680	28	413	214	550	1591	69
Future Volume (vph)	19	47	14	380	38	680	28	413	214	550	1591	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		0	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.729			0.722			0.950			0.950		
Satd. Flow (perm)	1358	3539	1583	1345	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			715			233			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		715			720			2872			794	
Travel Time (s)		10.8			10.9			39.2			10.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	51	15	413	41	739	30	449	233	598	1729	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	51	15	413	41	739	30	449	233	598	1729	75
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5		2
Permitted Phases	4		4	8		8			6			2

Lanes, Volumes, Timings
21: Sierra Highway & Placerita Canyon Road

01/24/2023

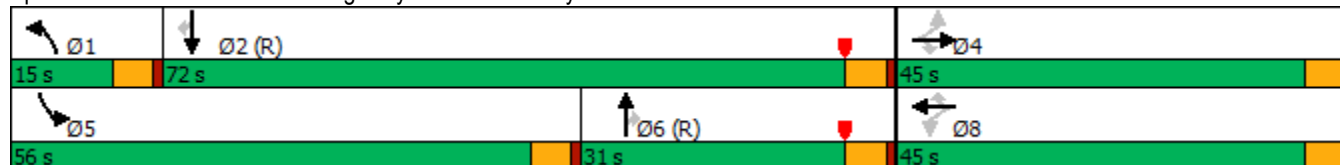


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.0	21.0	21.0	37.0	37.0	37.0	15.0	21.0	21.0	15.0	39.0	39.0
Total Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	15.0	31.0	31.0	56.0	72.0	72.0
Total Split (%)	34.1%	34.1%	34.1%	34.1%	34.1%	34.1%	11.4%	23.5%	23.5%	42.4%	54.5%	54.5%
Maximum Green (s)	40.0	40.0	40.0	40.0	40.0	40.0	10.0	26.0	26.0	51.0	67.0	67.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				25.0	25.0	25.0					27.0	27.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	40.0	40.0	40.0	40.0	40.0	40.0	10.0	29.1	29.1	47.9	73.0	73.0
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30	0.30	0.08	0.22	0.22	0.36	0.55	0.55
v/c Ratio	0.05	0.05	0.03	1.01	0.04	0.76	0.22	0.57	0.44	0.93	0.88	0.08
Control Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.7	49.4	24.3	53.2	28.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Total Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.7	49.4	24.3	53.2	30.0	3.8
LOS	C	C	A	F	C	A	E	D	C	D	C	A
Approach Delay		27.2			39.2			41.8			35.0	
Approach LOS		C			D			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 37.1
 Intersection LOS: D
 Intersection Capacity Utilization 92.5%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	51	15	413	41	739	30	449	233	598	1729	75
v/c Ratio	0.05	0.05	0.03	1.01	0.04	0.76	0.22	0.57	0.44	0.93	0.88	0.08
Control Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.7	49.4	24.3	53.2	28.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Total Delay	33.2	32.8	0.1	93.9	32.7	8.9	62.7	49.4	24.3	53.2	30.0	3.8
Queue Length 50th (ft)	13	16	0	~363	13	15	17	211	100	474	733	11
Queue Length 95th (ft)	34	32	0	#578	27	149	m37	270	172	#683	#918	m14
Internal Link Dist (ft)		635			640			2792			714	
Turn Bay Length (ft)			150			150	150			375		150
Base Capacity (vph)	411	1072	548	407	1072	978	134	781	530	683	1957	901
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	79	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.05	0.03	1.01	0.04	0.76	0.22	0.57	0.44	0.88	0.92	0.08

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	39	40	907	324	1210	2231
Future Volume (vph)	39	40	907	324	1210	2231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		43		265		
Link Speed (mph)	30		50			50
Link Distance (ft)	717		794			675
Travel Time (s)	16.3		10.8			9.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	43	986	352	1315	2425
Shared Lane Traffic (%)						
Lane Group Flow (vph)	42	43	986	352	1315	2425
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		

Lanes, Volumes, Timings
 22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

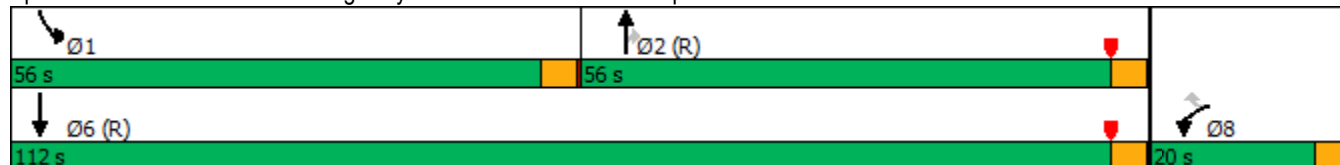


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	8.0	20.0
Total Split (s)	20.0	20.0	56.0	56.0	56.0	112.0
Total Split (%)	15.2%	15.2%	42.4%	42.4%	42.4%	84.8%
Maximum Green (s)	16.0	16.0	52.0	52.0	52.0	108.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effect Green (s)	8.5	8.5	57.2	57.2	56.2	118.2
Actuated g/C Ratio	0.06	0.06	0.43	0.43	0.43	0.90
v/c Ratio	0.37	0.30	0.64	0.42	0.90	0.77
Control Delay	67.4	21.6	26.6	7.4	44.7	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.5
Total Delay	67.4	21.6	26.6	7.4	44.7	5.8
LOS	E	C	C	A	D	A
Approach Delay	44.2		21.5			19.5
Approach LOS	D		C			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 20.4
 Intersection LOS: C
 Intersection Capacity Utilization 72.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR-14 Southbound Ramps



Queues

22: Sierra Highway & SR-14 Southbound Ramps

01/24/2023

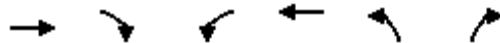


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	42	43	986	352	1315	2425
v/c Ratio	0.37	0.30	0.64	0.42	0.90	0.77
Control Delay	67.4	21.6	26.6	7.4	44.7	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.5
Total Delay	67.4	21.6	26.6	7.4	44.7	5.8
Queue Length 50th (ft)	35	0	237	0	507	297
Queue Length 95th (ft)	74	38	352	100	637	467
Internal Link Dist (ft)	637		714			595
Turn Bay Length (ft)					160	
Base Capacity (vph)	214	229	1532	835	1463	3167
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	297
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.19	0.64	0.42	0.90	0.84
Intersection Summary						

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	↗
Traffic Volume (vph)	220	0	0	790	448	100
Future Volume (vph)	220	0	0	790	448	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	720			392	651	
Travel Time (s)	10.9			5.9	14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	0	0	859	487	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	0	0	859	487	109
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Stop			Stop	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	41.3%
Analysis Period (min)	15
	ICU Level of Service A

Intersection	
Intersection Delay, s/veh	22.6
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↗	↗
Traffic Vol, veh/h	220	0	0	790	448	100
Future Vol, veh/h	220	0	0	790	448	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	239	0	0	859	487	109
Number of Lanes	2	0	0	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	2
HCM Control Delay	12.9	29.1	17
HCM LOS	B	D	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	100%	0%	0%	0%	0%	0%
Vol Thru, %	0%	0%	0%	100%	100%	100%	100%
Vol Right, %	0%	0%	100%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	224	224	100	110	110	395	395
LT Vol	224	224	0	0	0	0	0
Through Vol	0	0	0	110	110	395	395
RT Vol	0	0	100	0	0	0	0
Lane Flow Rate	243	243	109	120	120	429	429
Geometry Grp	7	7	7	8	8	8	8
Degree of Util (X)	0.528	0.528	0.145	0.28	0.221	0.861	0.651
Departure Headway (Hd)	7.801	7.801	4.818	8.434	6.652	7.223	5.459
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	465	465	749	426	539	502	661
Service Time	5.501	5.501	2.518	6.185	4.402	4.96	3.197
HCM Lane V/C Ratio	0.523	0.523	0.146	0.282	0.223	0.855	0.649
HCM Control Delay	18.9	18.9	8.3	14.5	11.3	40.3	17.9
HCM Lane LOS	C	C	A	B	B	E	C
HCM 95th-tile Q	3	3	0.5	1.1	0.8	9.1	4.8

Lanes, Volumes, Timings

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	820	1800	360	390	1320	430	450	1969	650	410	1530	230
Future Volume (vph)	820	1800	360	390	1320	430	450	1969	650	410	1530	230
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		265	280		340	300		0	300		230
Storage Lanes	3		2	2		1	2		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	0.86	0.88	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	6408	2787	3433	6408	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	6408	2787	3433	6408	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62			295			299			99
Link Speed (mph)		45		45			45			45		45
Link Distance (ft)		870		745			1975			1020		
Travel Time (s)		13.2		11.3			29.9			15.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36		36			24			24		
Link Offset(ft)		0		0			0			0		
Crosswalk Width(ft)		16		16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	10.0	10.0	4.0	10.0	4.0
Minimum Split (s)	12.0	43.0	12.0	12.0	43.0	43.0	12.0	49.0	49.0	12.0	50.0	12.0
Total Split (s)	25.0	39.0	26.0	22.0	36.0	36.0	26.0	45.0	45.0	26.0	45.0	25.0

Lanes, Volumes, Timings
 1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023

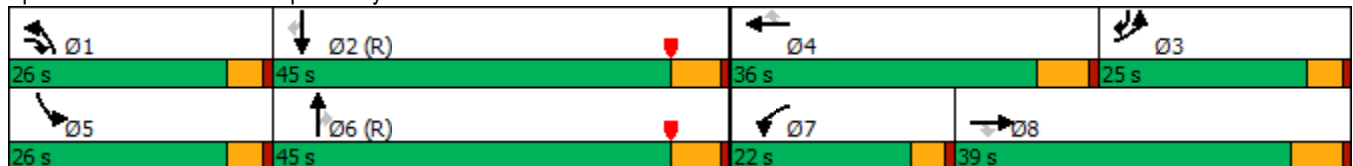


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	29.5%	19.7%	16.7%	27.3%	27.3%	19.7%	34.1%	34.1%	19.7%	34.1%	18.9%
Maximum Green (s)	20.5	33.0	21.5	17.5	30.0	30.0	21.5	39.0	39.0	21.5	39.0	20.5
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	5.5	1.0	1.0	3.0	3.0	1.0	5.5	5.5	1.0	5.5	1.0
Minimum Gap (s)	1.0	2.5	1.0	1.0	3.0	3.0	1.0	4.5	4.5	1.0	4.5	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Time To Reduce (s)	0.0	24.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	10.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		32.0			32.0	32.0		38.0	38.0		39.0	
Pedestrian Calls (#/hr)		2			5	5		1	1		1	
Act Effct Green (s)	21.0	35.4	60.3	17.6	32.0	32.0	20.9	43.0	43.0	20.0	42.1	63.1
Actuated g/C Ratio	0.16	0.27	0.46	0.13	0.24	0.24	0.16	0.33	0.33	0.15	0.32	0.48
v/c Ratio	1.12	1.14	0.30	0.92	0.92	0.77	0.90	1.02	0.99	0.86	0.81	0.31
Control Delay	121.3	114.3	19.3	83.3	59.6	26.1	75.8	38.7	24.1	71.2	45.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	19.3	83.3	59.6	26.1	75.8	38.7	24.1	71.2	45.5	7.5
LOS	F	F	B	F	E	C	E	D	C	E	D	A
Approach Delay		104.7			57.2			41.0			46.3	
Approach LOS		F			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 55 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 63.8
 Intersection LOS: E
 Intersection Capacity Utilization 90.8%
 ICU Level of Service E
 Analysis Period (min) 15

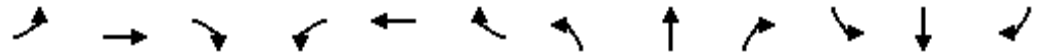
Splits and Phases: 1: Bouquet Canyon Rd & Newhall Ranch Rd



Queues

1: Bouquet Canyon Rd & Newhall Ranch Rd

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	891	1957	391	424	1435	467	489	2140	707	446	1663	250
v/c Ratio	1.12	1.14	0.30	0.92	0.92	0.77	0.90	1.02	0.99	0.86	0.81	0.31
Control Delay	121.3	114.3	19.3	83.3	59.6	26.1	75.8	38.7	24.1	71.2	45.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	114.3	19.3	83.3	59.6	26.1	75.8	38.7	24.1	71.2	45.5	7.5
Queue Length 50th (ft)	~311	~572	96	187	350	142	230	~590	~515	192	385	40
Queue Length 95th (ft)	#400	#647	136	#281	#417	285	m222	m422	m484	251	433	70
Internal Link Dist (ft)		790			665			1895			940	
Turn Bay Length (ft)	270		265	280		340	300			300		230
Base Capacity (vph)	793	1716	1328	468	1553	607	572	2088	717	572	2043	808
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	1.14	0.29	0.91	0.92	0.77	0.85	1.02	0.99	0.78	0.81	0.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↕↕↕		↔↔↔	↕↕↕	↔	↔	↕↕↕	↔	↔↔	↕↕↕	↔↔
Traffic Volume (vph)	1040	1620	10	395	990	160	20	2139	619	220	1550	590
Future Volume (vph)	1040	1620	10	395	990	160	20	2139	619	220	1550	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.94	0.91	0.91	0.94	0.91	1.00	1.00	0.86	1.00	0.97	0.91	0.88
Fr _t		0.999				0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	5080	0	4990	5085	1583	1770	6408	1583	3433	5085	2787
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4990	5080	0	4990	5085	1583	1770	6408	1583	3433	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				124			112			562
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2140			2337			3555			1975	
Travel Time (s)		32.4			35.4			53.9			29.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1130	1761	11	429	1076	174	22	2325	673	239	1685	641
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1130	1772	0	429	1076	174	22	2325	673	239	1685	641
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			48			48	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	44.0		12.0	48.0	12.0	12.0	46.0	12.0	12.0	44.0	12.0
Total Split (s)	40.0	48.0		22.0	30.0	20.0	18.0	42.0	22.0	20.0	44.0	40.0
Total Split (%)	30.3%	36.4%		16.7%	22.7%	15.2%	13.6%	31.8%	16.7%	15.2%	33.3%	30.3%
Maximum Green (s)	35.5	42.0		17.5	24.0	15.5	13.5	36.0	17.5	15.5	38.0	35.5
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	5.0	3.5	3.5	5.0	3.5

Lanes, Volumes, Timings

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023

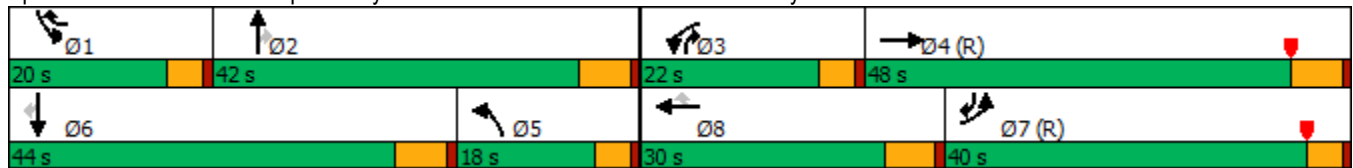


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0		-0.5	-2.0	-0.5	-0.5	-2.0	-0.5	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	None	None	None	Max	None	None	None	C-Max
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		33.0			37.0			35.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effect Green (s)	36.0	44.8		17.2	26.0	40.3	10.9	39.7	60.9	14.3	47.2	87.2
Actuated g/C Ratio	0.27	0.34		0.13	0.20	0.31	0.08	0.30	0.46	0.11	0.36	0.66
v/c Ratio	0.83	1.03		0.66	1.07	0.31	0.15	1.21	0.85	0.64	0.93	0.32
Control Delay	51.5	71.5		59.9	100.4	6.9	53.4	131.0	28.5	48.7	52.2	2.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	71.5		59.9	100.4	6.9	53.4	131.0	28.5	48.7	52.2	2.4
LOS	D	E		E	F	A	D	F	C	D	D	A
Approach Delay		63.7			80.4			107.6				39.4
Approach LOS		E			F			F				D

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 92 (70%), Referenced to phase 4:EBT and 7:EBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.21
 Intersection Signal Delay: 73.4 Intersection LOS: E
 Intersection Capacity Utilization 89.6% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road



Queues

2: Bouquet Canyon Rd & Valencia Boulevard/Soledad Canyon Road

01/24/2023



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1130	1772	429	1076	174	22	2325	673	239	1685	641
v/c Ratio	0.83	1.03	0.66	1.07	0.31	0.15	1.21	0.85	0.64	0.93	0.32
Control Delay	51.5	71.5	59.9	100.4	6.9	53.4	131.0	28.5	48.7	52.2	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	71.5	59.9	100.4	6.9	53.4	131.0	28.5	48.7	52.2	2.4
Queue Length 50th (ft)	324	~603	124	~374	15	17	~712	460	105	~611	42
Queue Length 95th (ft)	380	#701	163	#469	41	m18	m#620	m452	m130	#711	m45
Internal Link Dist (ft)		2060		2257			3475			1895	
Turn Bay Length (ft)											
Base Capacity (vph)	1360	1726	680	1001	588	187	1929	799	416	1818	2031
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	1.03	0.63	1.07	0.30	0.12	1.21	0.84	0.57	0.93	0.32

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	740	941	817	1958	1795	450
Future Volume (vph)	740	941	817	1958	1795	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290	0	290			386
Storage Lanes	1	2	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	0.97	0.95	0.91	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	3433	3539	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		7				489
Link Speed (mph)	45			50	45	
Link Distance (ft)	2928			4671	3555	
Travel Time (s)	44.4			63.7	53.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	804	1023	888	2128	1951	489
Shared Lane Traffic (%)						
Lane Group Flow (vph)	804	1023	888	2128	1951	489
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pt+ov	custom	NA	NA	Perm
Protected Phases	8	8 1	1	6	2	
Permitted Phases			1			2
Detector Phase	8	8 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	41.0	41.0
Total Split (s)	34.0		30.0	98.0	68.0	68.0

Lanes, Volumes, Timings

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023

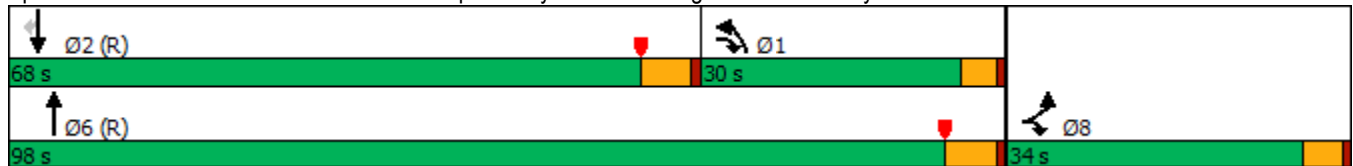


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	25.8%		22.7%	74.2%	51.5%	51.5%
Maximum Green (s)	29.0		25.5	92.0	62.0	62.0
Yellow Time (s)	4.0		3.5	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-0.5	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Min	C-Min	C-Min	C-Min
Walk Time (s)					7.0	7.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	30.0	61.4	27.4	94.0	62.6	62.6
Actuated g/C Ratio	0.23	0.47	0.21	0.71	0.47	0.47
v/c Ratio	2.00	0.79	1.25	0.84	0.81	0.49
Control Delay	486.5	35.4	155.3	9.3	19.9	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	486.5	35.4	155.3	9.3	19.9	2.5
LOS	F	D	F	A	B	A
Approach Delay	233.9			52.3	16.4	
Approach LOS	F			D	B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 75 (57%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.00
 Intersection Signal Delay: 85.8
 Intersection LOS: F
 Intersection Capacity Utilization 109.0%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy



Queues

3: Railroad Avenue/Bouquet Canyon Road & Magic Mountain Pkwy

01/24/2023




















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	804	1023	888	2128	1951	489
v/c Ratio	2.00	0.79	1.25	0.84	0.81	0.49
Control Delay	486.5	35.4	155.3	9.3	19.9	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	486.5	35.4	155.3	9.3	19.9	2.5
Queue Length 50th (ft)	~1072	418	~513	233	164	30
Queue Length 95th (ft)	#1319	520	m#574	m282	692	m37
Internal Link Dist (ft)	2848			4591	3475	
Turn Bay Length (ft)	290		290			386
Base Capacity (vph)	402	1299	711	2520	2465	1019
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.00	0.79	1.25	0.84	0.79	0.48

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	  
Traffic Volume (vph)	103	790	1465	104	890	1915
Future Volume (vph)	103	790	1465	104	890	1915
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		222	334	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	0.97	0.91
Frt	0.881	0.850		0.850		
Flt Protected	0.990				0.950	
Satd. Flow (prot)	3152	1441	3539	1583	3433	5085
Flt Permitted	0.990				0.950	
Satd. Flow (perm)	3152	1441	3539	1583	3433	5085
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	343	343		66		
Link Speed (mph)	40		50			50
Link Distance (ft)	638		2002			4671
Travel Time (s)	10.9		27.3			63.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	859	1592	113	967	2082
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	542	429	1592	113	967	2082
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	custom	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	5	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	35.0	35.0	20.0	20.0
Total Split (s)	39.0	39.0	63.0	63.0	30.0	93.0

Lanes, Volumes, Timings
4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (%)	29.5%	29.5%	47.7%	47.7%	22.7%	70.5%
Maximum Green (s)	34.0	34.0	57.0	57.0	25.5	87.0
Yellow Time (s)	4.0	4.0	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-2.0	-0.5	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	27.0	27.0	21.0	21.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	20.5	20.5	59.0	59.0	40.5	103.5
Actuated g/C Ratio	0.16	0.16	0.45	0.45	0.31	0.78
v/c Ratio	0.69	0.84	1.01	0.15	0.92	0.52
Control Delay	22.5	25.7	55.7	16.2	50.5	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	25.7	55.7	16.2	50.5	5.0
LOS	C	C	E	B	D	A
Approach Delay	23.9		53.1			19.5
Approach LOS	C		D			B

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 37 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 30.2
 Intersection LOS: C
 Intersection Capacity Utilization 87.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 4: Railroad Avenue & Oak Ridge Drive



Queues

4: Railroad Avenue & Oak Ridge Drive

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	542	429	1592	113	967	2082
v/c Ratio	0.69	0.84	1.01	0.15	0.92	0.52
Control Delay	22.5	25.7	55.7	16.2	50.5	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	25.7	55.7	16.2	50.5	5.0
Queue Length 50th (ft)	83	78	~470	27	330	100
Queue Length 95th (ft)	124	202	#874	m63	#707	387
Internal Link Dist (ft)	558		1922			4591
Turn Bay Length (ft)				222	334	
Base Capacity (vph)	1087	634	1581	744	1052	3985
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.68	1.01	0.15	0.92	0.52

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔↔		↗	↖	↕	↗	↔↔	↗↔	↕↔
Traffic Volume (vph)	0	0	0	251	0	439	10	1560	296	398	1610	0
Future Volume (vph)	0	0	0	251	0	439	10	1560	296	398	1610	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	140		0
Storage Lanes	0		0	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	0	0	3433	0	1583	1770	3539	1583	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	0	0	3433	0	1583	1770	3539	1583	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						477			21			
Link Speed (mph)		25			25			45				45
Link Distance (ft)		337			628			1217				3340
Travel Time (s)		9.2			17.1			18.4				50.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	273	0	477	11	1696	322	433	1750	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	273	0	477	11	1696	322	433	1750	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	2	1	1		2
Detector Template				Left		Right	Left	Thru	Right	Left		Thru
Leading Detector (ft)				20		20	20	100	20	20		100
Trailing Detector (ft)				0		0	0	0	0	0		0
Detector 1 Position(ft)				0		0	0	0	0	0		0
Detector 1 Size(ft)				20		20	20	6	20	20		6
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)								94				94
Detector 2 Size(ft)								6				6
Detector 2 Type								Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)								0.0				0.0
Turn Type				Prot		Prot	Prot	NA	pm+ov	Prot		NA
Protected Phases				3		9!	5	2!	3	1		6
Permitted Phases									2			

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/24/2023

Lane Group	Ø8	Ø10
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	8	10
Permitted Phases		

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/24/2023

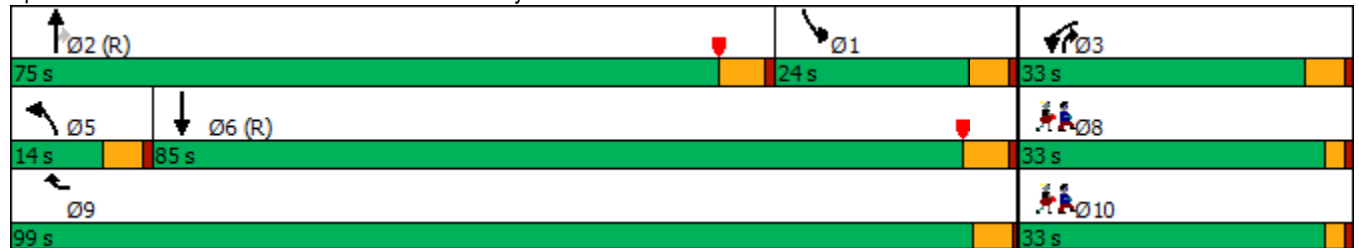


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				3		9	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)				10.0		4.0	9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				33.0		14.0	14.0	23.5	33.0	14.0	23.5	
Total Split (s)				33.0		99.0	14.0	75.0	33.0	24.0	85.0	
Total Split (%)				25.0%		75.0%	10.6%	56.8%	25.0%	18.2%	64.4%	
Maximum Green (s)				28.0		94.5	9.0	69.5	28.0	19.0	79.5	
Yellow Time (s)				4.0		4.0	4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0		0.5	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0		4.5	5.0	5.5	5.0	5.0	5.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None		None	None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				16.0		106.5	9.0	81.5	103.0	19.0	102.7	
Actuated g/C Ratio				0.12		0.81	0.07	0.62	0.78	0.14	0.78	
v/c Ratio				0.66		0.35	0.09	0.78	0.26	0.88	0.64	
Control Delay				62.9		0.9	57.7	14.9	2.4	86.2	15.4	
Queue Delay				0.0		0.2	0.0	0.0	0.0	0.0	0.0	
Total Delay				62.9		1.1	57.7	14.9	2.4	86.2	15.4	
LOS				E		A	E	B	A	F	B	
Approach Delay					23.6			13.2			29.4	
Approach LOS					C			B			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 21.9 Intersection LOS: C
 Intersection Capacity Utilization 78.6% ICU Level of Service D
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/24/2023

Lane Group	Ø8	Ø10
Detector Phase		
Switch Phase		
Minimum Initial (s)	4.0	4.0
Minimum Split (s)	31.0	16.0
Total Split (s)	33.0	33.0
Total Split (%)	25%	25%
Maximum Green (s)	30.0	30.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	21.0	6.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

5: Railroad Avenue & Driveway/13th Street

01/24/2023



Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	273	477	11	1696	322	433	1750
v/c Ratio	0.66	0.35	0.09	0.78	0.26	0.88	0.64
Control Delay	62.9	0.9	57.7	14.9	2.4	86.2	15.4
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	1.1	57.7	14.9	2.4	86.2	15.4
Queue Length 50th (ft)	118	4	9	315	15	204	659
Queue Length 95th (ft)	162	9	m12	434	54	#286	874
Internal Link Dist (ft)				1137			3260
Turn Bay Length (ft)	110		100		570	140	
Base Capacity (vph)	728	1369	120	2185	1239	494	2753
Starvation Cap Reductn	0	323	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.46	0.09	0.78	0.26	0.88	0.64

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Lane Configurations	↔↔	↗	↔↔	↕↕	↕↕	↗			
Traffic Volume (vph)	551	120	210	1405	908	803			
Future Volume (vph)	551	120	210	1405	908	803			
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0	0	400			300			
Storage Lanes	2	1	2			1			
Taper Length (ft)	25		25						
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00			
Frt		0.850				0.850			
Flt Protected	0.950		0.950						
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583			
Flt Permitted	0.950		0.950						
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583			
Right Turn on Red		Yes				Yes			
Satd. Flow (RTOR)		130				519			
Link Speed (mph)	35			35	45				
Link Distance (ft)	1347			1246	1217				
Travel Time (s)	26.2			24.3	18.4				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	599	130	228	1527	987	873			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	599	130	228	1527	987	873			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Left	Left	Right			
Median Width(ft)	34			24	24				
Link Offset(ft)	0			0	0				
Crosswalk Width(ft)	16			16	16				
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15	9	15			9			
Number of Detectors	1	1	1	1	1	1			
Detector Template									
Leading Detector (ft)	50	50	50	50	50	50			
Trailing Detector (ft)	0	0	0	0	0	0			
Detector 1 Position(ft)	0	0	0	0	0	0			
Detector 1 Size(ft)	50	50	50	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov			
Protected Phases	7		5 9	2	6	7	5	8	9
Permitted Phases		7				6			
Detector Phase	7	7	5 9	2	6	7			
Switch Phase									
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		33.0	35.0	21.0	10.0	30.0	8.5
Total Split (s)	30.0	30.0		72.0	42.0	30.0	30.0	30.0	30.0

Lanes, Volumes, Timings
 6: Railroad Avenue & Lyons Avenue

01/24/2023

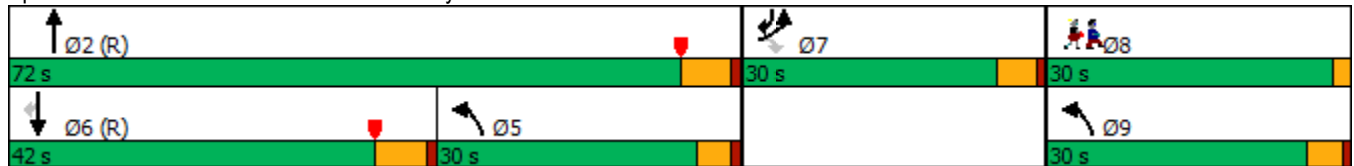


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5	Ø8	Ø9
Total Split (%)	22.7%	22.7%		54.5%	31.8%	22.7%	23%	23%	23%
Maximum Green (s)	25.0	25.0		66.0	36.0	25.0	25.5	28.0	25.5
Yellow Time (s)	4.0	4.0		5.0	5.0	4.0	3.5	2.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)	-1.0	-1.0		-2.0	-2.0	-1.0			
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0			
Lead/Lag					Lead		Lag		
Lead-Lag Optimize?					Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		C-Min	C-Min	None	None	None	None
Walk Time (s)					7.0			7.0	
Flash Dont Walk (s)					22.0			18.0	
Pedestrian Calls (#/hr)					0			0	
Act Effct Green (s)	31.3	31.3	23.4	79.9	61.2	92.6			
Actuated g/C Ratio	0.24	0.24	0.18	0.61	0.46	0.70			
v/c Ratio	0.74	0.27	0.37	0.71	0.60	0.69			
Control Delay	65.6	22.0	24.8	28.0	22.0	7.0			
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	65.6	22.0	24.8	28.0	22.0	7.0			
LOS	E	C	C	C	C	A			
Approach Delay	57.8			27.6	14.9				
Approach LOS	E			C	B				

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	117 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	27.3
Intersection LOS:	C
Intersection Capacity Utilization:	62.4%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 6: Railroad Avenue & Lyons Avenue



Queues

6: Railroad Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	599	130	228	1527	987	873
v/c Ratio	0.74	0.27	0.37	0.71	0.60	0.69
Control Delay	65.6	22.0	24.8	28.0	22.0	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.6	22.0	24.8	28.0	22.0	7.0
Queue Length 50th (ft)	159	35	52	592	158	68
Queue Length 95th (ft)	#331	88	53	441	351	350
Internal Link Dist (ft)	1267			1166	1137	
Turn Bay Length (ft)			400			300
Base Capacity (vph)	814	474	1352	2142	1641	1265
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.27	0.17	0.71	0.60	0.69

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

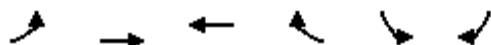
01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Lane Configurations		↑↑	↑	↑↑	↑↑		
Traffic Volume (vph)	0	1520	960	1365	828	0	
Future Volume (vph)	0	1520	960	1365	828	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.88	0.97	1.00	
Ped Bike Factor				0.98			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	3539	1863	2787	3433	0	
Flt Permitted					0.950		
Satd. Flow (perm)	0	3539	1863	2717	3433	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)				1084			
Link Speed (mph)		40	40		35		
Link Distance (ft)		362	1913		1540		
Travel Time (s)		6.2	32.6		30.0		
Confl. Peds. (#/hr)				6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1652	1043	1484	900	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1652	1043	1484	900	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		24		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15			9	15	9	
Number of Detectors		1	1	1	1		
Detector Template							
Leading Detector (ft)		50	50	50	50		
Trailing Detector (ft)		0	0	0	0		
Detector 1 Position(ft)		0	0	0	0		
Detector 1 Size(ft)		50	50	50	50		
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		
Turn Type		NA	NA	pm+ov	Prot		
Protected Phases		6	1	3	3	2	
Permitted Phases				1			
Detector Phase		6	1	3	3		
Switch Phase							
Minimum Initial (s)		4.0	4.0	4.0	4.0	1.0	
Minimum Split (s)		22.0	11.0	22.0	22.0	44.0	
Total Split (s)		82.0	38.0	50.0	50.0	44.0	
Total Split (%)		62.1%	28.8%	37.9%	37.9%	33%	

Lanes, Volumes, Timings
7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2
Maximum Green (s)		76.0	32.0	44.0	44.0		42.0
Yellow Time (s)		5.0	5.0	4.0	4.0		2.0
All-Red Time (s)		1.0	1.0	2.0	2.0		0.0
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)		4.0	4.0	4.0	4.0		
Lead/Lag			Lag				Lead
Lead-Lag Optimize?			Yes				Yes
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0
Recall Mode		None	Max	C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							35.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)		78.0	78.0	124.0	46.0		
Actuated g/C Ratio		0.59	0.59	0.94	0.35		
v/c Ratio		0.79	0.95	0.56	0.75		
Control Delay		24.3	32.1	3.5	18.8		
Queue Delay		0.0	0.0	0.0	0.0		
Total Delay		24.3	32.1	3.5	18.8		
LOS		C	C	A	B		
Approach Delay		24.3	15.3		18.8		
Approach LOS		C	B		B		

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	32 (24%), Referenced to phase 3:SBL, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.95
Intersection Signal Delay:	18.9
Intersection LOS:	B
Intersection Capacity Utilization:	80.8%
ICU Level of Service:	D
Analysis Period (min):	15

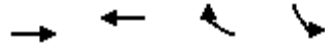
Splits and Phases: 7: Newhall Avenue & Railroad Avenue



Queues

7: Newhall Avenue & Railroad Avenue

01/24/2023



Lane Group	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	1652	1043	1484	900
v/c Ratio	0.79	0.95	0.56	0.75
Control Delay	24.3	32.1	3.5	18.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.3	32.1	3.5	18.8
Queue Length 50th (ft)	543	375	119	201
Queue Length 95th (ft)	643	#1155	89	101
Internal Link Dist (ft)	282	1833		1460
Turn Bay Length (ft)				
Base Capacity (vph)	2091	1100	2642	1196
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.79	0.95	0.56	0.75

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑		↗	↖
Traffic Volume (vph)	240	2019	1290	90	60	130
Future Volume (vph)	240	2019	1290	90	60	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	0
Storage Lanes	3			2	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.990			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5034	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5034	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			11			141
Link Speed (mph)		40	40		30	
Link Distance (ft)		1403	3070		2619	
Travel Time (s)		23.9	52.3		59.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	2195	1402	98	65	141
Shared Lane Traffic (%)						
Lane Group Flow (vph)	261	2195	1500	0	65	141
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1		1	1
Detector Template						
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	50	50	50		50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.0	25.0		34.0	34.0
Total Split (s)	35.0	98.0	63.0		34.0	34.0

Lanes, Volumes, Timings
8: Newhall Avenue & Valle Del Oro

01/24/2023

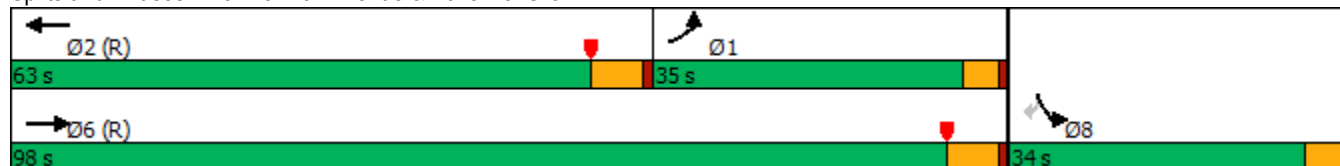


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (%)	26.5%	74.2%	47.7%		25.8%	25.8%
Maximum Green (s)	30.5	92.0	57.0		29.0	29.0
Yellow Time (s)	3.5	5.0	5.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)			7.0		7.0	7.0
Flash Dont Walk (s)			11.0		22.0	22.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	31.0	112.8	77.8		11.2	11.2
Actuated g/C Ratio	0.23	0.85	0.59		0.08	0.08
v/c Ratio	0.63	0.51	0.51		0.43	0.54
Control Delay	54.6	3.2	4.7		61.9	15.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	54.6	3.2	4.7		61.9	15.2
LOS	D	A	A		E	B
Approach Delay	8.7		4.7		29.9	
Approach LOS	A		A		C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 53 (40%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 8.3
 Intersection Capacity Utilization 53.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

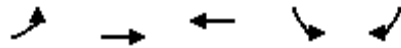
Splits and Phases: 8: Newhall Avenue & Valle Del Oro



Queues

8: Newhall Avenue & Valle Del Oro

01/24/2023



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	261	2195	1500	65	141
v/c Ratio	0.63	0.51	0.51	0.43	0.54
Control Delay	54.6	3.2	4.7	61.9	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.6	3.2	4.7	61.9	15.2
Queue Length 50th (ft)	219	173	75	52	13
Queue Length 95th (ft)	m280	202	86	m59	m22
Internal Link Dist (ft)		1323	2990	2539	
Turn Bay Length (ft)	150				
Base Capacity (vph)	415	4344	2970	402	468
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.63	0.51	0.51	0.16	0.30

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	1709	10	240	1120	814	50	1490	260	247	290	200
Future Volume (vph)	370	1709	10	240	1120	814	50	1490	260	247	290	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		0	300		300	250		300
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.939	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	1770	4775	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	1770	4775	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			273			233		132	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		3070			687			398			2905	
Travel Time (s)		52.3			11.7			9.0			66.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	1858	11	261	1217	885	54	1620	283	268	315	217
Shared Lane Traffic (%)												
Lane Group Flow (vph)	402	1858	11	261	1217	885	54	1620	283	268	532	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	40.0	8.5	12.0	12.0	8.5	42.0	
Total Split (s)	25.0	50.0	50.0	20.0	45.0	45.0	20.0	42.0	42.0	20.0	42.0	

Lanes, Volumes, Timings
 9: Sierra Highway & Newhall Avenue

01/24/2023

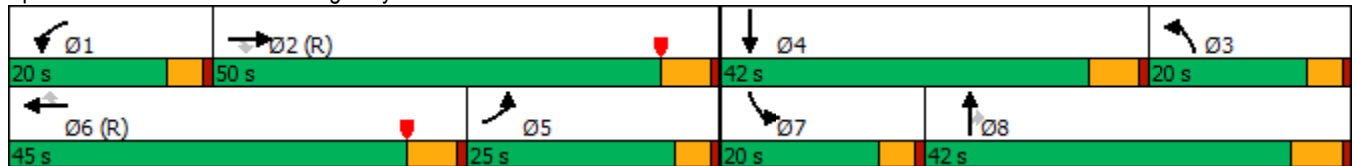


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	18.9%	37.9%	37.9%	15.2%	34.1%	34.1%	15.2%	31.8%	31.8%	15.2%	31.8%	
Maximum Green (s)	20.5	44.0	44.0	15.5	39.0	39.0	15.5	36.0	36.0	15.5	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0	-0.5	-2.0	0.0	-0.5	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0					7.0	
Flash Dont Walk (s)		27.0	27.0		26.0	26.0					29.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)	21.0	47.3	47.3	14.7	41.0	41.0	28.4	38.0	36.0	16.0	27.6	
Actuated g/C Ratio	0.16	0.36	0.36	0.11	0.31	0.31	0.22	0.29	0.27	0.12	0.21	
v/c Ratio	0.74	1.02	0.02	0.68	0.77	1.30	0.07	1.11	0.47	1.25	0.48	
Control Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	102.2	11.1	185.5	29.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	102.2	11.1	185.5	29.1	
LOS	E	F	A	E	D	F	D	F	B	F	C	
Approach Delay		79.6			95.7			87.3			81.5	
Approach LOS		E			F			F			F	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	130
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.30
Intersection Signal Delay:	87.0
Intersection LOS:	F
Intersection Capacity Utilization:	99.7%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 9: Sierra Highway & Newhall Avenue



Queues

9: Sierra Highway & Newhall Avenue

01/24/2023
























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	402	1858	11	261	1217	885	54	1620	283	268	532
v/c Ratio	0.74	1.02	0.02	0.68	0.77	1.30	0.07	1.11	0.47	1.25	0.48
Control Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	102.2	11.1	185.5	29.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.6	80.7	0.0	65.8	45.2	173.8	38.6	102.2	11.1	185.5	29.1
Queue Length 50th (ft)	181	~624	0	111	345	~803	18	~578	32	~279	89
Queue Length 95th (ft)	243	#751	m0	158	403	#1059	37	#675	113	m#470	m157
Internal Link Dist (ft)		2990			607			318			2825
Turn Bay Length (ft)	200		200	200			300		300	250	
Base Capacity (vph)	546	1821	662	416	1579	679	790	1463	601	214	1609
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	1.02	0.02	0.63	0.77	1.30	0.07	1.11	0.47	1.25	0.33

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	0	999	1357	20	1954	0	0	0	0	10	0	410
Future Volume (vph)	0	999	1357	20	1954	0	0	0	0	10	0	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.942	0.850									0.850
Fl _t Protected				0.950							0.950	
Satd. Flow (prot)	0	3194	1441	1770	3539	0	0	0	0	0	1770	1583
Fl _t Permitted				0.950							0.950	
Satd. Flow (perm)	0	3194	1441	1770	3539	0	0	0	0	0	1770	1583
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		687			492			504			602	
Travel Time (s)		11.7			8.4			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1086	1475	22	2124	0	0	0	0	11	0	446
Shared Lane Traffic (%)			46%									
Lane Group Flow (vph)	0	1765	796	22	2124	0	0	0	0	0	11	446
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	86.1%
Analysis Period (min)	15
	ICU Level of Service E

HCM 6th TWSC
 10: SR 14 Southbound Ramp & Newhall Avenue

01/24/2023

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Vol, veh/h	0	999	1357	20	1954	0	0	0	0	10	0	410
Future Vol, veh/h	0	999	1357	20	1954	0	0	0	0	10	0	410
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1082488832	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1086	1475	22	2124	0	0	0	0	11	0	446

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	1086	0	0		2711	3254	-
Stage 1	-	-	-	-	-	-		2168	2168	-
Stage 2	-	-	-	-	-	-		543	1086	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	-
Pot Cap-1 Maneuver	0	-	-	638	-	0		17	9	0
Stage 1	0	-	-	-	-	0		73	85	0
Stage 2	0	-	-	-	-	0		546	291	0
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	638	-	-		16	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-		16	0	-
Stage 1	-	-	-	-	-	-		73	0	-
Stage 2	-	-	-	-	-	-		527	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	\$ 429.9
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	638	-	16	-
HCM Lane V/C Ratio	-	-	0.034	-	0.679	-
HCM Control Delay (s)	-	-	10.8	-	\$ 429.9	0
HCM Lane LOS	-	-	B	-	F	A
HCM 95th %tile Q(veh)	-	-	0.1	-	1.7	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
 11: SR 14 Northbound Ramp & Newhall Avenue

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↗
Traffic Volume (vph)	980	0	0	110	0	10
Future Volume (vph)	980	0	0	110	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Fr t						0.865
Flt Protected						
Satd. Flow (prot)	3539	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	3539	0	0	1863	0	1611
Link Speed (mph)	40			40	30	
Link Distance (ft)	492			551	676	
Travel Time (s)	8.4			9.4	15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1065	0	0	120	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1065	0	0	120	0	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	86.1% ICU Level of Service E
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	980	0	0	110	0	10
Future Vol, veh/h	980	0	0	110	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1065	0	0	120	0	11



















Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	-	-	533
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.319
Pot Cap-1 Maneuver	-	0	0	492
Stage 1	-	0	0	-
Stage 2	-	0	0	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	492
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	492	-	-
HCM Lane V/C Ratio	0.022	-	-
HCM Control Delay (s)	12.5	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	1210	0	0	869	739	480	0	425	0	0	0
Future Volume (vph)	220	1210	0	0	869	739	480	0	425	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	0		0	190		0	0		0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.931				0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1770	3539	0	0	4734	0	1681	1681	1583	0	0	0
Flt Permitted	0.950						0.950	0.950				
Satd. Flow (perm)	1770	3539	0	0	4734	0	1681	1681	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					261				73			
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		1093			1835			601			382	
Travel Time (s)		18.6			31.3			13.7			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	1315	0	0	945	803	522	0	462	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	239	1315	0	0	1748	0	261	261	462	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases							2		2			

Lanes, Volumes, Timings
 12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023

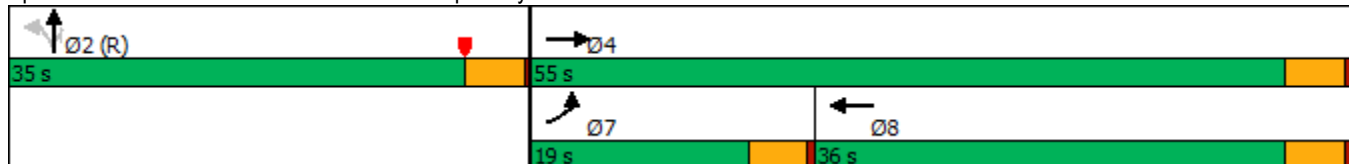


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			
Switch Phase												
Minimum Initial (s)	10.0	10.0			10.0		10.0	10.0	10.0			
Minimum Split (s)	14.5	22.5			22.5		32.5	32.5	32.5			
Total Split (s)	19.0	55.0			36.0		35.0	35.0	35.0			
Total Split (%)	21.1%	61.1%			40.0%		38.9%	38.9%	38.9%			
Maximum Green (s)	14.5	50.5			31.5		30.5	30.5	30.5			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	0.5	0.5			0.5		0.5	0.5	0.5			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	4.5			4.5		4.5	4.5	4.5			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Recall Mode	None	None			None		C-Max	C-Max	C-Max			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		11.0			11.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	14.1	50.5			31.9		30.5	30.5	30.5			
Actuated g/C Ratio	0.16	0.56			0.35		0.34	0.34	0.34			
v/c Ratio	0.86	0.66			1.09dr		0.46	0.46	0.79			
Control Delay	66.6	15.9			36.5		26.5	26.5	34.1			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	66.6	15.9			36.5		26.5	26.5	34.1			
LOS	E	B			D		C	C	C			
Approach Delay		23.7			36.5			30.1				
Approach LOS		C			D			C				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 30.4 Intersection LOS: C
 Intersection Capacity Utilization 70.1% ICU Level of Service C
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

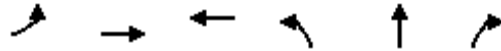
Splits and Phases: 12: I-5 Northbound Ramps & Lyons Avenue



Queues

12: I-5 Northbound Ramps & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	239	1315	1748	261	261	462
v/c Ratio	0.86	0.66	1.09dr	0.46	0.46	0.79
Control Delay	66.6	15.9	36.5	26.5	26.5	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	15.9	36.5	26.5	26.5	34.1
Queue Length 50th (ft)	133	256	308	121	121	200
Queue Length 95th (ft)	#260	327	#423	195	195	#359
Internal Link Dist (ft)		1013	1755		521	
Turn Bay Length (ft)	275			190		
Base Capacity (vph)	285	1985	1846	569	569	584
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.66	0.95	0.46	0.46	0.79

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	440	1185	250	190	1278	192	130	490	310	379	440	270
Future Volume (vph)	440	1185	250	190	1278	192	130	490	310	379	440	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	12	12	10	10	10	10	11	12
Storage Length (ft)	140		0	300		0	280		265	200		200
Storage Lanes	2		1	1		0	1		1	2		1
Taper Length (ft)	25			25			25		25			
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91	1.00	0.95	1.00	0.97	0.95	1.00
Fr _t			0.850		0.980				0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	3303	1478	1652	4984	0	1652	3303	1478	3204	3421	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	3303	1478	1652	4984	0	1652	3303	1478	3204	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173		22				293			122
Link Speed (mph)		40			40			35				45
Link Distance (ft)		1835			5346			887				1679
Travel Time (s)		31.3			91.1			17.3				25.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	478	1288	272	207	1389	209	141	533	337	412	478	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	478	1288	272	207	1598	0	141	533	337	412	478	293
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			20				20
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.00	1.00	1.09	1.09	1.09	1.09	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1
Permitted Phases			6						4			8
Detector Phase	1	6	6	5	2		7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	32.0	32.0	8.5	38.0		8.5	38.0	38.0	8.5	38.0	8.5

Lanes, Volumes, Timings
13: Wiley Canyon Road & Lyons Avenue

01/24/2023

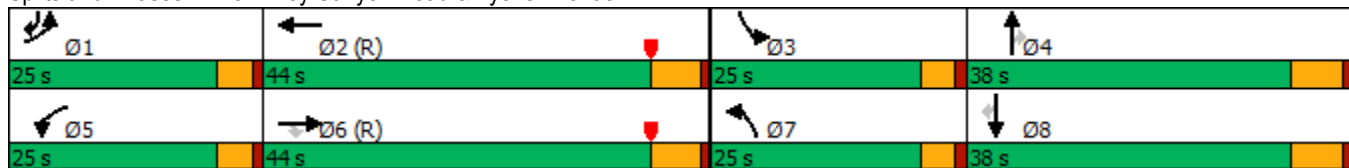


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	25.0	44.0	44.0	25.0	44.0		25.0	38.0	38.0	25.0	38.0	25.0
Total Split (%)	18.9%	33.3%	33.3%	18.9%	33.3%		18.9%	28.8%	28.8%	18.9%	28.8%	18.9%
Maximum Green (s)	20.5	38.0	38.0	20.5	38.0		20.5	32.0	32.0	20.5	32.0	20.5
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0	5.0	3.5	5.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0		-0.5	-2.0	-2.0	-0.5	-2.0	-0.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0	19.0		25.0			25.0	25.0		25.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	23.2	46.2	46.2	20.4	43.4		16.6	29.2	29.2	20.2	32.9	60.0
Actuated g/C Ratio	0.18	0.35	0.35	0.15	0.33		0.13	0.22	0.22	0.15	0.25	0.45
v/c Ratio	0.85	1.11	0.43	0.81	0.97		0.68	0.73	0.61	0.84	0.56	0.37
Control Delay	67.8	103.7	15.3	90.5	24.3		71.3	53.7	12.4	70.1	46.0	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	103.7	15.3	90.5	24.3		71.3	53.7	12.4	70.1	46.0	14.6
LOS	E	F	B	F	C		E	D	B	E	D	B
Approach Delay		83.5			31.9			42.4			46.6	
Approach LOS		F			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.11
 Intersection Signal Delay: 54.0
 Intersection LOS: D
 Intersection Capacity Utilization 81.0%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 13: Wiley Canyon Road & Lyons Avenue



Queues

13: Wiley Canyon Road & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	478	1288	272	207	1598	141	533	337	412	478	293
v/c Ratio	0.85	1.11	0.43	0.81	0.97	0.68	0.73	0.61	0.84	0.56	0.37
Control Delay	67.8	103.7	15.3	90.5	24.3	71.3	53.7	12.4	70.1	46.0	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	103.7	15.3	90.5	24.3	71.3	53.7	12.4	70.1	46.0	14.6
Queue Length 50th (ft)	203	~713	62	166	~554	117	222	30	177	186	86
Queue Length 95th (ft)	#315	#875	150	m186	m69	184	276	123	#249	244	163
Internal Link Dist (ft)		1755			5266		807			1599	
Turn Bay Length (ft)	140			300		280		265	200		200
Base Capacity (vph)	562	1156	630	271	1653	262	850	598	509	881	786
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	1.11	0.43	0.76	0.97	0.54	0.63	0.56	0.81	0.54	0.37































Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			 			 		 		
Traffic Volume (vph)	280	1363	120	112	1490	642	100	160	99	569	150	220
Future Volume (vph)	280	1363	120	112	1490	642	100	160	99	569	150	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	10	15	15	10	11	8	12	11	11
Storage Length (ft)	207		192	202		143	165		40	280		160
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3204	4746	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3204	4746	1531	1652	3893	1742	1652	3421	1372	3433	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			275			112			239
Link Speed (mph)		35			35			35				45
Link Distance (ft)		5346			2329			465				345
Travel Time (s)		104.1			45.4			9.1				5.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	1482	130	122	1620	698	109	174	108	618	163	239
Shared Lane Traffic (%)												
Lane Group Flow (vph)	304	1482	130	122	1620	698	109	174	108	618	163	239
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			20			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.04	1.09	0.88	0.88	1.09	1.04	1.20	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	3	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	40.0	40.0	8.5	40.0	8.5	8.5	44.0	44.0	8.5	41.0	41.0

Lanes, Volumes, Timings
 14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023

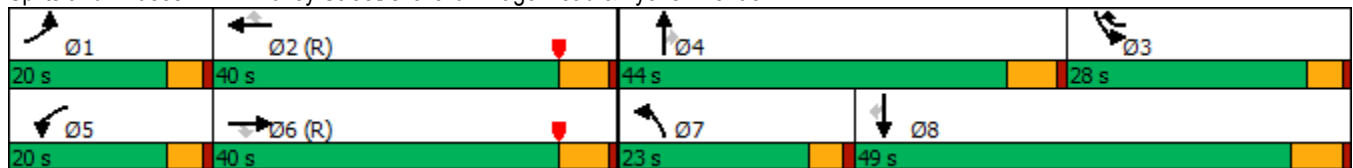


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	40.0	40.0	20.0	40.0	28.0	23.0	44.0	44.0	28.0	49.0	49.0
Total Split (%)	15.2%	30.3%	30.3%	15.2%	30.3%	21.2%	17.4%	33.3%	33.3%	21.2%	37.1%	37.1%
Maximum Green (s)	15.5	34.0	34.0	15.5	34.0	23.5	18.5	38.0	38.0	23.5	43.0	43.0
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-2.0	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0			31.0	31.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	18.5	51.7	51.7	15.5	48.7	83.4	14.3	14.1	14.1	34.7	34.5	34.5
Actuated g/C Ratio	0.14	0.39	0.39	0.12	0.37	0.63	0.11	0.11	0.11	0.26	0.26	0.26
v/c Ratio	0.68	0.80	0.19	0.63	1.13	0.58	0.61	0.48	0.44	0.69	0.35	0.41
Control Delay	38.2	47.4	15.1	44.2	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	47.4	15.1	44.2	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
LOS	D	D	B	D	F	B	E	E	B	D	D	A
Approach Delay		43.8			77.3			50.0			37.1	
Approach LOS		D			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 2 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 57.2
 Intersection LOS: E
 Intersection Capacity Utilization 83.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 14: Valley Street/Orchard Village Road & Lyons Avenue



Queues

14: Valley Street/Orchard Village Road & Lyons Avenue

01/24/2023



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	304	1482	130	122	1620	698	109	174	108	618	163	239
v/c Ratio	0.68	0.80	0.19	0.63	1.13	0.58	0.61	0.48	0.44	0.69	0.35	0.41
Control Delay	38.2	47.4	15.1	44.2	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	47.4	15.1	44.2	107.7	12.5	70.1	59.5	14.3	47.7	41.5	6.7
Queue Length 50th (ft)	124	487	35	94	~868	271	90	75	0	245	114	0
Queue Length 95th (ft)	m120	m#513	m43	m80	m#891	m238	149	110	51	297	175	63
Internal Link Dist (ft)		5266			2249			385			265	
Turn Bay Length (ft)	207		192	202		143	165		40	280		160
Base Capacity (vph)	459	1857	689	218	1436	1201	237	1036	493	902	613	679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.80	0.19	0.56	1.13	0.58	0.46	0.17	0.22	0.69	0.27	0.35

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	681	1560	50	913	20	970	100	60	20	120	110
Future Volume (vph)	100	681	1560	50	913	20	970	100	60	20	120	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	10	12	10	11	12	11	11	11	10
Storage Length (ft)	150		140	100		110	140		50	50		50
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.96	0.99		0.92	0.94		0.96	0.98		0.95
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3539	1531	1652	3539	1478	3319	1863	1531	1711	1801	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1625	3539	1468	1639	3539	1356	3117	1863	1471	1670	1801	1397
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			469			169			136			140
Link Speed (mph)		35			35			35				25
Link Distance (ft)		2329			1347			528				401
Travel Time (s)		45.4			26.2			10.3				10.9
Confl. Peds. (#/hr)	30		10	10		30	43		27	27		43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	740	1696	54	992	22	1054	109	65	22	130	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	740	1696	54	992	22	1054	109	65	22	130	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			22				22
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.04	1.09	1.00	1.09	1.04	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	6	3	8	8	7	4	4
Switch Phase												

Lanes, Volumes, Timings
15: Newhall Avenue & Lyons Avenue

01/24/2023

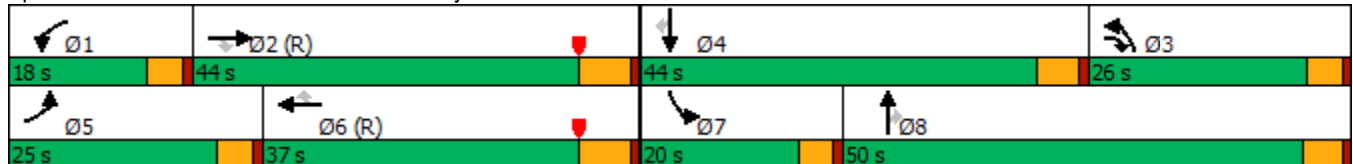


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.5	4.0	4.0
Minimum Split (s)	8.5	37.0	8.5	8.5	37.0	37.0	8.5	44.0	44.0	6.5	44.0	44.0
Total Split (s)	25.0	44.0	26.0	18.0	37.0	37.0	26.0	50.0	50.0	20.0	44.0	44.0
Total Split (%)	18.9%	33.3%	19.7%	13.6%	28.0%	28.0%	19.7%	37.9%	37.9%	15.2%	33.3%	33.3%
Maximum Green (s)	20.5	38.0	21.5	13.5	31.0	31.0	21.5	45.0	45.0	15.5	39.0	39.0
Yellow Time (s)	3.5	5.0	3.5	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-2.0	-0.5	-0.5	-2.0	-2.0	-0.5	-1.0	-1.0	-0.5	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		32.0	32.0		32.0	32.0
Pedestrian Calls (#/hr)		27			27	27		43	43		43	43
Act Effct Green (s)	14.5	45.9	73.8	10.2	39.5	39.5	27.9	58.4	58.4	7.8	34.1	34.1
Actuated g/C Ratio	0.11	0.35	0.56	0.08	0.30	0.30	0.21	0.44	0.44	0.06	0.26	0.26
v/c Ratio	0.60	0.60	1.63	0.43	0.94	0.04	1.50	0.13	0.09	0.22	0.28	0.26
Control Delay	82.5	24.8	308.0	63.7	57.1	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.5	24.8	308.0	63.7	57.1	0.1	268.6	24.1	0.2	63.7	38.6	4.8
LOS	F	C	F	E	E	A	F	C	A	E	D	A
Approach Delay		216.0			56.2			232.7			25.7	
Approach LOS		F			E			F			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 47 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.63
 Intersection Signal Delay: 176.5 Intersection LOS: F
 Intersection Capacity Utilization 137.2% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 15: Newhall Avenue & Lyons Avenue



Queues

15: Newhall Avenue & Lyons Avenue

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	109	740	1696	54	992	22	1054	109	65	22	130	120
v/c Ratio	0.60	0.60	1.63	0.43	0.94	0.04	1.50	0.13	0.09	0.22	0.28	0.26
Control Delay	82.5	24.8	308.0	63.7	57.1	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.5	24.8	308.0	63.7	57.1	0.1	268.6	24.1	0.2	63.7	38.6	4.8
Queue Length 50th (ft)	87	231	~2046	43	461	0	~712	58	0	18	84	0
Queue Length 95th (ft)	m136	216	#2399	m67	#644	m0	#846	102	0	47	138	33
Internal Link Dist (ft)		2249			1267			448			321	
Turn Bay Length (ft)	150		140	100		110	140		50	50		50
Base Capacity (vph)	262	1230	1041	175	1059	524	702	823	726	207	545	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.60	1.63	0.31	0.94	0.04	1.50	0.13	0.09	0.11	0.24	0.23




























Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

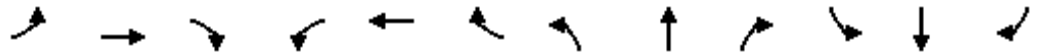
01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 		 		 	 			 	
Traffic Volume (vph)	125	59	510	31	77	0	450	18	27	0	23	163
Future Volume (vph)	125	59	510	31	77	0	450	18	27	0	23	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.911				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3224	0	0	3539	1583
Flt Permitted	0.950			0.950			0.740					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	2674	3224	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			554					29				177
Link Speed (mph)		45			30			45				30
Link Distance (ft)		628			448			423				442
Travel Time (s)		9.5			10.2			6.4				10.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	64	554	34	84	0	489	20	29	0	25	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	64	554	34	84	0	489	49	0	0	25	177
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				36
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Over	Prot	NA		pm+pt	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases							2					

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023

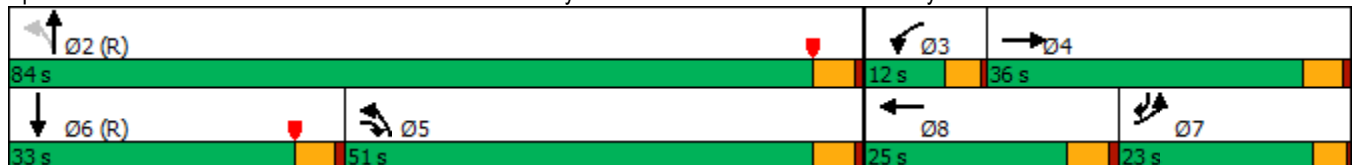


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	20.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	23.0	36.0	51.0	12.0	25.0		51.0	84.0			33.0	23.0
Total Split (%)	17.4%	27.3%	38.6%	9.1%	18.9%		38.6%	63.6%			25.0%	17.4%
Maximum Green (s)	19.0	31.0	46.0	8.0	20.0		46.0	79.0			28.0	19.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	10.6	19.4	46.0	7.2	12.0		95.4	95.4			44.4	10.6
Actuated g/C Ratio	0.08	0.15	0.35	0.05	0.09		0.72	0.72			0.34	0.08
v/c Ratio	0.49	0.23	0.42	0.35	0.50		0.22	0.02			0.02	0.61
Control Delay	61.7	50.4	0.8	70.0	67.0		6.9	3.3			31.6	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	61.7	50.4	0.8	70.0	67.0		6.9	3.3			31.6	17.3
LOS	E	D	A	E	E		A	A			C	B
Approach Delay		16.0			67.9			6.6			19.1	
Approach LOS		B			E			A			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 17.0
 Intersection LOS: B
 Intersection Capacity Utilization 42.9%
 ICU Level of Service A
 Analysis Period (min) 15

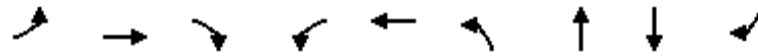
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	136	64	554	34	84	489	49	25	177
v/c Ratio	0.49	0.23	0.42	0.35	0.50	0.22	0.02	0.02	0.61
Control Delay	61.7	50.4	0.8	70.0	67.0	6.9	3.3	31.6	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.7	50.4	0.8	70.0	67.0	6.9	3.3	31.6	17.3
Queue Length 50th (ft)	63	58	0	28	70	60	2	7	0
Queue Length 95th (ft)	m84	m83	m0	65	122	98	9	20	71
Internal Link Dist (ft)		548			368		343	362	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	494	437	1332	107	282	2197	2339	1191	379
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.15	0.42	0.32	0.30	0.22	0.02	0.02	0.47

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Traffic Volume (vph)	120	20	180	169	10	43	20	332	178	150	404	10
Future Volume (vph)	120	20	180	169	10	43	20	332	178	150	404	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	180		0
Storage Lanes	0		1	0		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Frt			0.850				0.850		0.948			0.996
Flt Protected		0.959			0.955		0.950			0.950		
Satd. Flow (prot)	0	1786	1583	0	1779	1583	1770	3355	0	1770	5065	0
Flt Permitted		0.447			0.548		0.950			0.950		
Satd. Flow (perm)	0	833	1583	0	1021	1583	1770	3355	0	1770	5065	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196			99		78			4	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		391			842			206			423	
Travel Time (s)		10.7			23.0			3.1			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	22	196	184	11	47	22	361	193	163	439	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	152	196	0	195	47	22	554	0	163	450	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4			1	6		5	2
Permitted Phases	8		8	4		4						

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	31.0	31.0	31.0	20.0	20.0	20.0	9.0	23.0		9.0	23.0	
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	13.0	47.0		34.0	68.0	
Total Split (%)	38.6%	38.6%	38.6%	38.6%	38.6%	38.6%	9.8%	35.6%		25.8%	51.5%	
Maximum Green (s)	46.0	46.0	46.0	47.0	47.0	47.0	8.0	42.0		29.0	63.0	
Yellow Time (s)	4.0	4.0	4.0	3.5	3.5	3.5	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	0.5	0.5	0.5	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		4.0	4.0	5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		Max	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		7.0			7.0	
Flash Dont Walk (s)	21.0	21.0	21.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		23.3	23.3		24.3	24.3	6.7	42.2		29.1	71.6	
Actuated g/C Ratio		0.21	0.21		0.22	0.22	0.06	0.38		0.27	0.65	
v/c Ratio		0.86	0.40		0.86	0.11	0.20	0.41		0.35	0.14	
Control Delay		80.8	7.2		73.9	0.5	56.0	23.1		36.9	9.3	
Queue Delay		0.0	0.0		0.0	0.0	0.0	13.0		0.0	0.0	
Total Delay		80.8	7.2		73.9	0.5	56.0	36.1		36.9	9.3	
LOS		F	A		E	A	E	D		D	A	
Approach Delay		39.3			59.7			36.9			16.7	
Approach LOS		D			E			D			B	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	109.7
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	33.5
Intersection LOS:	C
Intersection Capacity Utilization:	51.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 17: Dockweiler Drive/Arch Street & 12th Street



Queues

17: Dockweiler Drive/Arch Street & 12th Street

01/24/2023














Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	152	196	195	47	22	554	163	450
v/c Ratio	0.86	0.40	0.86	0.11	0.20	0.41	0.35	0.14
Control Delay	80.8	7.2	73.9	0.5	56.0	23.1	36.9	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	13.0	0.0	0.0
Total Delay	80.8	7.2	73.9	0.5	56.0	36.1	36.9	9.3
Queue Length 50th (ft)	103	0	132	0	15	125	93	33
Queue Length 95th (ft)	183	55	220	0	45	203	174	85
Internal Link Dist (ft)	311		762			126		343
Turn Bay Length (ft)							180	
Base Capacity (vph)	350	780	439	737	129	1338	470	3306
Starvation Cap Reductn	0	0	0	0	0	762	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.25	0.44	0.06	0.17	0.96	0.35	0.14

Intersection Summary

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023

							Ø1	Ø2	Ø7	Ø8
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT				
Lane Configurations										
Traffic Volume (vph)	160	173	357	140	203	551				
Future Volume (vph)	160	173	357	140	203	551				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	150	0		0	0					
Storage Lanes	1	1		0	1					
Taper Length (ft)	25				25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95				
Frt		0.850	0.962							
Flt Protected	0.950				0.950					
Satd. Flow (prot)	1770	1583	1792	0	1770	3539				
Flt Permitted	0.950				0.950					
Satd. Flow (perm)	1770	1583	1792	0	1770	3539				
Right Turn on Red		Yes		Yes						
Satd. Flow (RTOR)		188	14							
Link Speed (mph)	30		45			45				
Link Distance (ft)	1067		195			206				
Travel Time (s)	24.3		3.0			3.1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Adj. Flow (vph)	174	188	388	152	221	599				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	174	188	540	0	221	599				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Right	Left	Left				
Median Width(ft)	12		12			12				
Link Offset(ft)	0		0			0				
Crosswalk Width(ft)	16		16			16				
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)	15	9		9	15					
Number of Detectors	1	1	2		1	2				
Detector Template	Left	Right	Thru		Left	Thru				
Leading Detector (ft)	20	20	100		20	100				
Trailing Detector (ft)	0	0	0		0	0				
Detector 1 Position(ft)	0	0	0		0	0				
Detector 1 Size(ft)	20	20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0				
Detector 2 Position(ft)			94			94				
Detector 2 Size(ft)			6			6				
Detector 2 Type			Cl+Ex			Cl+Ex				
Detector 2 Channel										
Detector 2 Extend (s)			0.0			0.0				
Turn Type	Prot	Perm	NA		Prot	NA				
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8
Permitted Phases		7 8								

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

01/24/2023



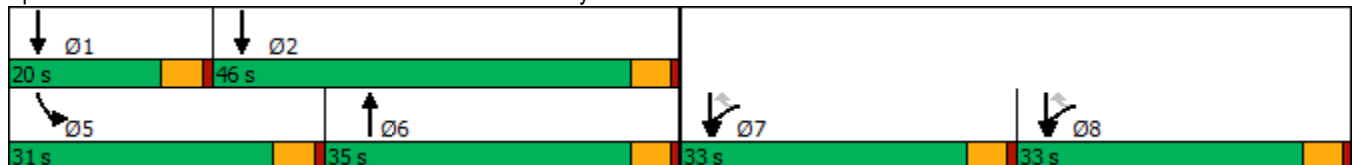
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		20.0	23.0	33.0	33.0
Total Split (s)			35.0		31.0		20.0	46.0	33.0	33.0
Total Split (%)			26.5%		23.5%		15%	35%	25%	25%
Maximum Green (s)			30.0		26.0		15.0	41.0	28.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Ped	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	30.0	30.0	30.5		16.7	92.4				
Actuated g/C Ratio	0.32	0.32	0.33		0.18	1.00				
v/c Ratio	0.30	0.29	0.90		0.69	0.17				
Control Delay	25.2	4.8	51.3		48.3	0.1				
Queue Delay	0.0	0.0	0.0		1.3	0.0				
Total Delay	25.2	4.8	51.3		49.6	0.1				
LOS	C	A	D		D	A				
Approach Delay	14.6		51.3			13.4				
Approach LOS	B		D			B				

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	92.4
Natural Cycle:	130
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	25.5
Intersection LOS:	C
Intersection Capacity Utilization:	59.9%
ICU Level of Service:	B
Analysis Period (min):	15

! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

01/24/2023
























Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	174	188	540	221	599
v/c Ratio	0.30	0.29	0.90	0.69	0.17
Control Delay	25.2	4.8	51.3	48.3	0.1
Queue Delay	0.0	0.0	0.0	1.3	0.0
Total Delay	25.2	4.8	51.3	49.6	0.1
Queue Length 50th (ft)	74	0	287	120	0
Queue Length 95th (ft)	140	45	#645	222	0
Internal Link Dist (ft)	987		115		126
Turn Bay Length (ft)	150				
Base Capacity (vph)	933	923	600	505	3472
Starvation Cap Reductn	0	0	0	133	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.20	0.90	0.59	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
19: Valle Del Oro & Dockweiler Drive

01/24/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	671	30	380	447	10	20	10	410	0	10	10
Future Volume (vph)	10	671	30	380	447	10	20	10	410	0	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	100		100	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.874			0.932	
Flt Protected	0.950			0.950				0.998				
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1625	0	0	1736	0
Flt Permitted	0.448			0.319				0.987				
Satd. Flow (perm)	835	1863	1583	594	1863	1583	0	1607	0	0	1736	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			25			11		313			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5381			3919			2619			300	
Travel Time (s)		122.3			89.1			59.5			6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	729	33	413	486	11	22	11	446	0	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	729	33	413	486	11	0	479	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		

Lanes, Volumes, Timings
 19: Valle Del Oro & Dockweiler Drive

01/24/2023

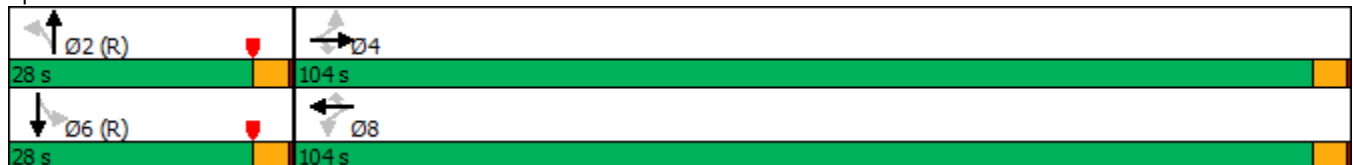


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	104.0	104.0	104.0	104.0	104.0	104.0	28.0	28.0		28.0	28.0	
Total Split (%)	78.8%	78.8%	78.8%	78.8%	78.8%	78.8%	21.2%	21.2%		21.2%	21.2%	
Maximum Green (s)	100.0	100.0	100.0	100.0	100.0	100.0	24.0	24.0		24.0	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	100.0	100.0	100.0	100.0	100.0	100.0		24.0			24.0	
Actuated g/C Ratio	0.76	0.76	0.76	0.76	0.76	0.76		0.18			0.18	
v/c Ratio	0.02	0.52	0.03	0.92	0.34	0.01		0.87			0.07	
Control Delay	4.0	7.9	1.9	40.1	4.6	0.5		30.7			29.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	4.0	7.9	1.9	40.1	4.6	0.5		30.7			29.5	
LOS	A	A	A	D	A	A		C			C	
Approach Delay		7.6			20.6			30.7			29.5	
Approach LOS		A			C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 18.3
 Intersection LOS: B
 Intersection Capacity Utilization 100.0%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 19: Valle Del Oro & Dockweiler Drive



Queues

19: Valle Del Oro & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	729	33	413	486	11	479	22
v/c Ratio	0.02	0.52	0.03	0.92	0.34	0.01	0.87	0.07
Control Delay	4.0	7.9	1.9	40.1	4.6	0.5	30.7	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	7.9	1.9	40.1	4.6	0.5	30.7	29.5
Queue Length 50th (ft)	2	216	2	140	101	0	90	8
Queue Length 95th (ft)	7	292	9	#434	118	m1	#317	33
Internal Link Dist (ft)		5301			3839		2539	220
Turn Bay Length (ft)	100		100	100		100		
Base Capacity (vph)	632	1411	1205	450	1411	1201	548	324
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.52	0.03	0.92	0.34	0.01	0.87	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	831	240	288	2266	498	609
Future Volume (vph)	831	240	288	2266	498	609
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	200	350			0
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	1.00
Frt	0.996	0.850				0.850
Flt Protected	0.954		0.950			
Satd. Flow (prot)	3434	1441	1770	3539	3539	1583
Flt Permitted	0.954		0.950			
Satd. Flow (perm)	3434	1441	1770	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	2	170				650
Link Speed (mph)	30			50	50	
Link Distance (ft)	3919			2905	621	
Travel Time (s)	89.1			39.6	8.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	903	261	313	2463	541	662
Shared Lane Traffic (%)		10%				
Lane Group Flow (vph)	929	235	313	2463	541	662
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6

Lanes, Volumes, Timings
 20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	15.0	21.0	30.0	30.0
Total Split (s)	38.0	38.0	39.0	94.0	55.0	55.0
Total Split (%)	28.8%	28.8%	29.5%	71.2%	41.7%	41.7%
Maximum Green (s)	33.0	33.0	34.0	89.0	50.0	50.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	23.0	23.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	33.0	33.0	27.9	89.0	56.1	56.1
Actuated g/C Ratio	0.25	0.25	0.21	0.67	0.42	0.42
v/c Ratio	1.08	0.48	0.84	1.03	0.36	0.63
Control Delay	97.8	16.0	54.4	42.9	31.8	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.8	16.0	54.4	42.9	31.8	15.3
LOS	F	B	D	D	C	B
Approach Delay	81.3			44.2	22.7	
Approach LOS	F			D	C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 47.6
 Intersection LOS: D
 Intersection Capacity Utilization 97.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 20: Sierra Highway & Dockweiler Drive



Queues

20: Sierra Highway & Dockweiler Drive

01/24/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	929	235	313	2463	541	662
v/c Ratio	1.08	0.48	0.84	1.03	0.36	0.63
Control Delay	97.8	16.0	54.4	42.9	31.8	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.8	16.0	54.4	42.9	31.8	15.3
Queue Length 50th (ft)	~460	57	264	~751	120	55
Queue Length 95th (ft)	m#590	m127	m233	m565	237	294
Internal Link Dist (ft)	3839			2825	541	
Turn Bay Length (ft)	200	200	350			
Base Capacity (vph)	860	487	455	2386	1504	1046
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.48	0.69	1.03	0.36	0.63

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	62	18	90	36	560	16	2203	898	280	964	35
Future Volume (vph)	45	62	18	90	36	560	16	2203	898	280	964	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	150		0	375		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.730			0.711			0.950			0.950		
Satd. Flow (perm)	1360	3539	1583	1324	3539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			211			444			58
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		816			677			2247			787	
Travel Time (s)		12.4			10.3			30.6			10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	67	20	98	39	609	17	2395	976	304	1048	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	67	20	98	39	609	17	2395	976	304	1048	38
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8			6			2

Lanes, Volumes, Timings
 21: Sierra Highway & Placerita Canyon Road

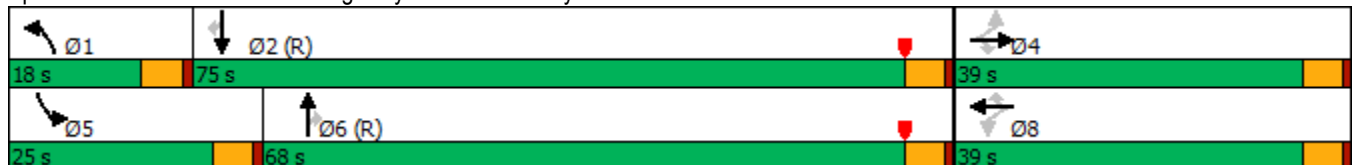
01/24/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2	
Switch Phase													
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	20.0	20.0	20.0	37.0	37.0	37.0	15.0	20.0	20.0	15.0	39.0	39.0	
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	18.0	68.0	68.0	25.0	75.0	75.0	
Total Split (%)	29.5%	29.5%	29.5%	29.5%	29.5%	29.5%	13.6%	51.5%	51.5%	18.9%	56.8%	56.8%	
Maximum Green (s)	34.0	34.0	34.0	34.0	34.0	34.0	13.0	63.0	63.0	20.0	70.0	70.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max	
Walk Time (s)				7.0	7.0	7.0							
Flash Dont Walk (s)				25.0	25.0	25.0							
Pedestrian Calls (#/hr)				0	0	0							
Act Effct Green (s)	34.0	34.0	34.0	34.0	34.0	34.0	10.0	63.0	63.0	20.0	82.0	82.0	
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26	0.26	0.08	0.48	0.48	0.15	0.62	0.62	
v/c Ratio	0.14	0.07	0.04	0.29	0.04	1.08	0.13	1.42	0.99	1.13	0.48	0.04	
Control Delay	39.2	37.4	0.2	42.1	37.1	91.6	59.9	217.7	25.5	141.8	15.9	2.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.6	0.0	0.0	0.0	0.0	
Total Delay	39.2	37.4	0.2	42.1	37.1	99.6	59.9	218.3	25.5	141.8	15.9	2.2	
LOS	D	D	A	D	D	F	E	F	C	F	B	A	
Approach Delay				32.6			88.8			162.0			43.0
Approach LOS				C			F			F			D

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.42
 Intersection Signal Delay: 120.0 Intersection LOS: F
 Intersection Capacity Utilization 116.4% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 21: Sierra Highway & Placerita Canyon Road



Queues

21: Sierra Highway & Placerita Canyon Road

01/24/2023


















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	67	20	98	39	609	17	2395	976	304	1048	38
v/c Ratio	0.14	0.07	0.04	0.29	0.04	1.08	0.13	1.42	0.99	1.13	0.48	0.04
Control Delay	39.2	37.4	0.2	42.1	37.1	91.6	59.9	217.7	25.5	141.8	15.9	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.6	0.0	0.0	0.0	0.0
Total Delay	39.2	37.4	0.2	42.1	37.1	99.6	59.9	218.3	25.5	141.8	15.9	2.2
Queue Length 50th (ft)	32	23	0	68	13	~439	14	~1460	329	~304	241	1
Queue Length 95th (ft)	67	42	0	121	28	#674	m13	m#1363	m276	#496	376	m13
Internal Link Dist (ft)		736			597			2167			707	
Turn Bay Length (ft)			150			150	150			375		150
Base Capacity (vph)	350	911	481	341	911	564	174	1689	987	268	2198	1005
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	16	0	289	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.07	0.04	0.29	0.04	1.11	0.10	1.71	0.99	1.13	0.48	0.04

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Traffic Volume (vph)	105	40	2861	78	790	1034
Future Volume (vph)	105	40	2861	78	790	1034
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	160	
Storage Lanes	1	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	3433	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3539	1583	3433	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		43		41		
Link Speed (mph)	30		50			50
Link Distance (ft)	615		787			1009
Travel Time (s)	14.0		10.7			13.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	43	3110	85	859	1124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	43	3110	85	859	1124
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		

Lanes, Volumes, Timings
 22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023

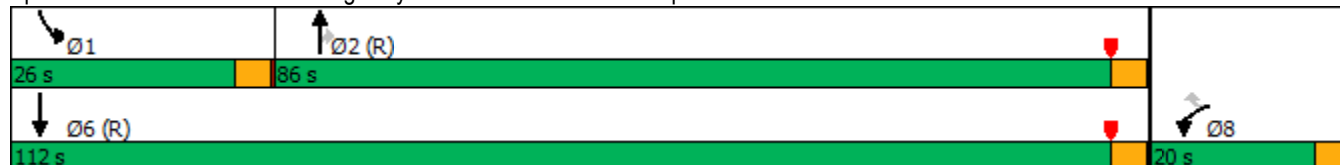


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	8.0	20.0
Total Split (s)	20.0	20.0	86.0	86.0	26.0	112.0
Total Split (%)	15.2%	15.2%	65.2%	65.2%	19.7%	84.8%
Maximum Green (s)	16.0	16.0	82.0	82.0	22.0	108.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effect Green (s)	13.2	13.2	82.0	82.0	24.8	110.8
Actuated g/C Ratio	0.10	0.10	0.62	0.62	0.19	0.84
v/c Ratio	0.64	0.22	1.41	0.09	1.33	0.38
Control Delay	73.5	17.5	207.8	5.3	201.5	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.5	17.5	207.8	5.3	201.5	3.1
LOS	E	B	F	A	F	A
Approach Delay	58.2		202.4			89.0
Approach LOS	E		F			F

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.41
 Intersection Signal Delay: 156.0
 Intersection LOS: F
 Intersection Capacity Utilization 117.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 22: Sierra Highway & SR 14 Southbound Ramps



Queues

22: Sierra Highway & SR 14 Southbound Ramps

01/24/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	114	43	3110	85	859	1124
v/c Ratio	0.64	0.22	1.41	0.09	1.33	0.38
Control Delay	73.5	17.5	207.8	5.3	201.5	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.5	17.5	207.8	5.3	201.5	3.1
Queue Length 50th (ft)	95	0	~1865	9	~498	95
Queue Length 95th (ft)	158	36	m#1183	m5	#654	131
Internal Link Dist (ft)	535		707			929
Turn Bay Length (ft)					160	
Base Capacity (vph)	214	229	2198	998	644	2970
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.19	1.41	0.09	1.33	0.38

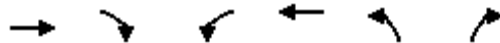
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

23: SR 14 Northbound Ramps & Placerita Canyon Road

01/24/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	↗
Traffic Volume (vph)	290	0	0	330	236	190
Future Volume (vph)	290	0	0	330	236	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Fr _t						0.850
Fl _t Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Fl _t Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	677			645	774	
Travel Time (s)	10.3			9.8	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	0	0	359	257	207
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	359	257	207
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Stop			Stop	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	26.4%
Analysis Period (min)	15
	ICU Level of Service A

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B



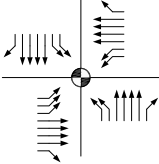
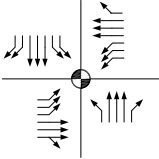
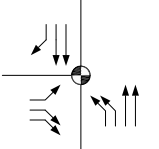
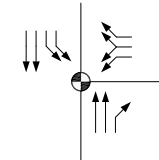
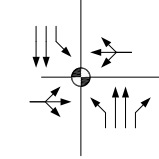
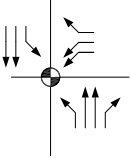
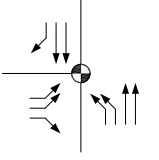
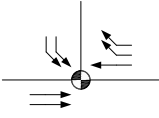
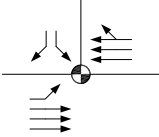
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↗	↗
Traffic Vol, veh/h	290	0	0	330	236	190
Future Vol, veh/h	290	0	0	330	236	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	315	0	0	359	257	207
Number of Lanes	2	0	0	2	2	1



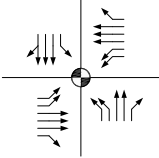
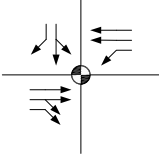
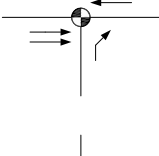
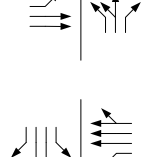
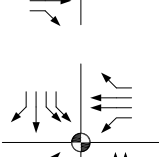
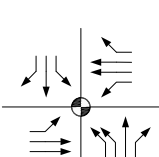

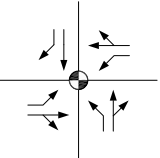
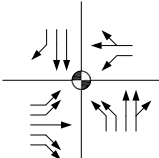
Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	2
HCM Control Delay	10.4	10.6	9.7
HCM LOS	B	B	A




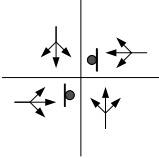
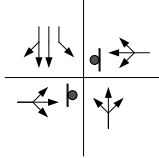
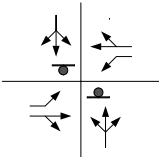
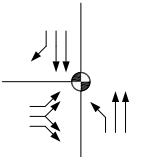
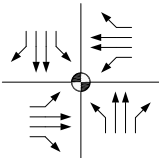
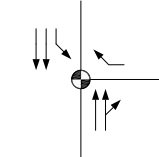
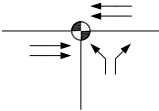
Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	100%	0%	0%	0%	0%	0%
Vol Thru, %	0%	0%	0%	100%	100%	100%	100%
Vol Right, %	0%	0%	100%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	118	118	190	145	145	165	165
LT Vol	118	118	0	0	0	0	0
Through Vol	0	0	0	145	145	165	165
RT Vol	0	0	190	0	0	0	0
Lane Flow Rate	128	128	207	158	158	179	179
Geometry Grp	7	7	7	8	8	8	8
Degree of Util (X)	0.239	0.239	0.214	0.287	0.21	0.322	0.235
Departure Headway (Hd)	6.701	6.701	3.739	6.55	4.794	6.469	4.715
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	536	536	956	548	745	554	759
Service Time	4.443	4.443	1.48	4.3	2.543	4.218	2.463
HCM Lane V/C Ratio	0.239	0.239	0.217	0.288	0.212	0.323	0.236
HCM Control Delay	11.5	11.5	7.5	11.9	8.8	12.3	8.9
HCM Lane LOS	B	B	A	B	A	B	A
HCM 95th-tile Q	0.9	0.9	0.8	1.2	0.8	1.4	0.9

Appendix F

Intersection Lane Configurations

 LEGEND  Traffic Signal	EXISTING CONDITIONS <u>(YEAR 2021)</u>	EXISTING WITH PROJECT WITHOUT RR CROSSING UPGRADE <u>(YEAR 2021)</u>	EXISTING WITH PROJECT WITH RR CROSSING UPGRADE <u>(YEAR 2021)</u>
1. Bouquet Canyon Road & Newhall Ranch Road		Same as Existing Conditions	Same as Existing Conditions
2. Bouquet Canyon Road & Valencia Boulevard / Soledad Canyon Road		Same as Existing Conditions	Same as Existing Conditions
3. Railroad Avenue & Magic Mountain Parkway		Same as Existing Conditions	Same as Existing Conditions
4. Railroad Avenue & Oak Ridge Drive		Same as Existing Conditions	Same as Existing Conditions
5. Railroad Avenue & 13th Street		Same as Existing Conditions	
6. Railroad Avenue & Lyons Avenue		Same as Existing Conditions	Same as Existing Conditions
7. Railroad Avenue & Newhall Avenue		Same as Existing Conditions	Same as Existing Conditions
8. Valle del Oro & Newhall Avenue		Same as Existing Conditions	Same as Existing Conditions

 LEGEND  Traffic Signal	EXISTING CONDITIONS <u>(YEAR 2021)</u>	EXISTING WITH PROJECT WITHOUT RR CROSSING UPGRADE <u>(YEAR 2021)</u>	EXISTING WITH PROJECT WITH RR CROSSING UPGRADE <u>(YEAR 2021)</u>
9. Sierra Highway & Newhall Ranch Road		Same as Existing Conditions	Same as Existing Conditions
10. SR 14 SB Ramps & Newhall Avenue		Same as Existing Conditions	Same as Existing Conditions
11. SR 14 NB Ramps & Newhall Avenue		Same as Existing Conditions	Same as Existing Conditions
12. I-5 NB Ramps & Lyons Avenue		Same as Existing Conditions	Same as Existing Conditions
13. Wiley Canyon Road & Lyons Avenue		Same as Existing Conditions	Same as Existing Conditions
14. Orchard Village Road & Lyons Avenue		Same as Existing Conditions	Same as Existing Conditions
15. Newhall Avenue & Lyons Avenue		Same as Existing Conditions	Same as Existing Conditions
16. 13 St / Studio Entrance B & Arch St / Studio Entrance A	<i>PROJECT INTERSECTION</i>		

 LEGEND  Traffic Signal  Stop Sign	EXISTING CONDITIONS <u>(YEAR 2021)</u>	EXISTING WITH PROJECT WITHOUT RR CROSSING UPGRADE <u>(YEAR 2021)</u>	EXISTING WITH PROJECT WITH RR CROSSING UPGRADE <u>(YEAR 2021)</u>
17. Arch Street / Placerita Canyon Road & 12th Street		Same as Existing Conditions	
18. Dockweiler Drive & Placerita Canyon Road S	<i>DDEP INTERSECTION</i>	<i>DDEP INTERSECTION</i>	<i>DDEP INTERSECTION</i>
19. Valle del Oro Dockweiler Drive		Same as Existing Conditions	Same as Existing Conditions
20. Sierra Highway & Dockweiler Drive		Same as Existing Conditions	Same as Existing Conditions
21. Placerita Canyon Road & Sierra Highway		Same as Existing Conditions	Same as Existing Conditions
22. Sierra Highway & SR 14 SB Ramps		Same as Existing Conditions	Same as Existing Conditions
23. SR 14 NB Ramps & Placerita Canyon Road		Same as Existing Conditions	Same as Existing Conditions



LEGEND

⊕ Traffic Signal

**FUTURE WITHOUT PROJECT
WITHOUT DDEP
(YEAR 2028)**

**FUTURE WITH PROJECT
WITHOUT DDEP
(YEAR 2028)**

**FUTURE WITH PROJECT WITHOUT
DDEP WITH MITIGATION
(YEAR 2028)**

1. Bouquet Canyon Road & Newhall Ranch Road

Same as Existing Conditions

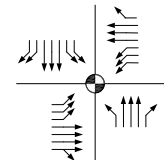
Same as Existing Conditions

Same as Existing Conditions*
*Mitigation proposes signal timing adjustments, including a northbound right-turn overlap phase

2. Bouquet Canyon Road & Valencia Boulevard / Soledad Canyon Road

Same as Existing Conditions

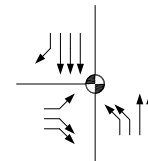
Same as Existing Conditions



3. Railroad Avenue & Magic Mountain Parkway

Same as Existing Conditions

Same as Existing Conditions



4. Railroad Avenue & Oak Ridge Drive

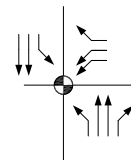
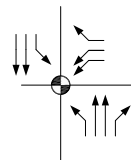
Same as Existing Conditions

Same as Existing Conditions

Same as Existing Conditions

5. Railroad Avenue & 13th Street

Same as Existing Conditions



6. Railroad Avenue & Lyons Avenue

Same as Existing Conditions

Same as Existing Conditions

Same as Existing Conditions

7. Railroad Avenue & Newhall Avenue

Same as Existing Conditions

Same as Existing Conditions



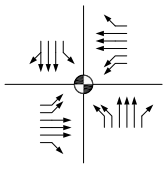
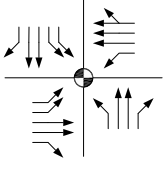
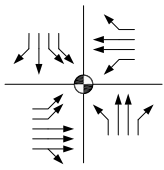
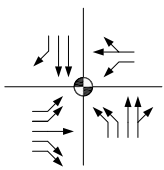
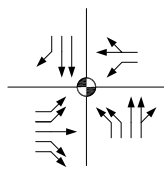
Same as Existing Conditions




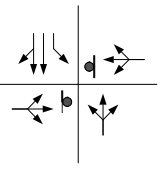
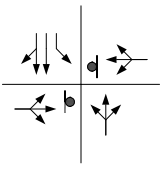
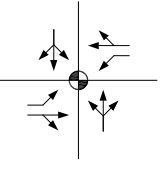
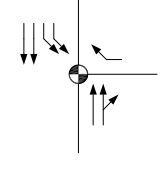
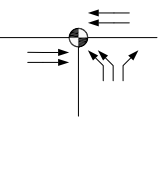
8. Valle del Oro & Newhall Avenue

Same as Existing Conditions

Same as Existing Conditions

Same as Existing Conditions

 LEGEND  Traffic Signal	FUTURE WITHOUT PROJECT WITHOUT DDEP (YEAR 2028)	FUTURE WITH PROJECT WITHOUT DDEP (YEAR 2028)	FUTURE WITH PROJECT WITHOUT DDEP WITH MITIGATION (YEAR 2028)
9. Sierra Highway & Newhall Ranch Road	Same as Existing Conditions	Same as Existing Conditions	
10. SR 14 SB Ramps & Newhall Avenue	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
11. SR 14 NB Ramps & Newhall Avenue	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
12. I-5 NB Ramps & Lyons Avenue	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
13. Wiley Canyon Road & Lyons Avenue	Same as Existing Conditions	Same as Existing Conditions	
14. Orchard Village Road & Lyons Avenue	Same as Existing Conditions	Same as Existing Conditions	
15. Newhall Avenue & Lyons Avenue	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
16. 13 St / Studio Entrance B & Arch St / Studio Entrance A	<i>PROJECT INTERSECTION</i>		

 LEGEND  Traffic Signal  Stop Sign	FUTURE WITHOUT PROJECT WITHOUT DDEP (YEAR 2028)	FUTURE WITH PROJECT WITHOUT DDEP (YEAR 2028)	FUTURE WITH PROJECT WITHOUT DDEP WITH MITIGATION (YEAR 2028)
17. Arch Street / Placerita Canyon Road & 12th Street	Same as Existing Conditions		
18. Dockweiler Drive & Placerita Canyon Road S	<i>DDEP INTERSECTION</i>	<i>DDEP INTERSECTION</i>	<i>DDEP INTERSECTION</i>
19. Valle del Oro Dockweiler Drive	Same as Existing Conditions	Same as Existing Conditions	
20. Sierra Highway & Dockweiler Drive	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
21. Placerita Canyon Road & Sierra Highway	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
22. Sierra Highway & SR 14 SB Ramps	Same as Existing Conditions	Same as Existing Conditions	
23. SR 14 NB Ramps & Placerita Canyon Road	Same as Existing Conditions	Same as Existing Conditions	



LEGEND

Traffic Signal

FUTURE WITHOUT PROJECT WITH DDEP (ROUNDABOUT) (YEAR 2028)

FUTURE WITH PROJECT WITH DDEP (ROUNDABOUT) (YEAR 2028)

FUTURE WITH PROJECT WITH DDEP (ROUNDABOUT) WITH MITIGATION (YEAR 2028)

1. Bouquet Canyon Road & Newhall Ranch Road

Same as Existing Conditions

Same as Existing Conditions

Same as Existing Conditions*
*Mitigation proposes signal timing adjustments, including a northbound right-turn overlap phase

2. Bouquet Canyon Road & Valencia Boulevard / Soledad Canyon Road

Same as Existing Conditions

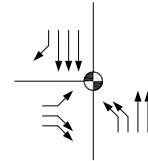
Same as Existing Conditions

Same as Existing Conditions

3. Railroad Avenue & Magic Mountain Parkway

Same as Existing Conditions

Same as Existing Conditions



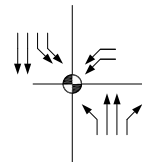
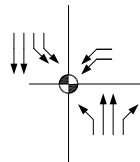
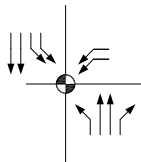
4. Railroad Avenue & Oak Ridge Drive

Same as Existing Conditions

Same as Existing Conditions

Same as Existing Conditions

5. Railroad Avenue & 13th Street



6. Railroad Avenue & Lyons Avenue

Same as Existing Conditions

Same as Existing Conditions

Same as Existing Conditions

7. Railroad Avenue & Newhall Avenue

Same as Existing Conditions

Same as Existing Conditions



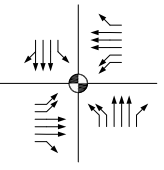
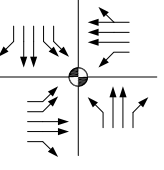
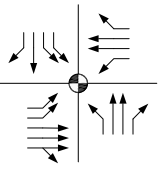
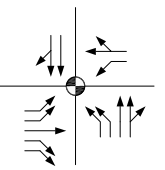
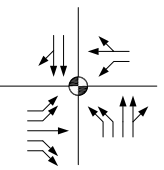
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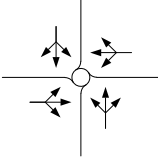
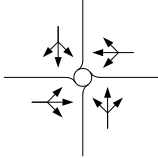
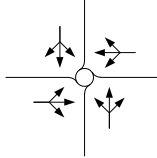
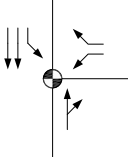
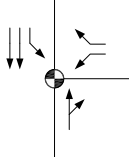
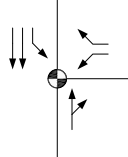
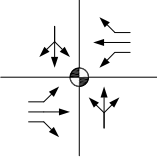
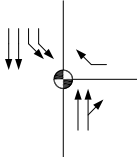
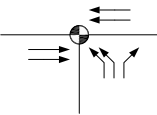
8. Valle del Oro & Newhall Avenue



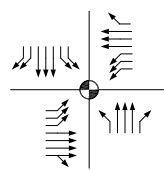
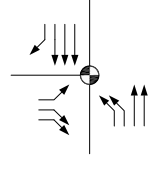
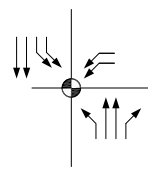
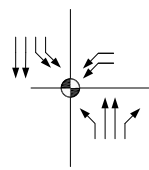
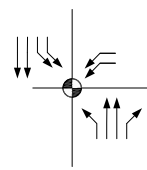
Same as Existing Conditions



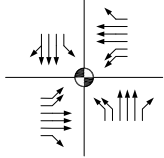
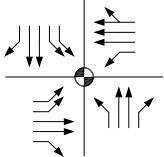
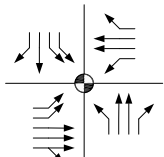
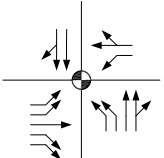
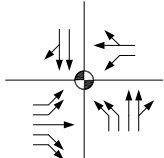
Same as Existing Conditions




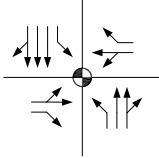
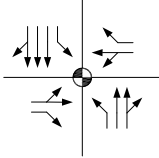
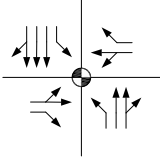
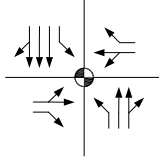
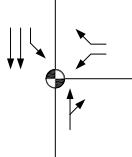
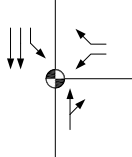
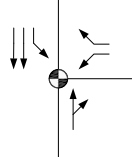
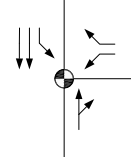
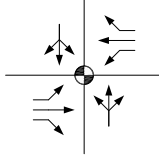
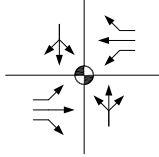
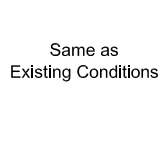
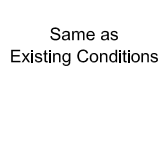
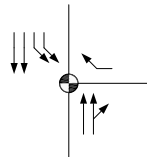
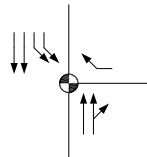
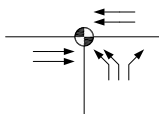
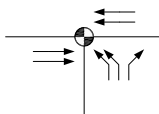
Same as Existing Conditions

 LEGEND  Traffic Signal	FUTURE WITHOUT PROJECT WITH DDEP (ROUNDABOUT) (YEAR 2028)	FUTURE WITH PROJECT WITH DDEP (ROUNDABOUT) (YEAR 2028)	FUTURE WITH PROJECT WITH DDEP (ROUNDABOUT) WITH MITIGATION (YEAR 2028)
9. Sierra Highway & Newhall Ranch Road	Same as Existing Conditions	Same as Existing Conditions	
10. SR 14 SB Ramps & Newhall Avenue	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
11. SR 14 NB Ramps & Newhall Avenue	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
12. I-5 NB Ramps & Lyons Avenue	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
13. Wiley Canyon Road & Lyons Avenue	Same as Existing Conditions	Same as Existing Conditions	
14. Orchard Village Road & Lyons Avenue	Same as Existing Conditions	Same as Existing Conditions	
15. Newhall Avenue & Lyons Avenue	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
16. 13 St / Studio Entrance B & Arch St / Studio Entrance A	<i>PROJECT INTERSECTION</i>		

 N	LEGEND  Traffic Signal  Stop Sign  Roundabout	FUTURE WITHOUT PROJECT WITH DDEP (ROUNDABOUT) (YEAR 2028)	FUTURE WITH PROJECT WITH DDEP (ROUNDABOUT) (YEAR 2028)	FUTURE WITH PROJECT WITH DDEP (ROUNDABOUT) WITH MITIGATION (YEAR 2028)
17. Arch Street / Dockweiler Drive & 12th Street				
18. Dockweiler Drive & Placerita Canyon Road S				
19. Valle del Oro Dockweiler Drive		Same as Existing Conditions	Same as Existing Conditions	
20. Sierra Highway & Dockweiler Drive		Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
21. Placerita Canyon Road & Sierra Highway		Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
22. Sierra Highway & SR 14 SB Ramps		Same as Existing Conditions	Same as Existing Conditions	
23. SR 14 NB Ramps & Placerita Canyon Road		Same as Existing Conditions	Same as Existing Conditions	

 LEGEND  Traffic Signal	FUTURE WITHOUT PROJECT WITH DDEP (SIGNAL) (YEAR 2028)	FUTURE WITH PROJECT WITH DDEP (SIGNAL) (YEAR 2028)	FUTURE WITH PROJECT WITH DDEP (SIGNAL) WITH MITIGATION (YEAR 2028)
1. Bouquet Canyon Road & Newhall Ranch Road	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions* <i>*Mitigation proposes signal timing adjustments, including a northbound right-turn overlap phase</i>
2. Bouquet Canyon Road & Valencia Boulevard / Soledad Canyon Road	Same as Existing Conditions	Same as Existing Conditions	
3. Railroad Avenue & Magic Mountain Parkway	Same as Existing Conditions	Same as Existing Conditions	
4. Railroad Avenue & Oak Ridge Drive	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
5. Railroad Avenue & 13th Street			
6. Railroad Avenue & Lyons Avenue	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
7. Railroad Avenue & Newhall Avenue	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
8. Valle del Oro & Newhall Avenue	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions

 LEGEND  Traffic Signal	FUTURE WITHOUT PROJECT WITH DDEP (SIGNAL) (YEAR 2028)	FUTURE WITH PROJECT WITH DDEP (SIGNAL) (YEAR 2028)	FUTURE WITH PROJECT WITH DDEP (SIGNAL) WITH MITIGATION (YEAR 2028)
9. Sierra Highway & Newhall Ranch Road	Same as Existing Conditions	Same as Existing Conditions	
10. SR 14 SB Ramps & Newhall Avenue	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
11. SR 14 NB Ramps & Newhall Avenue	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
12. I-5 NB Ramps & Lyons Avenue	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
13. Wiley Canyon Road & Lyons Avenue	Same as Existing Conditions	Same as Existing Conditions	
14. Orchard Village Road & Lyons Avenue	Same as Existing Conditions	Same as Existing Conditions	
15. Newhall Avenue & Lyons Avenue	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
16. 13 St / Studio Entrance B & Arch St / Studio Entrance A	<i>PROJECT INTERSECTION</i>		

 LEGEND  Traffic Signal  Stop Sign	FUTURE WITHOUT PROJECT WITH DDEP (SIGNAL) (YEAR 2028)	FUTURE WITH PROJECT WITH DDEP (SIGNAL) (YEAR 2028)	FUTURE WITH PROJECT WITH DDEP (SIGNAL) WITH MITIGATION (YEAR 2028)
17. Arch Street / Placerita Canyon Road & 12th Street 			
18. Dockweiler Drive & Placerita Canyon Road S 			
19. Valle del Oro Dockweiler Drive 	Same as Existing Conditions	Same as Existing Conditions	
20. Sierra Highway & Dockweiler Drive 	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
21. Placerita Canyon Road & Sierra Highway 	Same as Existing Conditions	Same as Existing Conditions	Same as Existing Conditions
22. Sierra Highway & SR 14 SB Ramps 	Same as Existing Conditions	Same as Existing Conditions	
23. SR 14 NB Ramps & Placerita Canyon Road 	Same as Existing Conditions	Same as Existing Conditions	

Appendix G

**Arch Street and 12th Street Design
Roundabout vs. Traffic Signal Summary
(GTC, March 23, 2022)**



MEMORANDUM

TO: Mike Hennawy
Director of Public Works
City of Santa Clarita

FROM: Patrick A. Gibson, P.E., PTOE,
Richard Gibson, LEED Certified
David Roachford

DATE: March 23, 2022

RE: Arch Street and 12th Street Design
Roundabout vs Traffic Signal Summary

Ref: J1814

This memo summarizes the differences in the design and performance of two alternate treatments of the intersection of Arch Street & 12th Street in the City of Santa Clarita, California (City) and their effects on the overall Dockweiler Drive Corridor terminus at Railroad Avenue. Figure 1 shows the roadway network in the area of Blackhall Studios with Intersection 17 being the focus of the discussion in this memo. Figure 2 shows the site plan for Blackhall Studios to put the study intersection's location in perspective.

The intersection of Arch & 12th would be redesigned as part of the Dockweiler Drive Extension, a construction project now under final design by the City. The intent is to develop Dockweiler Drive as a two- to four-lane street from Railroad Avenue & 13th Street on the north to Sierra Highway on the south. The general roadway alignment for the Dockweiler Extension is shown in Figure 3.

The Dockweiler Drive extension would be constructed parallel to Railroad Avenue and Newhall Avenue corridors with the intent to providing an alternate route to those busy streets.

The City is currently completing final design and the Dockweiler corridor could be completed and open to traffic in 2026, subject to funding availability.

ALTERNATE DESIGNS

The City's current design calls for a roundabout at the intersection of Arch & 12th, but an alternate design to create a more typical four-leg intersection controlled by a traffic signal has been discussed. The basic structure of the two roadway design alternates is presented below.

Roundabout Design

Figure 4 presents the current City roundabout design. The intersection would be designed as a one-lane roundabout with four legs entering the roundabout – northbound and southbound Arch Street/Dockweiler Drive and eastbound and westbound 12th Street. Each approach leg would narrow to one lane entering the roundabout and the traffic flow entering the roundabout would be controlled by Yield signs.

Pedestrian crosswalks would cross each leg of the intersection approximately 25-30 feet in front of the Yield controls and this becomes especially problematic given the City's expansion of its trail system through this intersection.

Bicyclists would have to travel around the outside of the interior circle, exposed to moving vehicle traffic on the right and on the left.

The circular interior portion of the roundabout would provide one wide lane for vehicular travel, allowing vehicles to exit onto any of the three other roadway directions or to travel all the way around the circle and make a U-turn.

Traffic Signal Design

The other choice for the design of this intersection is to construct a more typical four-legged intersection which would be controlled by a traffic signal. The traffic signal would be interconnected and coordinated with the Dockweiler Drive & Placerita Canyon Road signal to the south and the Arch Street & 13th Street signal to the north. Figure 5 shows the layout of the intersection.

The intersection cross section would be as follows:

- Arch Street from the north would provide two southbound approach lanes which would widen to provide four lanes at the intersection -- two through lanes, one lane to serve traffic destined for Placerita Canyon Road and one left turn lane for traffic turning onto eastbound 12th Street.
- Dockweiler Drive from the south would provide one left turn lane and two northbound through lanes. A large corner radius would be provided on the southeast corner to accommodate trucks destined for the proposed studio entrance on 12th Street and vehicles with horse trailers entering Placerita Canyon.
- Eastbound and westbound 12th Street would each provide two approach lanes -- a center lane to serve left and through traffic and a right turn lane.

Pedestrian crosswalks across all four legs of the intersection would be controlled by the traffic signal with pedestrian push buttons and Walk/Don't Walk signals.

The traffic signal would provide a protected left turn phase for southbound turns headed onto eastbound 12th Street to handle the heavy left turn demand in the evening when residents of the Canyon are headed home.

INTERSECTION PERFORMANCE

Intersection Level of Service

The roundabout operates with Yield sign control, so the theory is that vehicles inside the roundabout and those entering the roundabout would take turns and there would be fewer vehicles coming to a complete stop than occurs at a traffic signal.

The difficulty with this theory is that the merge and weave caused by the conflict between the vehicles inside the roundabout and those entering the roundabout limits the capacity of the roundabout design. While the volumes projected to use the Arch & 12th roundabout would be well within the capacity of the facility during most hours of the day, the afternoon peak hour when the intersection is at its busiest will experience operational constraints in the form of congestion. This is due to the large number of southbound resident vehicles wanting to turn left onto eastbound 12th Street and head home toward the Canyon. During this hour of the day, the intersection will operate more like an all-way Stop intersection rather than a Yield control which will have performance ramifications on the operations of the roundabout.

Levels of Service are like grades in school with Level of Service A indicating excellent operations and Level of Service F representing stop and go conditions. Santa Clarita tries to design its intersections to operate at Level of Service C or better during the peak hours of operation. Table 1 describes the operating conditions at the various Levels of Service.

The operating conditions tests show that both designs operate within the City's Level of Service targets during the afternoon peak hours of a weekday (the busiest times of the week).

Both the roundabout and the traffic signal will work within the City's target Level of Service threshold only if the roundabout operates as intended with the Yield sign control. However, the combination of the effects of merging on the approach to the roundabout and the drivers' unfamiliarity with operating through a roundabout will result in the roundabout operating as if under Stop sign control during the majority of the weekday peak hour conditions. Thus, the Level of Service during peak hours would degrade to the point that they clearly fall short of the City's target thresholds, operating at LOS D or F during the AM and PM peak hours of a weekday, respectively.

The traffic signal would operate at Level of Service C even under the worst-case conditions during the morning and afternoon peak hours.

The detailed capacity calculation worksheets are included in this memo as Attachment A.

Evacuation Considerations

One of the key considerations in the Canyon area involves the need to be able to evacuate the homes, schools, and businesses in the Canyon in the event of a fire or natural disaster. The LOS evaluation described above shows that the limited capacity of the roundabout design would cause operational problems if traffic increases to the point that the roundabout operates as if were under all-way Stop control. In the event of an evacuation of the Canyon, the traffic increases would certainly push the roundabout operations into the Stop sign performance conditions. Thus, under evacuation conditions, the capacity limitations of the roundabout would result in failure of the roundabout design, increasing the time needed to maneuver through the roundabout and increasing the line of cars queuing back toward the Canyon – both detrimental to the evacuation process. As required by Evacuation Analysis procedures, the analysis simulates worst-case conditions assuming that all exiting traffic would use the Railroad/13th Street intersection to access the City's road network. Under this analysis, it was assumed that no evacuation would be available to Sierra Highway either via Placerita Canyon Road or the future Dockweiler Drive connection.

Tables 2A-2C show the existing and future operational characteristics of the roundabout and the traffic signal under evacuation conditions. Table 2A shows that the current evacuation conditions are controlled by the signalized intersection of Railroad Avenue and 13th Street. The capacity constraints of the existing intersection configuration would result in severe congestion for traffic exiting the Canyon for a total of 154 minutes (2.6 hours). This congestion is the result of having only one westbound lane serving exiting Canyon traffic at the intersection. The current design of the Arch Street and 12th Street intersection is also a chokepoint for exiting Canyon traffic with a severe congestion duration of 134 minutes (2.2 hours).

If the intersection of Arch Street and 12th Street operates as a roundabout, the roundabout intersection itself would become the control point for the Canyon evacuation. Table 2B shows that with the roundabout in operation, the congestion related to evacuation would last for 134 minutes (2.2 hours).

Table 2C illustrates that, in the future and even with the additional traffic generated by Blackhall Studios, the widening of 13th Street, and the improvement of the Railroad/13th intersection, the installation of a traffic signal at Arch/12th will reduce that congested condition from 154 minutes (2.6 hours) to 67 minutes (1.1 hours) – or by more than half. Under future conditions, the congestion point for exiting Canyon traffic will be the northbound Arch Street turn onto westbound 13th Street which will experience 87 minutes (1.5 hours) of congestion. With the intersection of Arch Street and 12th Street operating under traffic signal control, the evacuation from the Canyon could be handled with 87 minutes (1.5 hours) of congestion.

Thus, the improved Dockweiler/Arch/13th Street corridor will facilitate the evacuation of the Canyon reducing the evacuation congestion period from existing 2.6 hours of congestion to 2.2 hours (with the roundabout) to 1.5 hours (with the traffic signal) at Arch Street and 12th Street.

Table 3 shows a calculation of the total travel time for vehicles exiting the Canyon during an emergency evacuation condition and the results are similar to the congestion durations summarized above. When the travel times for every vehicle exiting the Canyon are summarized, the analysis in Table 3 shows that both the traffic signal and the roundabout offer better evacuation times than the existing roadway configuration, but again the traffic signal control at the intersection of Arch Street and 12th Street offers greater reduction in overall travel time than does the roundabout.

Figures 6 and 7 show the above results graphically. Both intersection designs under consideration offer improvements from existing conditions, but the traffic signal at Arch Street and 12th Street provides the residents of the Canyon with better service and reduced evacuation time as compared to the roundabout design.

Approach Merging

One of the disadvantages of the roundabout design involves the merging of all approach traffic on each leg of the intersection into one approach lane at the Yield sign. As shown in Figure 8, northbound, southbound, and westbound traffic volumes are relatively heavy during the peak hours and these volumes will have to merge into one lane as they approach the Yield sign. (Intersection 21 on Figure 8)

In the southbound direction, the PM peak hour will see 577 vehicles required to merge from two into one lane. Northbound in the morning would see a similar merge with 560 vehicles in the AM and 535 vehicles in the PM peak hour squeezing into one lane.

The corridor traffic flow from Railroad to 13th Street to Arch Street has been carefully balanced to minimize the need for traffic to change lanes and merge together in order to complete their trips. Dual southbound left turn lanes at Railroad flow into two eastbound lanes on 13th Street which in turn flow into dual eastbound right turn lanes at Arch Street. Two southbound lanes on Arch Street are designed to accommodate the traffic from the 13th Street dual right turn lanes. In the roundabout design, these two southbound lanes must merge into one lane approaching the roundabout. Under the traffic signal design, the two southbound lanes are continued through the signalized intersection at 12th Street, eliminating the congestion caused by the merging maneuvers required by the roundabout design.

The traffic signal design provides more approach lanes to and through the intersection resulting in far less merging and lane changing than the roundabout option.

Queuing

The intersection capacity calculations also yield an estimate of the queue length on each leg of the intersection during the peak hours.

Because the roundabout only provides one approach lane into the intersection, the roundabout creates longer queue lengths especially if the roundabout becomes congested and operates as if it were a Stop-controlled intersection. This is caused by both the merging of approach traffic into the roundabout traffic flow and by the reduced number of approach lanes available to serve approaching traffic.

The capacity calculations in Attachment A show that the signalized intersection has sufficient storage length available to accommodate all the movements entering the intersection.

One interesting fact regarding the queuing characteristics of the alternate designs is that the roundabout could result in longer northbound queues at the intersection of Arch & 13th. This

appears to be caused by the more continuous flow of northbound traffic through the roundabout. With the traffic signal design, the signal at Arch & 12th forms northbound platoons of traffic which arrive at the Arch & 13th during the green arrow/green light for northbound traffic and the queue is thereby reduced because the signals at 12th and at 13th Streets are coordinated. With the roundabout design, the northbound through traffic and the westbound to northbound right turn traffic moves continuously toward the traffic signal at Arch & 13th and much of the continuous flow of traffic arrives during the red-light phase at 13th. Therefore, the continuous roundabout traffic flow could result in longer queues at Arch & 13th.

Familiarity

Clearly, drivers in the United States are more familiar with driving through a four-legged, signalized intersection than through a roundabout. This familiarity with traffic signalized intersections would cause the traffic signal to operate with less driver confusion or hesitancy resulting in slower travel typically associated with the roundabout design.

Large Vehicle Service

These turning, merging, and driving conditions also apply to fire trucks and vehicles pulling trailers, including horse trailers. Merging into the flow of traffic inside the roundabout and maneuvering through the roundabout to the desired turn location will be more difficult in the roundabout design. Figures 9A through 9C depict the path of travel for the types of large vehicles that would be using the roundabout design, from vehicles with a similar profile to a horse-trailer to large semi-trailers. As shown in the Figure 9A, the horse trailer vehicle path requires use of the entire roadway width, and the large semi-trailer path will likely require mounting the interior curb of the roundabout to navigate through the intersection successfully.

With the proposed studio project, there will be more trucks travelling through the area and the signalized intersection has been designed with those larger vehicles in mind. Truck and service vehicle trips through the signalized intersection will be easier, less confusing, and under more positive control than under the roundabout design.

Pedestrian and Bicycle Safety

The handling of pedestrian flow through a roundabout design has always been a concern. As shown in Figure 4, the marked pedestrian crosswalks are located approximately 25-30 feet in front of the Yield sign and Yield lines. This means that the pedestrian will step into traffic 25-30 feet before the driver expects to yield to enter the roundabout. Because of the Yield control, the driver will also be concentrating on "picking his spot" in the flow of roundabout traffic and looking over his left shoulder to make that decision. Under these approach conditions, the driver may not be aware of a pedestrian entering the crosswalk from the driver's right side.

In the traffic signal design, pedestrians have to cross more lanes of the street at one crossing and one might conclude that the roundabout offers better pedestrian safety. However, the traffic signal offers protected pedestrian crossings with traffic approaching each crosswalk stopped behind a red signal indication giving pedestrians more secure crossing of the intersection. Right turning

vehicles at signalized intersections expect to look for pedestrians in the adjacent crosswalks. The more positive, and more familiar, control offered by the design and location of the pedestrian crosswalks in the signalized intersection design would likely provide more positive and effective pedestrian safety.

Right-of-Way Impacts

The design of the roundabout clearly uses much more land than does the signalized intersection. The roundabout has a diameter of 192 feet, including the area for the sidewalk and parkways. This dimension results in an intersection area of 29,200 square feet.

The signalized intersection, on the other hand, can be accomplished in an area of less than 15,000 square feet, including the parkway and sidewalk area.

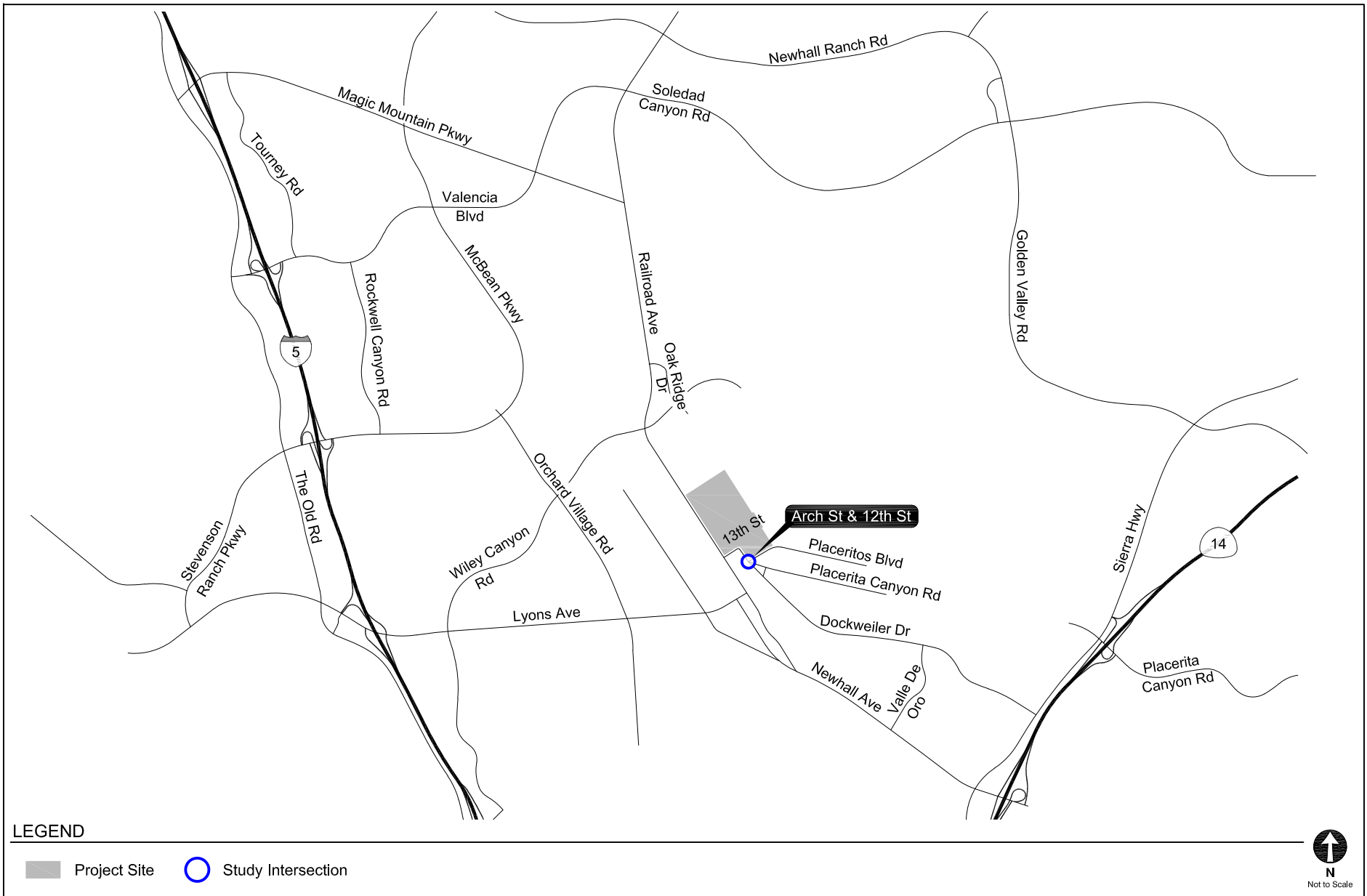
The roundabout requires twice as much land as does the signalized intersection.

SUMMARY

With two designs under consideration for the intersection of Arch Street and 12th Street, it is important to note that both intersections could operate within the City's Level of Service criteria, although merging and driver unfamiliarity with roundabout operations will cause the roundabout design to experience congestion during the majority of the weekday peak hours of the year.

The advantages of the four-legged, signalized intersection are obvious. The signalized intersection requires less merging and weaving, enhances emergency evacuation from the Canyon, increases pedestrian and bicyclist safety, will be more familiar to drivers, and accommodates large vehicles and horse trailers better.

One of the reasons given by the neighbors for preferring the roundabout design was the opportunity to create a more rural feel to the Canyon entrance and the opportunity to develop entry signing for the neighborhood. The traffic signal design is undergoing planning studies now to develop entrance signing and monument options to satisfy this neighborhood goal.



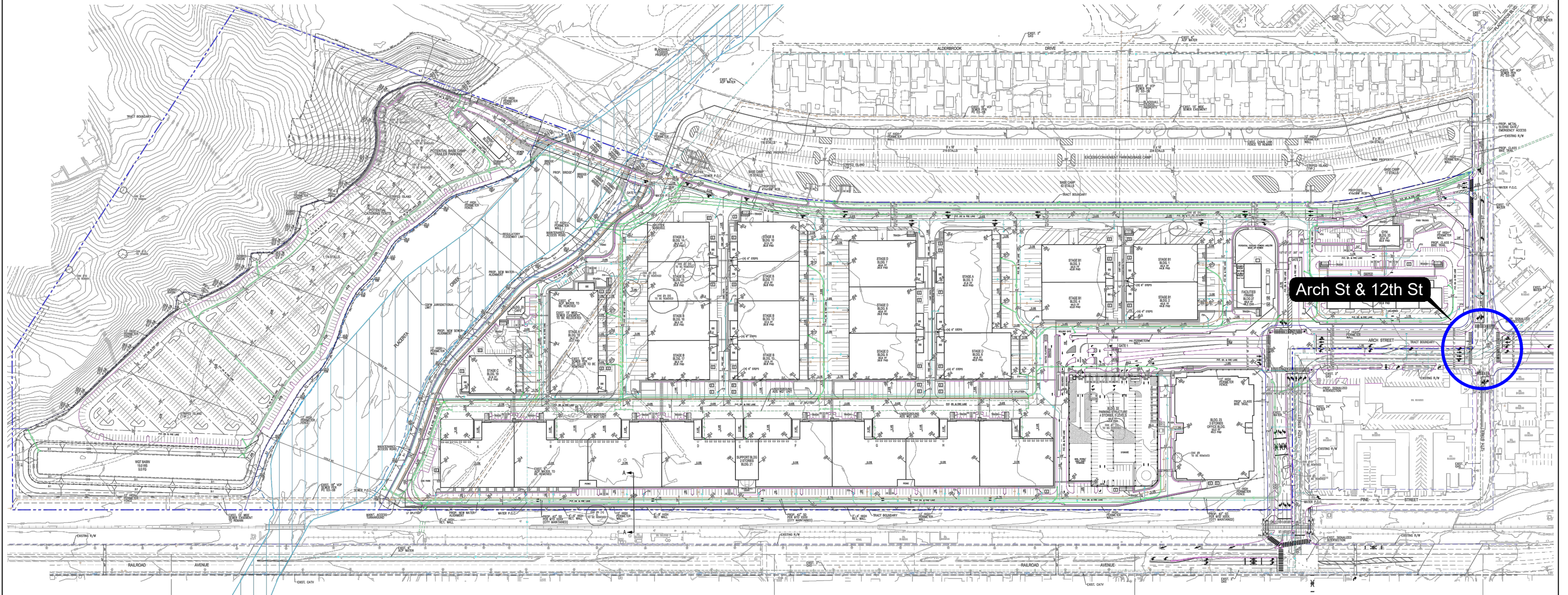
LEGEND

- Project Site
- Study Intersection



STUDY INTERSECTIONS FOR BLACKHALL STUDIOS

FIGURE
1



Source: GAA Architects. September, 2021.



BLACKHALL STUDIOS SITE PLAN

FIGURE
2



Source: City of Santa Clarita, March, 2020.

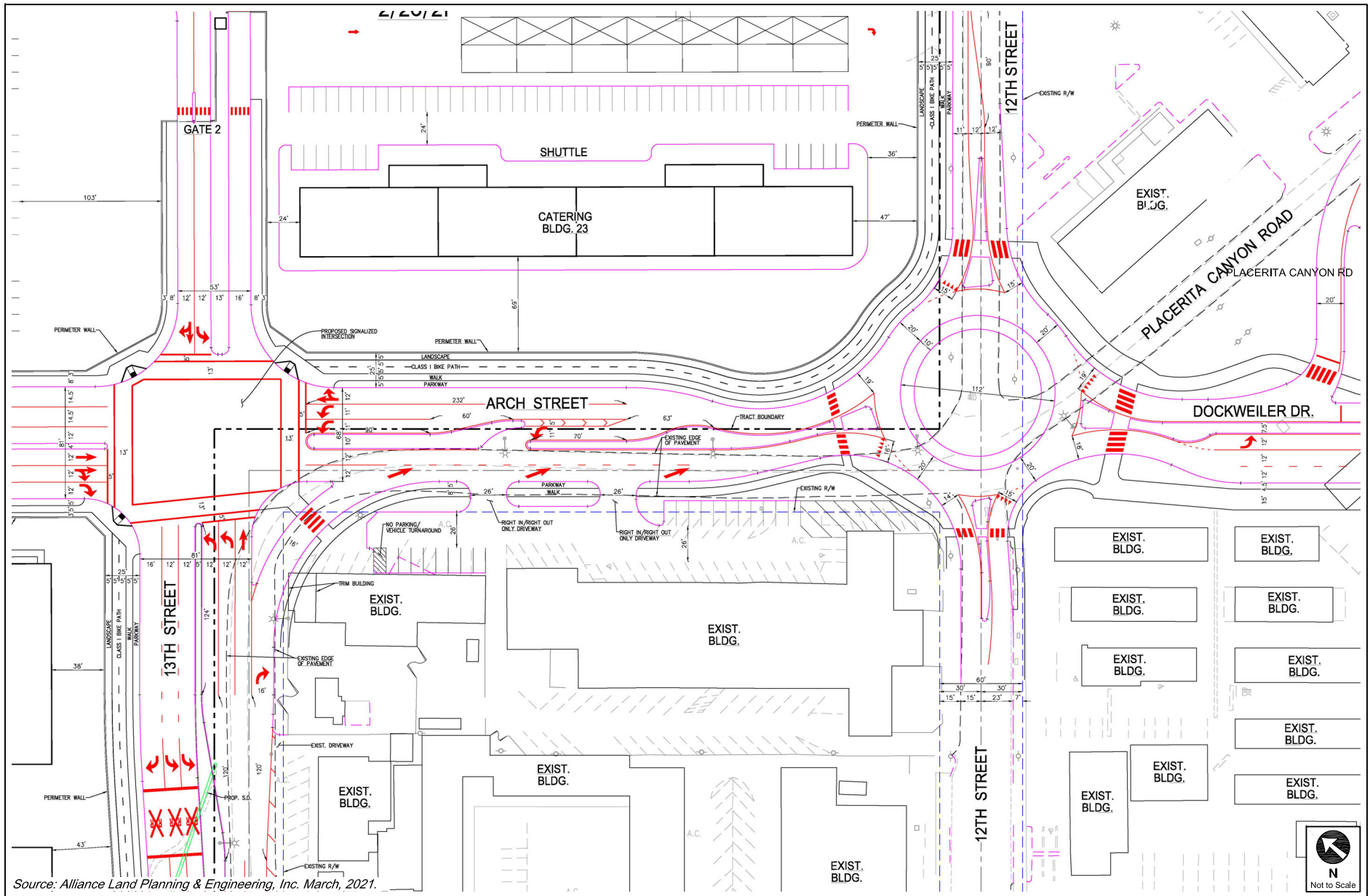
LEGEND

- █ Approved Dockweiler Extension
- █ Proposed Dockweiler Extension



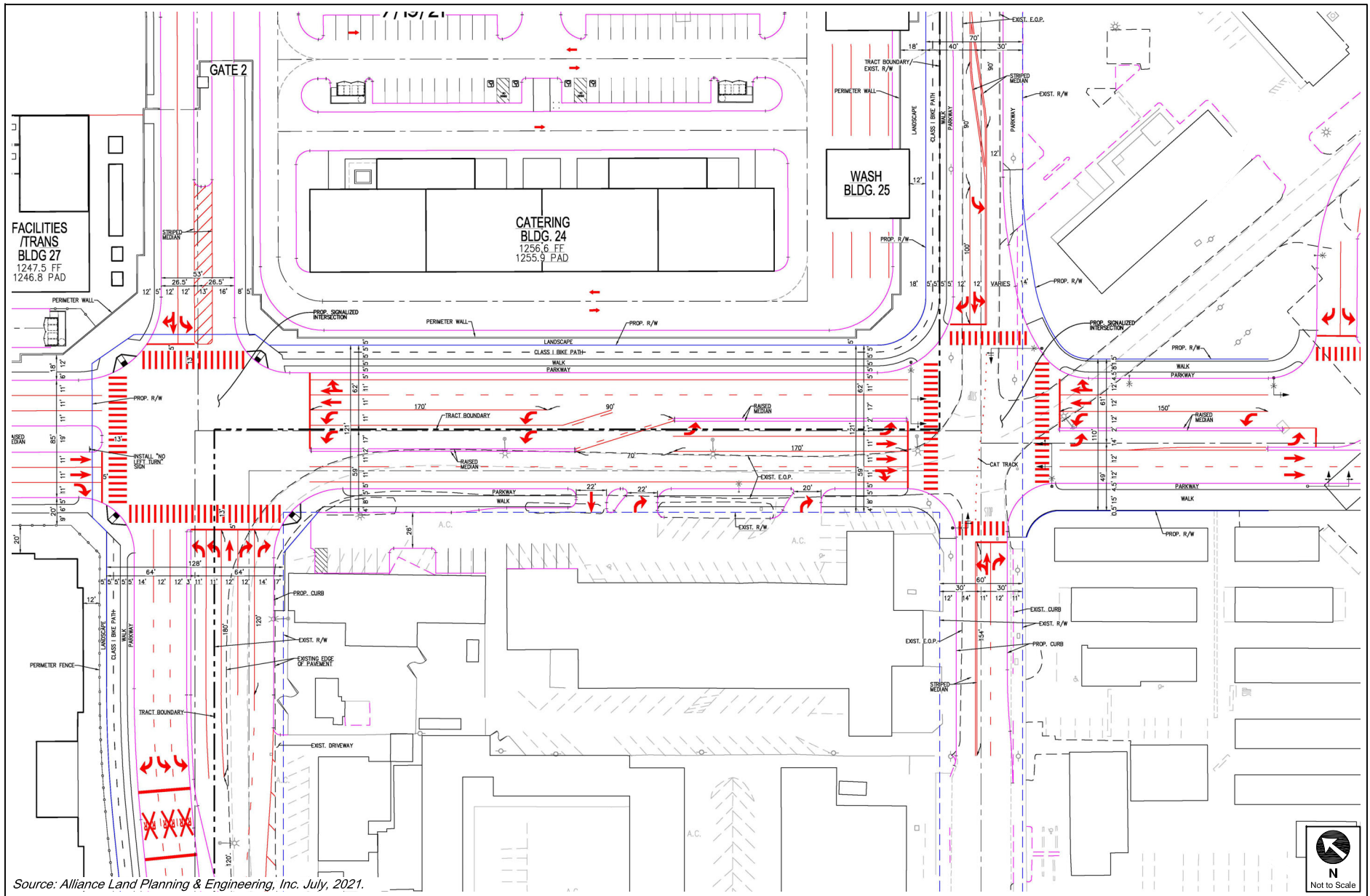
DOCKWEILER DRIVE EXTENSION ALIGNMENT

FIGURE 3



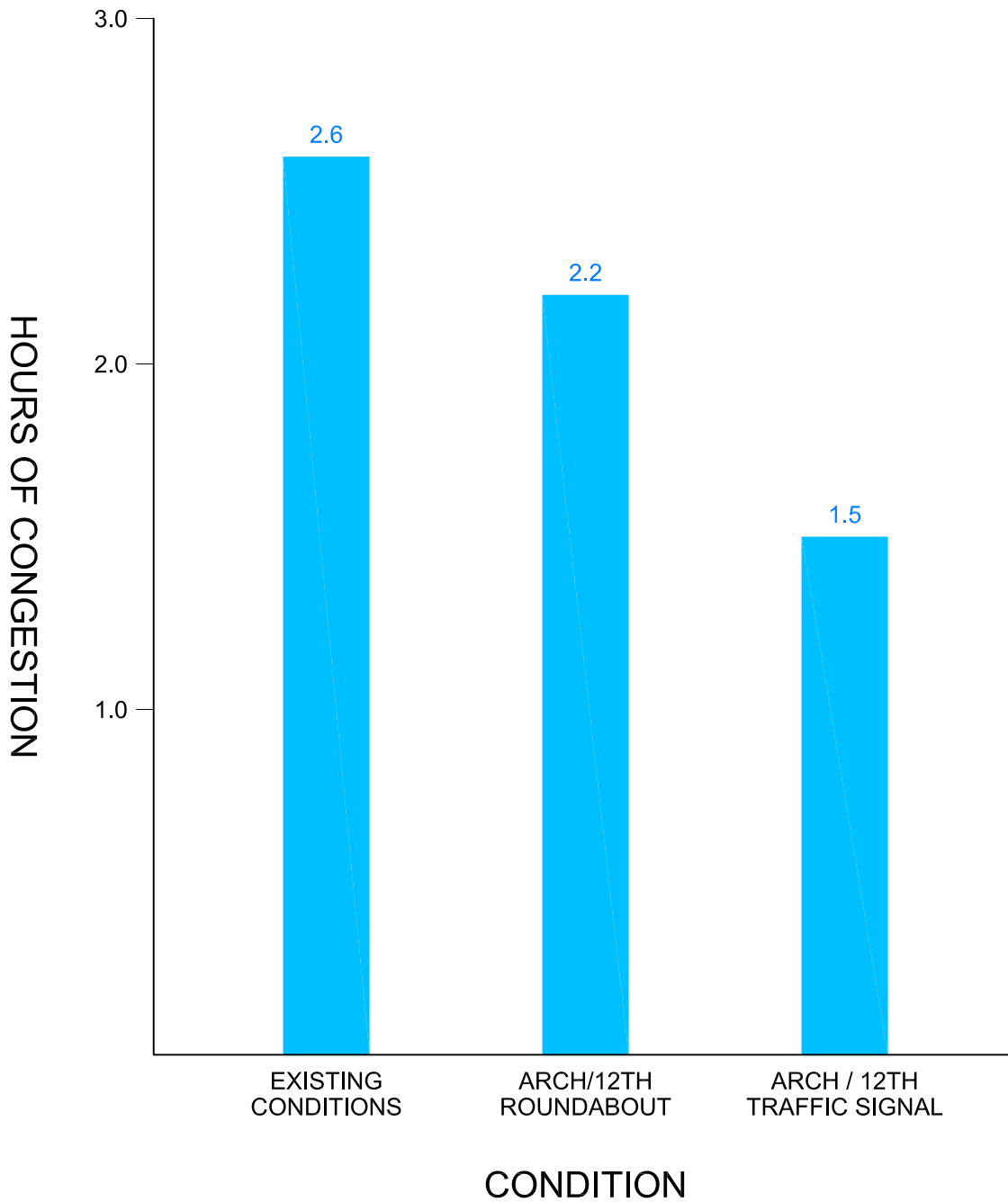
ROADWAY CONFIGURATION CONCEPT
ROUNDBOUT ALTERNATIVE

FIGURE
4



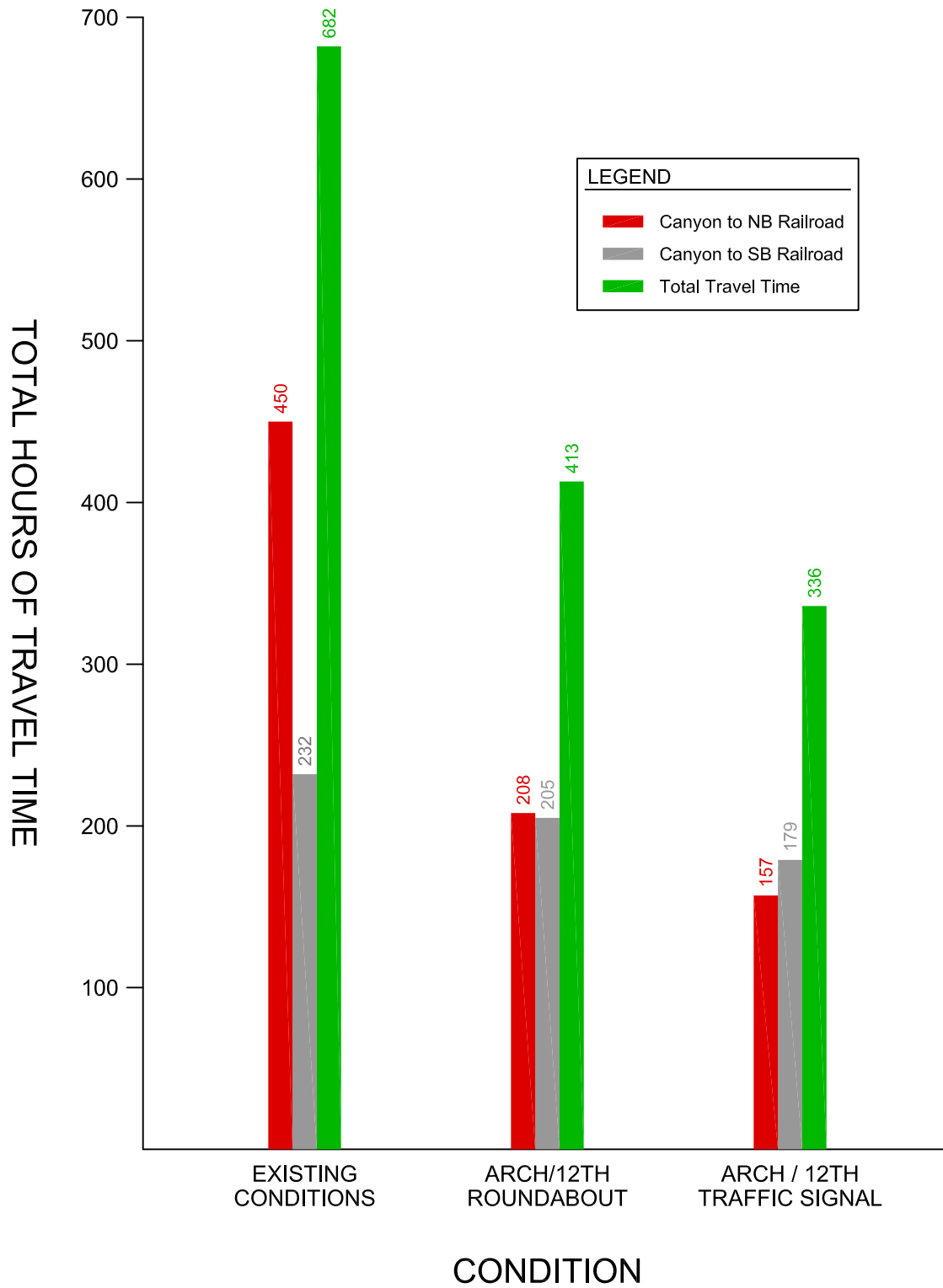
ROADWAY CONFIGURATION CONCEPT
TRAFFIC SIGNAL ALTERNATIVE

FIGURE
5



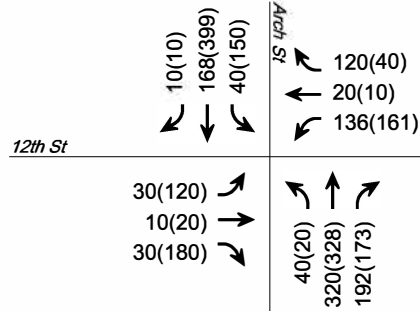
HOURS OF SEVERE CONGESTION
LEAVING THE CANYON DURING EVACUATION

FIGURE
6



HOURS OF TRAVEL TIME
LEAVING THE CANYON DURING EVACUATION

FIGURE
7



21. Arch Street / Placeritas Canyon Road & 12th Street



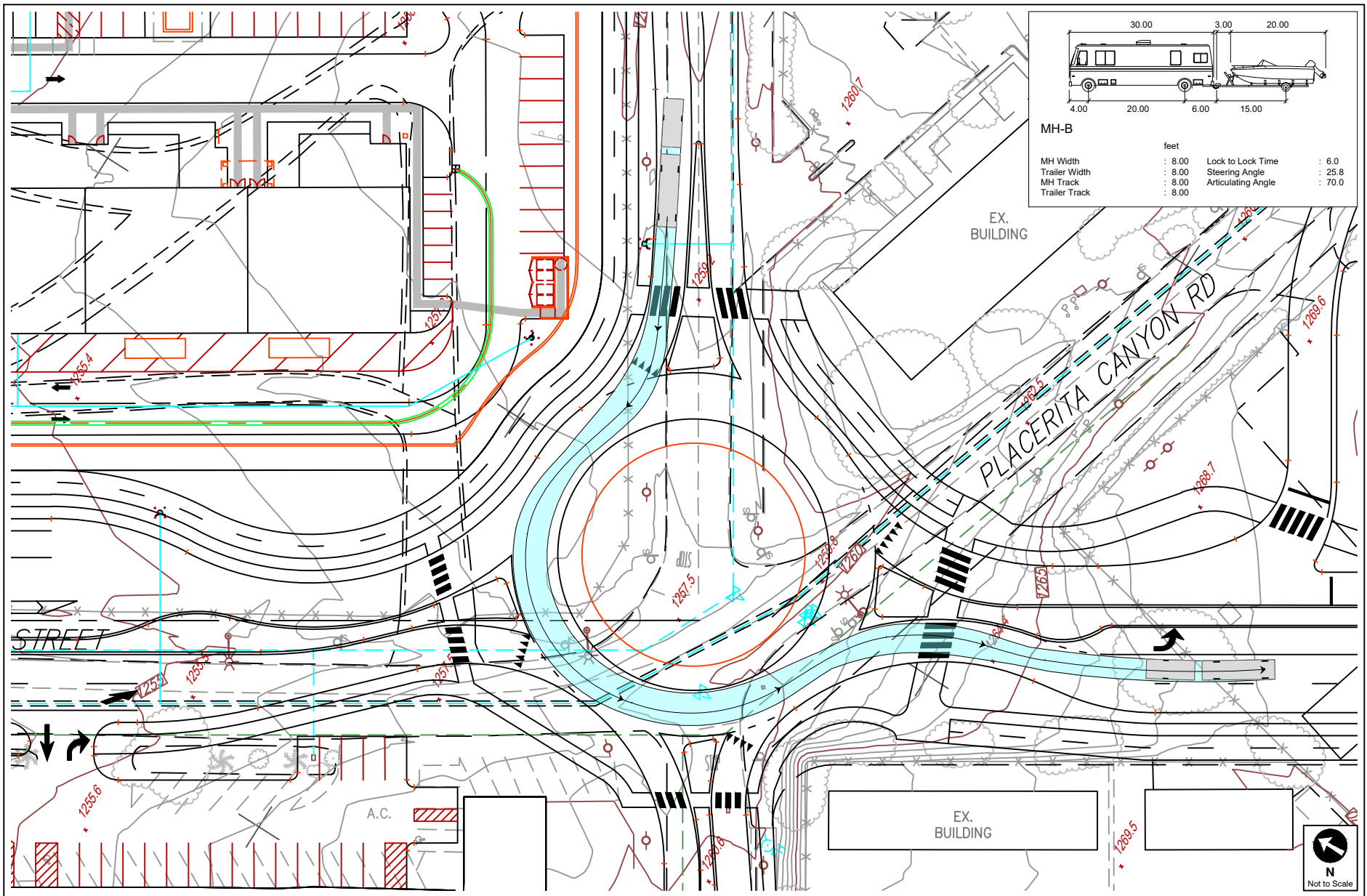
LEGEND

- Project Site
- Study Intersection
- #(##) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume



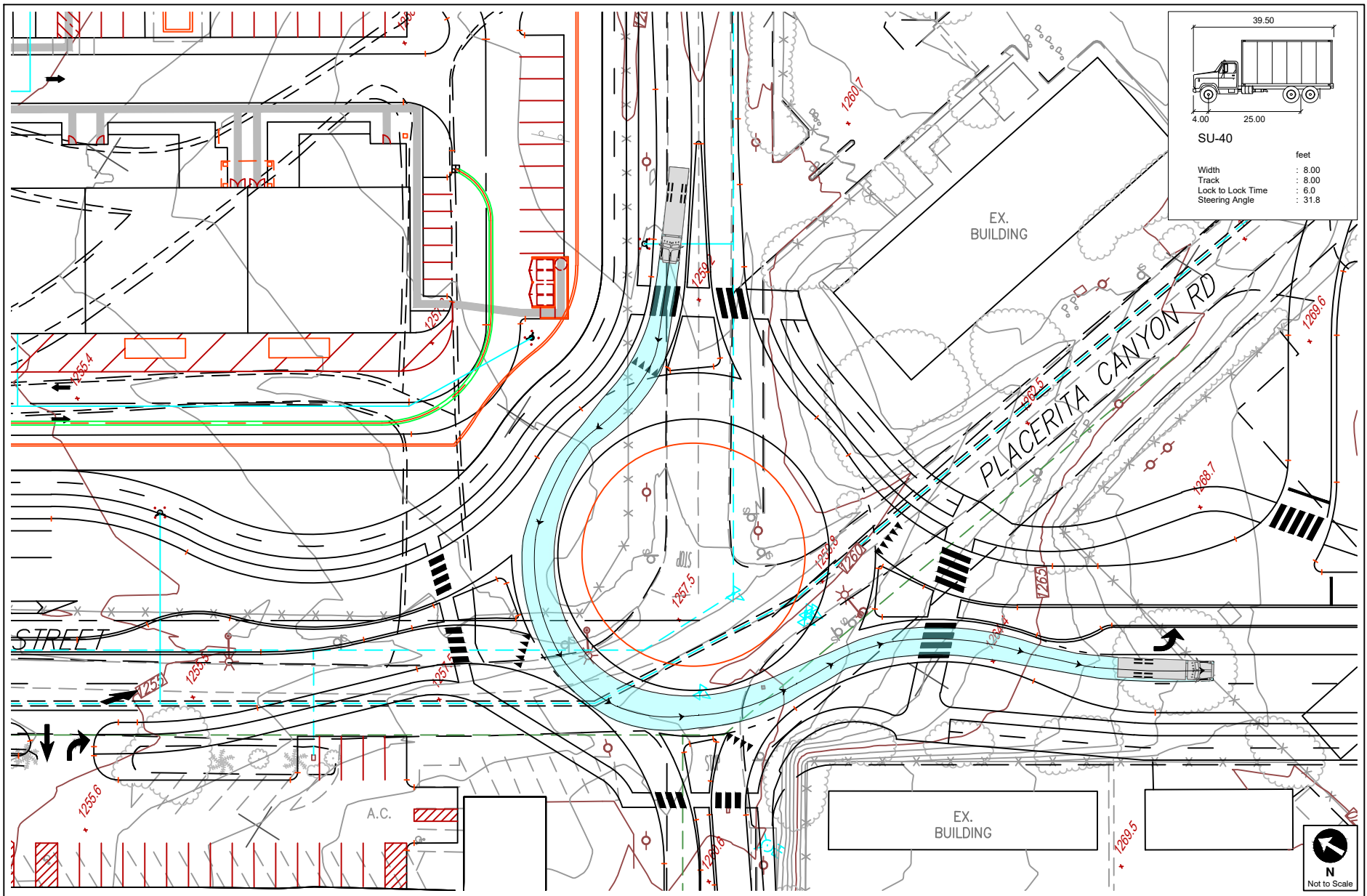
**FUTURE WITH PROJECT WITH DOCKWEILER EXTENSION (YEAR 2028)
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE
8**



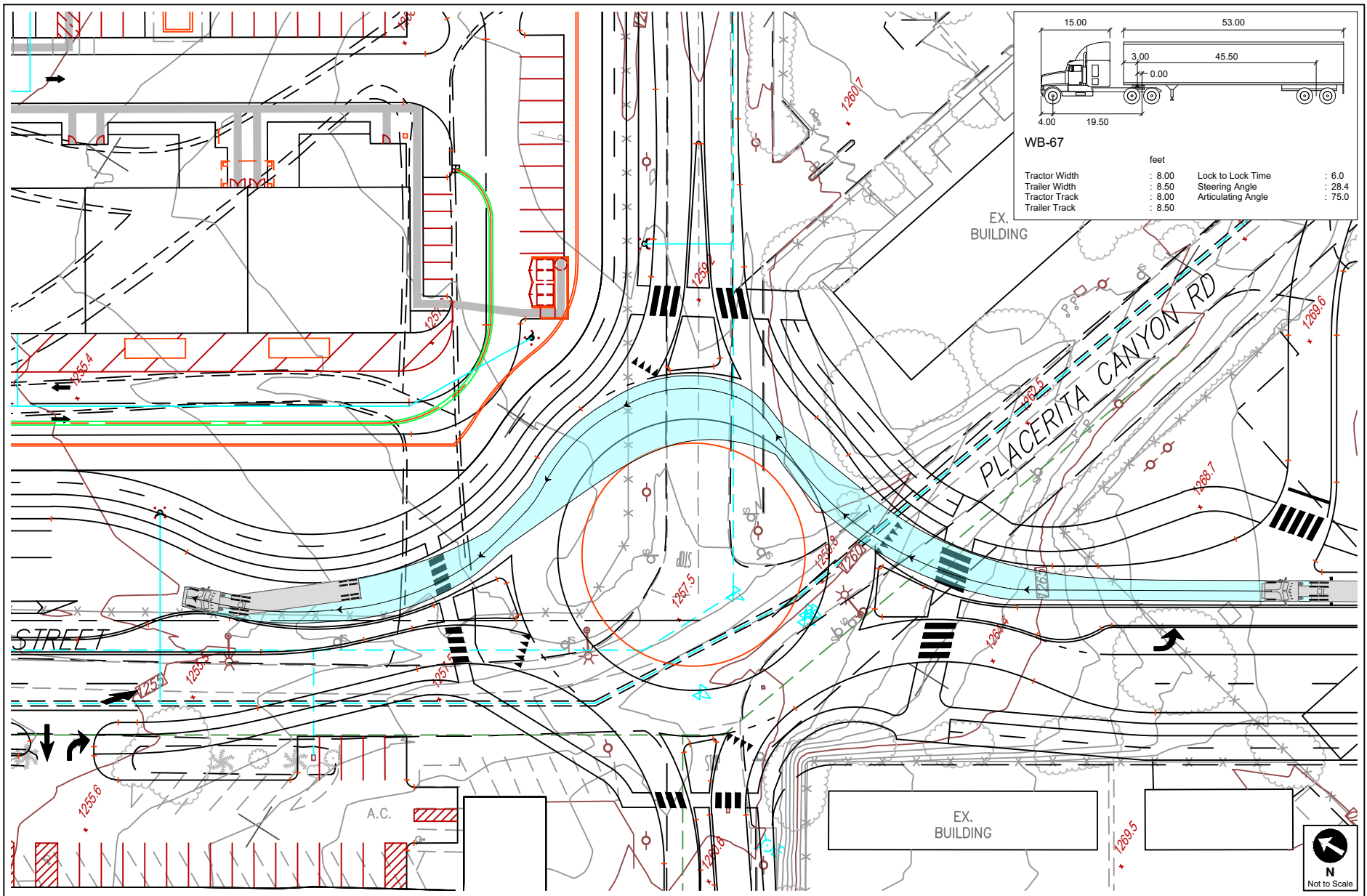
AASHTO MH-B

FIGURE 9A



AASHTO SU-40

FIGURE 9B



AASHTO WB-67

FIGURE 9C

TABLE 1
LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS
(2000 HIGHWAY CAPACITY MANUAL OPERATIONS METHOD)

Level of Service	Average Control Delay per Vehicle (seconds)	Definition
A	≤ 10.0	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	> 10.0 and ≤ 20.0	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	> 20.0 and ≤ 35.0	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	> 35.0 and ≤ 55.0	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	> 55.0 and ≤ 80.0	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 80.0	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

**TABLE 2A
SUMMARY OF EVACUATION DELAY
AFTERNOON PEAK HOUR (WORST-CASE CONDITIONS)**

Existing Conditions						
No.	Intersection	Approach	Approach Lanes	Volume	Approach Delay [a]	Minutes of Congestion [b]
5	Railroad Avenue & 13th Street	Northbound	2	1427	9.7	71
		Southbound	2	1402	7.5	70
		Westbound	1	1537	1244.8	154
16	Arch Street/13th Street Driveway 2 & 13th Street/13th Street Driveway 1	Northbound	1	1537	N/A	
		Southbound	N/A			
		Eastbound	1	0	N/A	
		Westbound	N/A			
17	Dockweiler Drive/Arch Street & 12th Street	Northbound	1	122	0	12
		Southbound	1	0	N/A	
		Eastbound	1	75	0	8
		Westbound	1	1340	284.7	134
SEVERE CONGESTION = 154 MINUTES (2.6 HOURS)						

Notes:

[a] Approach Delay determined by using HCM 6th Edition methodology

[b] Minutes to Clear determined by using an assumed vehicular flow of 600 vehicles per lane per hour

 Indicates highest congestion for exiting Canyon traffic

**TABLE 2B
SUMMARY OF EVACUATION DELAY
AFTERNOON PEAK HOUR (WORST-CASE CONDITIONS)**

Future with Project Conditions with Roundabout						
No.	Intersection	Approach	Approach Lanes	Volume	Approach Delay [a]	Minutes of Congestion [b]
5	Railroad Avenue & 13th Street	Northbound	2	1740	13.1	87
		Southbound	2	1940	22.5	97
		Westbound	3	2008	365.9	67
16	Arch Street/13th Street Driveway 2 & 13th Street/13th Street Driveway 1	Northbound	2	1740	70.1	87
		Southbound	2	169	35.6	8
		Eastbound	1	0	N/A	
		Westbound	1	99	68.3	10
17B [c]	Dockweiler Drive/Arch Street & 12th Street (roundabout)	Northbound	1	328	21.9	33
		Southbound	1	0	N/A	
		Eastbound	1	75	12.6	8
		Westbound	1	1340	425.2	134
SEVERE CONGESTION = 134 MINUTES (2.2 HOURS)						

Notes:

[a] Approach Delay determined by using HCM 6th Edition methodology

[b] Minutes to Clear determined by using an assumed vehicular flow of 600 vehicles per lane per hour

[c] With the Dockweiler Dr Extension, Intersection #17 would be controlled by a roundabout

 Indicates highest congestion for exiting Canyon traffic

**TABLE 2C
SUMMARY OF EVACUATION DELAY
AFTERNOON PEAK HOUR (WORST-CASE CONDITIONS)**

Future with Project Conditions with Traffic Signal						
No.	Intersection	Approach	Approach Lanes	Volume	Approach Delay [a]	Minutes of Congestion [b]
5	Railroad Avenue & 13th Street	Northbound	2	1740	13.1	87
		Southbound	2	1940	22.5	97
		Westbound	3	2008	365.9	67
16	Arch Street/13th Street Driveway 2 & 13th Street/13th Street Driveway 1	Northbound	2	1740	70.1	87
		Southbound	2	169	35.6	8
		Eastbound	1	0	N/A	
		Westbound	1	99	68.3	10
17 [c]	Dockweiler Drive/Arch Street & 12th Street (traffic signal)	Northbound	2	328	53.3	16
		Southbound	2	0	N/A	
		Eastbound	1	75	32.7	8
		Westbound	2	1340	287	67
SEVERE CONGESTION = 87 MINUTES (1.5 HOURS)						

Notes:

[a] Approach Delay determined by using HCM 6th Edition methodology

[b] Minutes to Clear determined by using an assumed vehicular flow of 600 vehicles per lane per hour

[c] With the Dockweiler Dr Extension, Intersection #17 would be controlled by a traffic signal

 Indicates highest congestion for exiting Canyon traffic

**TABLE 3
TRAVEL TIMES THROUGH DOCKWEILER CORRIDOR**

Trip Type	Evacuation Scenario		
	Existing Conditions	Future with Project Conditions (Roundabout)	Future with Project Conditions (Traffic Signal)
Neighborhood to Northbound Railroad Street			
Segment: 12th Street (s)	23	23	23
Intersection #17: Dockwiler Drive/Arch Street & 12th Street - WBR (s)	284.7	425.2	287
Segment: Arch Street (s)	11.5	6.4	6.4
Intersection #16: Arch Street/Driveway & 13th Street/Driveway - NBL (s)	0	70.1	70.1
Segment: 13th Street (s)	17.1	17.1	17.1
Intersection #5 WBR (s)	1244.8	4.4	4.4
Segment: Railroad Avenue north of 13th Street (s)	16.3	16.3	16.3
Sum WBR (Minutes)	26.6	9.4	7.1
TOTAL TRAVEL TIME TO NB RAILROAD ST. (HRS)	449.7	207.6	156.8
Neighborhood to Southbound Railroad Street			
Segment: 12th Street (s)	23	23	23
Intersection #17: Dockwiler Drive/Arch Street & 12th Street - WBR (s)	284.7	425.2	287
Segment: Arch Street (s)	11.5	6.4	6.4
Intersection #16: Arch Street/Driveway & 13th Street/Driveway - NBL (s)	0	70.1	70.1
Segment: 13th Street (s)	17.1	17.1	17.1
Intersection #5: Railroad & 13th Street - WBL (s)	1244.8	521	521
Segment: Railroad Avenue south of 13th Street (s)	18.4	18.4	18.4
Sum WBL (Minutes)	26.7	18	15.7
TOTAL TRAVEL TIME TO SB RAILROAD ST. (HRS)	232.5	204.9	178.7
TOTAL TRAVEL TIME LEAVING CANYON (HRS)	682.2	412.5	335.5

Notes:

(s): in seconds

NBL: Northbound Left

WBL: Westbound Left

WBR: Westbound Right

Attachment A
HCM Analysis Worksheets

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

11/17/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑	↔↔	↔	↔		↔↔	↔↔			↔↔	↔
Traffic Volume (vph)	150	71	190	16	40	0	420	21	29	0	12	84
Future Volume (vph)	150	71	190	16	40	0	420	21	29	0	12	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.913				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3231	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	3433	3231	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			207					32				132
Link Speed (mph)		45			30			45				30
Link Distance (ft)		612			324			505				392
Travel Time (s)		9.3			7.4			7.7				8.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	77	207	17	43	0	457	23	32	0	13	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	163	77	207	17	43	0	457	55	0	0	13	91
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Over	Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

11/17/2021

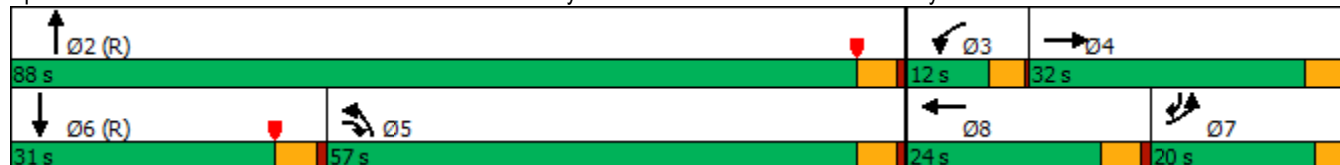


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	20.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	20.0	32.0	57.0	12.0	24.0		57.0	88.0			31.0	20.0
Total Split (%)	15.2%	24.2%	43.2%	9.1%	18.2%		43.2%	66.7%			23.5%	15.2%
Maximum Green (s)	16.0	27.0	52.0	8.0	19.0		52.0	83.0			26.0	16.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	12.1	18.7	52.0	6.7	10.3		52.0	98.6			41.6	12.1
Actuated g/C Ratio	0.09	0.14	0.39	0.05	0.08		0.39	0.75			0.32	0.09
v/c Ratio	0.52	0.29	0.17	0.19	0.30		0.34	0.02			0.01	0.34
Control Delay	67.9	57.9	0.3	64.4	62.9		28.9	3.0			34.7	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	67.9	57.9	0.3	64.4	62.9		28.9	3.0			34.7	6.2
LOS	E	E	A	E	E		C	A			C	A
Approach Delay		34.9			63.4			26.1			9.8	
Approach LOS		C			E			C			A	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	10 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.52
Intersection Signal Delay:	30.1
Intersection LOS:	C
Intersection Capacity Utilization:	37.9%
ICU Level of Service:	A
Analysis Period (min):	15

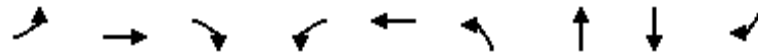
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

11/17/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	163	77	207	17	43	457	55	13	91
v/c Ratio	0.52	0.29	0.17	0.19	0.30	0.34	0.02	0.01	0.34
Control Delay	67.9	57.9	0.3	64.4	62.9	28.9	3.0	34.7	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.9	57.9	0.3	64.4	62.9	28.9	3.0	34.7	6.2
Queue Length 50th (ft)	76	66	0	14	35	139	2	4	0
Queue Length 95th (ft)	m114	m109	1	40	74	183	9	13	19
Internal Link Dist (ft)		532			244		425	312	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	416	381	1223	107	268	1352	2421	1114	307
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.20	0.17	0.16	0.16	0.34	0.02	0.01	0.30

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

11/17/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	30	10	30	136	20	120	40	320	192	40	168	10
Future Volume (vph)	30	10	30	136	20	120	40	320	192	40	168	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	200		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.942			0.941			0.953			0.994	
Flt Protected		0.979			0.976			0.996			0.991	
Satd. Flow (prot)	0	1718	0	0	1711	0	0	1768	0	0	1835	0
Flt Permitted		0.979			0.976			0.996			0.991	
Satd. Flow (perm)	0	1718	0	0	1711	0	0	1768	0	0	1835	0
Link Speed (mph)		25			25			30			25	
Link Distance (ft)		391			842			164			505	
Travel Time (s)		10.7			23.0			3.7			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	11	33	148	22	130	43	348	209	43	183	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	0	0	300	0	0	600	0	0	237	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	62.4%
ICU Level of Service	B
Analysis Period (min)	15

HCM 6th Roundabout
 17: Dockweiler Drive/Arch Street & 12th Street

11/17/2021

Intersection				
Intersection Delay, s/veh	7.3			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	77	300	600	237
Demand Flow Rate, veh/h	79	306	612	242
Vehicles Circulating, veh/h	382	433	89	217
Vehicles Exiting, veh/h	77	268	372	522
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.8	8.0	8.1	5.3
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	79	306	612	242
Cap Entry Lane, veh/h	935	887	1260	1106
Entry HV Adj Factor	0.972	0.979	0.980	0.981
Flow Entry, veh/h	77	300	600	237
Cap Entry, veh/h	908	869	1235	1085
V/C Ratio	0.085	0.345	0.486	0.219
Control Delay, s/veh	4.8	8.0	8.1	5.3
LOS	A	A	A	A
95th %tile Queue, veh	0	2	3	1

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

11/17/2021



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Lane Configurations										
Traffic Volume (vph)	70	129	423	140	82	262				
Future Volume (vph)	70	129	423	140	82	262				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	100	0		0	0					
Storage Lanes	1	1		0	1					
Taper Length (ft)	25				25					
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95				
Frt		0.850	0.963							
Flt Protected	0.950				0.950					
Satd. Flow (prot)	1770	1583	3408	0	1770	3539				
Flt Permitted	0.950				0.950					
Satd. Flow (perm)	1770	1583	3408	0	1770	3539				
Right Turn on Red		Yes		Yes						
Satd. Flow (RTOR)		140	35							
Link Speed (mph)	30		45			45				
Link Distance (ft)	1101		354			164				
Travel Time (s)	25.0		5.4			2.5				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Adj. Flow (vph)	76	140	460	152	89	285				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	76	140	612	0	89	285				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Right	Left	Left				
Median Width(ft)	12		12			12				
Link Offset(ft)	0		0			0				
Crosswalk Width(ft)	16		16			16				
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)	15	9		9	15					
Number of Detectors	1	1	2		1	2				
Detector Template	Left	Right	Thru		Left	Thru				
Leading Detector (ft)	20	20	100		20	100				
Trailing Detector (ft)	0	0	0		0	0				
Detector 1 Position(ft)	0	0	0		0	0				
Detector 1 Size(ft)	20	20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0				
Detector 2 Position(ft)			94			94				
Detector 2 Size(ft)			6			6				
Detector 2 Type			Cl+Ex			Cl+Ex				
Detector 2 Channel										
Detector 2 Extend (s)			0.0			0.0				
Turn Type	Prot	Perm	NA		Prot	NA				
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8
Permitted Phases		7 8								

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

11/17/2021

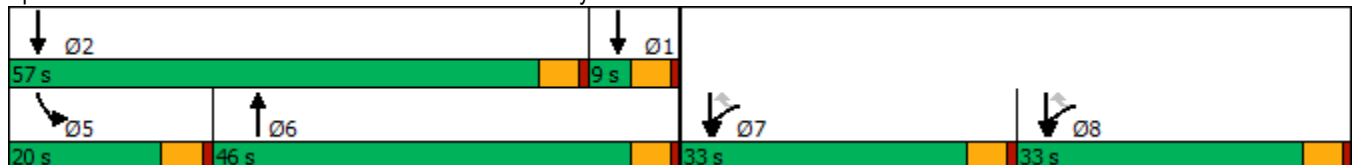


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		9.0	23.0	33.0	33.0
Total Split (s)			46.0		20.0		9.0	57.0	33.0	33.0
Total Split (%)			34.8%		15.2%		7%	43%	25%	25%
Maximum Green (s)			41.0		15.0		4.0	52.0	28.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lag	Lead	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Min	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	19.5	19.5	17.9		9.1	58.9				
Actuated g/C Ratio	0.33	0.33	0.30		0.15	1.00				
v/c Ratio	0.13	0.23	0.58		0.33	0.08				
Control Delay	17.3	5.0	20.0		28.5	0.0				
Queue Delay	0.0	0.0	0.0		0.0	0.0				
Total Delay	17.3	5.0	20.0		28.5	0.0				
LOS	B	A	C		C	A				
Approach Delay	9.3		20.0			6.8				
Approach LOS	A		C			A				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 58.9
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.58
 Intersection Signal Delay: 14.0
 Intersection LOS: B
 Intersection Capacity Utilization 37.1%
 ICU Level of Service A
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

11/17/2021



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	76	140	612	89	285
v/c Ratio	0.13	0.23	0.58	0.33	0.08
Control Delay	17.3	5.0	20.0	28.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	5.0	20.0	28.5	0.0
Queue Length 50th (ft)	19	0	91	29	0
Queue Length 95th (ft)	54	36	162	75	0
Internal Link Dist (ft)	1021		274		84
Turn Bay Length (ft)	100				
Base Capacity (vph)	1267	1173	2477	468	3539
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.12	0.25	0.19	0.08

Intersection Summary

Intersection	
Intersection Delay, s/veh	27.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	30	10	30	136	20	120	40	320	192	40	168	10
Future Vol, veh/h	30	10	30	136	20	120	40	320	192	40	168	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	11	33	148	22	130	43	348	209	43	183	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.2	16.3	41	13.7
HCM LOS	B	C	E	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	43%	49%	18%
Vol Thru, %	58%	14%	7%	77%
Vol Right, %	35%	43%	43%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	552	70	276	218
LT Vol	40	30	136	40
Through Vol	320	10	20	168
RT Vol	192	30	120	10
Lane Flow Rate	600	76	300	237
Geometry Grp	1	1	1	1
Degree of Util (X)	0.917	0.147	0.527	0.412
Departure Headway (Hd)	5.5	6.961	6.318	6.259
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	666	513	570	573
Service Time	3.5	5.038	4.374	4.313
HCM Lane V/C Ratio	0.901	0.148	0.526	0.414
HCM Control Delay	41	11.2	16.3	13.7
HCM Lane LOS	E	B	C	B
HCM 95th-tile Q	12	0.5	3.1	2

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

11/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	71	190	16	40	0	420	21	29	0	12	84
Future Volume (vph)	150	71	190	16	40	0	420	21	29	0	12	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.913				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3231	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	3433	3231	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			207					32				132
Link Speed (mph)		35			30			25				30
Link Distance (ft)		612			408			505				500
Travel Time (s)		11.9			9.3			13.8				11.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	77	207	17	43	0	457	23	32	0	13	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	163	77	207	17	43	0	457	55	0	0	13	91
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				36
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Over	Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

11/16/2021

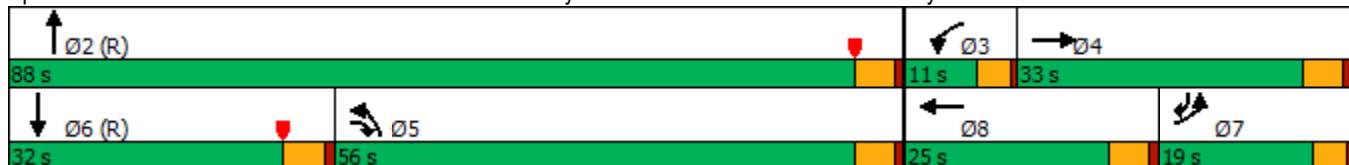


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	21.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	19.0	33.0	56.0	11.0	25.0		56.0	88.0			32.0	19.0
Total Split (%)	14.4%	25.0%	42.4%	8.3%	18.9%		42.4%	66.7%			24.2%	14.4%
Maximum Green (s)	15.0	28.0	51.0	7.0	20.0		51.0	83.0			27.0	15.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	12.1	19.0	51.0	6.4	10.3		51.0	98.6			42.6	12.1
Actuated g/C Ratio	0.09	0.14	0.39	0.05	0.08		0.39	0.75			0.32	0.09
v/c Ratio	0.52	0.29	0.17	0.20	0.30		0.34	0.02			0.01	0.34
Control Delay	64.6	53.9	0.3	65.6	62.9		29.6	3.0			33.9	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	64.6	53.9	0.3	65.6	62.9		29.6	3.0			33.9	6.2
LOS	E	D	A	E	E		C	A			C	A
Approach Delay		33.0			63.7			26.7			9.7	
Approach LOS		C			E			C			A	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 10 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.52
 Intersection Signal Delay: 29.6
 Intersection LOS: C
 Intersection Capacity Utilization 37.9%
 ICU Level of Service A
 Analysis Period (min) 15

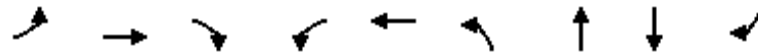
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

11/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	163	77	207	17	43	457	55	13	91
v/c Ratio	0.52	0.29	0.17	0.20	0.30	0.34	0.02	0.01	0.34
Control Delay	64.6	53.9	0.3	65.6	62.9	29.6	3.0	33.9	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.6	53.9	0.3	65.6	62.9	29.6	3.0	33.9	6.2
Queue Length 50th (ft)	76	64	0	14	35	141	2	4	0
Queue Length 95th (ft)	m113	m106	1	40	74	186	9	13	19
Internal Link Dist (ft)		532			328		425	420	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	390	395	1203	93	282	1326	2421	1141	296
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.19	0.17	0.18	0.15	0.34	0.02	0.01	0.31

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

11/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Traffic Volume (vph)	30	10	30	136	20	120	40	320	192	40	168	10
Future Volume (vph)	30	10	30	136	20	120	40	320	192	40	168	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	200		0
Storage Lanes	0		1	0		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Frt			0.850			0.850		0.944			0.991	
Flt Protected		0.964			0.958		0.950			0.950		
Satd. Flow (prot)	0	1796	1583	0	1785	1583	1770	3341	0	1770	5040	0
Flt Permitted		0.700			0.722		0.950			0.950		
Satd. Flow (perm)	0	1304	1583	0	1345	1583	1770	3341	0	1770	5040	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			74			130		111			9	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		391			842			164			505	
Travel Time (s)		10.7			23.0			2.5			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	11	33	148	22	130	43	348	209	43	183	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	33	0	170	130	43	557	0	43	194	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4		4						

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

11/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0		20.0	20.0	
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	19.0	55.0		26.0	62.0	
Total Split (%)	38.6%	38.6%	38.6%	38.6%	38.6%	38.6%	14.4%	41.7%		19.7%	47.0%	
Maximum Green (s)	47.0	47.0	47.0	47.0	47.0	47.0	15.0	51.0		22.0	58.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		Max	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0			5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		18.3	18.3		18.3	18.3	7.9	51.2		22.1	69.6	
Actuated g/C Ratio		0.18	0.18		0.18	0.18	0.08	0.49		0.21	0.67	
v/c Ratio		0.19	0.10		0.71	0.34	0.32	0.33		0.11	0.06	
Control Delay		37.3	0.8		56.9	8.6	52.7	13.7		36.0	7.6	
Queue Delay		0.0	0.0		0.0	0.0	0.2	20.3		0.0	0.0	
Total Delay		37.3	0.8		56.9	8.6	52.9	34.0		36.0	7.6	
LOS		D	A		E	A	D	C		D	A	
Approach Delay		21.7			36.0			35.3			12.7	
Approach LOS		C			D			D			B	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	103.6
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	30.2
Intersection LOS:	C
Intersection Capacity Utilization:	43.6%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 17: Dockweiler Drive/Arch Street & 12th Street



Queues

17: Dockweiler Drive/Arch Street & 12th Street

11/16/2021















Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	44	33	170	130	43	557	43	194
v/c Ratio	0.19	0.10	0.71	0.34	0.32	0.33	0.11	0.06
Control Delay	37.3	0.8	56.9	8.6	52.7	13.7	36.0	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.2	20.3	0.0	0.0
Total Delay	37.3	0.8	56.9	8.6	52.9	34.0	36.0	7.6
Queue Length 50th (ft)	25	0	107	0	27	87	23	15
Queue Length 95th (ft)	56	2	179	48	66	146	58	33
Internal Link Dist (ft)	311		762			84		425
Turn Bay Length (ft)							200	
Base Capacity (vph)	593	760	612	791	256	1705	377	3387
Starvation Cap Reductn	0	0	0	0	43	1147	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.04	0.28	0.16	0.20	1.00	0.11	0.06

Intersection Summary

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

11/16/2021

							Ø1	Ø2	Ø7	Ø8
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT				
Lane Configurations										
Traffic Volume (vph)	70	129	423	140	82	262				
Future Volume (vph)	70	129	423	140	82	262				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	100	0		0	0					
Storage Lanes	1	1		0	1					
Taper Length (ft)	25				25					
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95				
Frt		0.850	0.963							
Flt Protected	0.950				0.950					
Satd. Flow (prot)	1770	1583	3408	0	1770	3539				
Flt Permitted	0.950				0.950					
Satd. Flow (perm)	1770	1583	3408	0	1770	3539				
Right Turn on Red		Yes		Yes						
Satd. Flow (RTOR)		140	35							
Link Speed (mph)	30		45			45				
Link Distance (ft)	1101		354			164				
Travel Time (s)	25.0		5.4			2.5				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Adj. Flow (vph)	76	140	460	152	89	285				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	76	140	612	0	89	285				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Right	Left	Left				
Median Width(ft)	12		12			12				
Link Offset(ft)	0		0			0				
Crosswalk Width(ft)	16		16			16				
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)	15	9		9	15					
Number of Detectors	1	1	2		1	2				
Detector Template	Left	Right	Thru		Left	Thru				
Leading Detector (ft)	20	20	100		20	100				
Trailing Detector (ft)	0	0	0		0	0				
Detector 1 Position(ft)	0	0	0		0	0				
Detector 1 Size(ft)	20	20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0				
Detector 2 Position(ft)			94			94				
Detector 2 Size(ft)			6			6				
Detector 2 Type			Cl+Ex			Cl+Ex				
Detector 2 Channel										
Detector 2 Extend (s)			0.0			0.0				
Turn Type	Prot	Perm	NA		Prot	NA				
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8
Permitted Phases		7 8								

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

11/16/2021

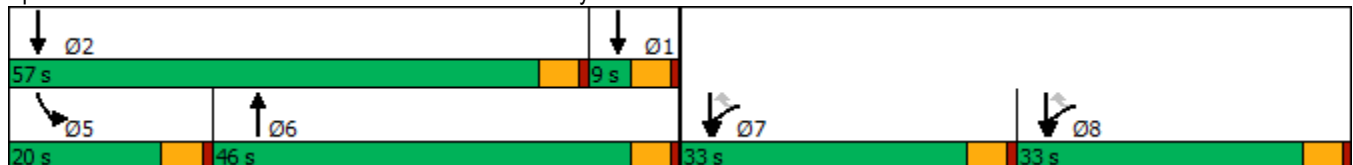


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		9.0	23.0	33.0	33.0
Total Split (s)			46.0		20.0		9.0	57.0	33.0	33.0
Total Split (%)			34.8%		15.2%		7%	43%	25%	25%
Maximum Green (s)			41.0		15.0		4.0	52.0	28.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lag	Lead	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Min	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	19.5	19.5	17.9		9.1	58.9				
Actuated g/C Ratio	0.33	0.33	0.30		0.15	1.00				
v/c Ratio	0.13	0.23	0.58		0.33	0.08				
Control Delay	17.3	5.0	20.0		28.5	0.0				
Queue Delay	0.0	0.0	0.0		0.2	0.0				
Total Delay	17.3	5.0	20.0		28.7	0.0				
LOS	B	A	C		C	A				
Approach Delay	9.3		20.0			6.9				
Approach LOS	A		C			A				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 58.9
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.58
 Intersection Signal Delay: 14.0
 Intersection LOS: B
 Intersection Capacity Utilization 37.1%
 ICU Level of Service A
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

11/16/2021



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	76	140	612	89	285
v/c Ratio	0.13	0.23	0.58	0.33	0.08
Control Delay	17.3	5.0	20.0	28.5	0.0
Queue Delay	0.0	0.0	0.0	0.2	0.0
Total Delay	17.3	5.0	20.0	28.7	0.0
Queue Length 50th (ft)	19	0	91	29	0
Queue Length 95th (ft)	54	36	162	75	0
Internal Link Dist (ft)	1021		274		84
Turn Bay Length (ft)	100				
Base Capacity (vph)	1267	1173	2477	468	3539
Starvation Cap Reductn	0	0	0	99	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.12	0.25	0.24	0.08
Intersection Summary					

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

11/17/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	55	510	28	71	0	450	16	22	0	21	148
Future Volume (vph)	115	55	510	28	71	0	450	16	22	0	21	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.912				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3228	0	0	3539	1583
Flt Permitted	0.950			0.950			0.742					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	2681	3228	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			554					24				161
Link Speed (mph)		45			30			45				30
Link Distance (ft)		628			561			423				495
Travel Time (s)		9.5			12.8			6.4				11.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	60	554	30	77	0	489	17	24	0	23	161
Shared Lane Traffic (%)												
Lane Group Flow (vph)	125	60	554	30	77	0	489	41	0	0	23	161
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Over	Prot	NA		pm+pt	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases							2					

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

11/17/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	15.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	23.0	36.0	51.0	12.0	25.0		51.0	84.0			33.0	23.0
Total Split (%)	17.4%	27.3%	38.6%	9.1%	18.9%		38.6%	63.6%			25.0%	17.4%
Maximum Green (s)	19.0	31.0	46.0	8.0	20.0		46.0	79.0			28.0	19.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0					7.0		
Flash Dont Walk (s)					11.0					11.0		
Pedestrian Calls (#/hr)					0					0		
Act Effct Green (s)	10.9	16.5	46.0	7.1	11.6		98.4	98.4			47.4	10.9
Actuated g/C Ratio	0.08	0.12	0.35	0.05	0.09		0.75	0.75			0.36	0.08
v/c Ratio	0.44	0.26	0.42	0.32	0.47		0.22	0.02			0.02	0.58
Control Delay	59.7	51.6	0.8	68.6	66.4		6.3	3.3			31.0	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	59.7	51.6	0.8	68.6	66.4		6.3	3.3			31.0	17.0
LOS	E	D	A	E	E		A	A			C	B
Approach Delay	14.9					67.0					18.7	
Approach LOS	B					E					A	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.58
 Intersection Signal Delay: 15.9 Intersection LOS: B
 Intersection Capacity Utilization 42.0% ICU Level of Service A
 Analysis Period (min) 15

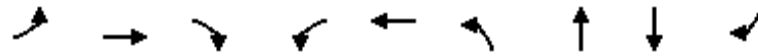
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

11/17/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	125	60	554	30	77	489	41	23	161
v/c Ratio	0.44	0.26	0.42	0.32	0.47	0.22	0.02	0.02	0.58
Control Delay	59.7	51.6	0.8	68.6	66.4	6.3	3.3	31.0	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	51.6	0.8	68.6	66.4	6.3	3.3	31.0	17.0
Queue Length 50th (ft)	59	54	0	25	64	59	1	6	0
Queue Length 95th (ft)	m79	m78	m0	59	114	96	8	18	68
Internal Link Dist (ft)		548			481		343	415	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	494	437	1332	107	282	2260	2413	1271	365
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.14	0.42	0.28	0.27	0.22	0.02	0.02	0.44

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

11/17/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	120	20	180	161	10	40	20	328	173	150	399	10
Future Volume (vph)	120	20	180	161	10	40	20	328	173	150	399	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	180		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.924			0.975			0.955			0.998	
Flt Protected		0.982			0.963			0.998			0.987	
Satd. Flow (prot)	0	1690	0	0	1749	0	0	1775	0	0	1835	0
Flt Permitted		0.982			0.963			0.998			0.987	
Satd. Flow (perm)	0	1690	0	0	1749	0	0	1775	0	0	1835	0
Link Speed (mph)		25			25			30			25	
Link Distance (ft)		391			842			206			423	
Travel Time (s)		10.7			23.0			4.7			11.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	22	196	175	11	43	22	357	188	163	434	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	348	0	0	229	0	0	567	0	0	608	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	91.2%
ICU Level of Service	F
Analysis Period (min)	15












HCM 6th Roundabout
 17: Dockweiler Drive/Arch Street & 12th Street

11/17/2021

Intersection				
Intersection Delay, s/veh	11.6			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	348	229	567	608
Demand Flow Rate, veh/h	355	233	578	620
Vehicles Circulating, veh/h	787	519	321	211
Vehicles Exiting, veh/h	44	380	821	541
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	16.5	7.7	11.6	10.2
Approach LOS	C	A	B	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	355	233	578	620
Cap Entry Lane, veh/h	618	813	995	1113
Entry HV Adj Factor	0.979	0.982	0.981	0.981
Flow Entry, veh/h	348	229	567	608
Cap Entry, veh/h	605	798	975	1092
V/C Ratio	0.574	0.287	0.581	0.557
Control Delay, s/veh	16.5	7.7	11.6	10.2
LOS	C	A	B	B
95th %tile Queue, veh	4	1	4	4

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

11/17/2021

							Ø1	Ø2	Ø7	Ø8
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT				
Lane Configurations										
Traffic Volume (vph)	160	170	351	140	199	542				
Future Volume (vph)	160	170	351	140	199	542				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	150	0		0	0					
Storage Lanes	1	1		0	1					
Taper Length (ft)	25				25					
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95				
Frt		0.850	0.957							
Flt Protected	0.950				0.950					
Satd. Flow (prot)	1770	1583	3387	0	1770	3539				
Flt Permitted	0.950				0.950					
Satd. Flow (perm)	1770	1583	3387	0	1770	3539				
Right Turn on Red		Yes		Yes						
Satd. Flow (RTOR)		185	42							
Link Speed (mph)	30		45			45				
Link Distance (ft)	1067		195			206				
Travel Time (s)	24.3		3.0			3.1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Adj. Flow (vph)	174	185	382	152	216	589				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	174	185	534	0	216	589				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Right	Left	Left				
Median Width(ft)	12		12			12				
Link Offset(ft)	0		0			0				
Crosswalk Width(ft)	16		16			16				
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)	15	9		9	15					
Number of Detectors	1	1	2		1	2				
Detector Template	Left	Right	Thru		Left	Thru				
Leading Detector (ft)	20	20	100		20	100				
Trailing Detector (ft)	0	0	0		0	0				
Detector 1 Position(ft)	0	0	0		0	0				
Detector 1 Size(ft)	20	20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0				
Detector 2 Position(ft)			94			94				
Detector 2 Size(ft)			6			6				
Detector 2 Type			Cl+Ex			Cl+Ex				
Detector 2 Channel										
Detector 2 Extend (s)			0.0			0.0				
Turn Type	Prot	Perm	NA		Prot	NA				
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8
Permitted Phases		7 8								

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

11/17/2021

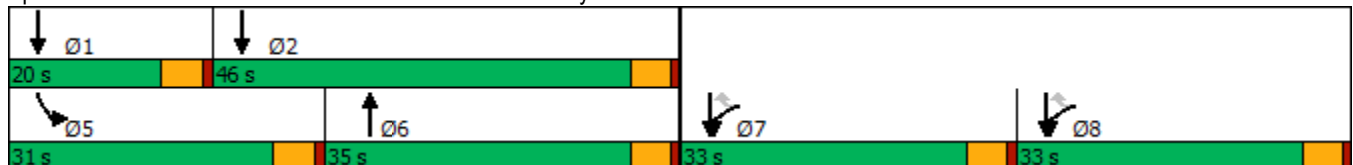


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		20.0	23.0	33.0	33.0
Total Split (s)			35.0		31.0		20.0	46.0	33.0	33.0
Total Split (%)			26.5%		23.5%		15%	35%	25%	25%
Maximum Green (s)			30.0		26.0		15.0	41.0	28.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Ped	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	28.8	28.8	21.8		15.9	81.8				
Actuated g/C Ratio	0.35	0.35	0.27		0.19	1.00				
v/c Ratio	0.28	0.27	0.57		0.63	0.17				
Control Delay	21.1	4.4	28.5		39.9	0.1				
Queue Delay	0.0	0.0	0.0		0.0	0.0				
Total Delay	21.1	4.4	28.5		39.9	0.1				
LOS	C	A	C		D	A				
Approach Delay	12.5		28.5			10.8				
Approach LOS	B		C			B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 81.8
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 16.7
 Intersection LOS: B
 Intersection Capacity Utilization 46.6%
 ICU Level of Service A
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

11/17/2021



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	174	185	534	216	589
v/c Ratio	0.28	0.27	0.57	0.63	0.17
Control Delay	21.1	4.4	28.5	39.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	4.4	28.5	39.9	0.1
Queue Length 50th (ft)	56	0	111	93	0
Queue Length 95th (ft)	132	44	208	202	0
Internal Link Dist (ft)	987		115		126
Turn Bay Length (ft)	150				
Base Capacity (vph)	1037	1004	1295	574	3497
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.17	0.18	0.41	0.38	0.17
Intersection Summary					

Intersection	
Intersection Delay, s/veh	129.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	120	20	180	161	10	40	20	328	173	150	399	10
Future Vol, veh/h	120	20	180	161	10	40	20	328	173	150	399	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	130	22	196	175	11	43	22	357	188	163	434	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	41.4	27.6	149.1	200.8
HCM LOS	E	D	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	38%	76%	27%
Vol Thru, %	63%	6%	5%	71%
Vol Right, %	33%	56%	19%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	521	320	211	559
LT Vol	20	120	161	150
Through Vol	328	20	10	399
RT Vol	173	180	40	10
Lane Flow Rate	566	348	229	608
Geometry Grp	1	1	1	1
Degree of Util (X)	1.228	0.797	0.581	1.358
Departure Headway (Hd)	8.666	9.643	10.727	8.667
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	425	379	339	425
Service Time	6.666	7.643	8.727	6.667
HCM Lane V/C Ratio	1.332	0.918	0.676	1.431
HCM Control Delay	149.1	41.4	27.6	200.8
HCM Lane LOS	F	E	D	F
HCM 95th-tile Q	21	6.8	3.5	26.6

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

11/16/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	55	510	28	71	0	450	16	22	0	21	148
Future Volume (vph)	115	55	510	28	71	0	450	16	22	0	21	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.912				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	3228	0	0	3539	1583
Flt Permitted	0.950			0.950			0.742					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	2681	3228	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			554					24				161
Link Speed (mph)		45			30			45				30
Link Distance (ft)		628			448			423				442
Travel Time (s)		9.5			10.2			6.4				10.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	60	554	30	77	0	489	17	24	0	23	161
Shared Lane Traffic (%)												
Lane Group Flow (vph)	125	60	554	30	77	0	489	41	0	0	23	161
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				36
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Over	Prot	NA		pm+pt	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases							2					

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

11/16/2021

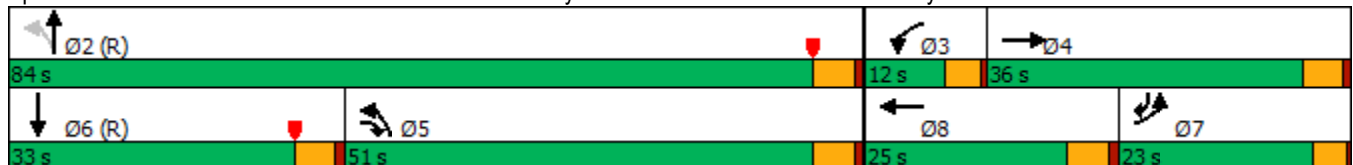


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	20.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	23.0	36.0	51.0	12.0	25.0		51.0	84.0			33.0	23.0
Total Split (%)	17.4%	27.3%	38.6%	9.1%	18.9%		38.6%	63.6%			25.0%	17.4%
Maximum Green (s)	19.0	31.0	46.0	8.0	20.0		46.0	79.0			28.0	19.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	10.9	16.5	46.0	7.1	11.6		98.4	98.4			47.4	10.9
Actuated g/C Ratio	0.08	0.12	0.35	0.05	0.09		0.75	0.75			0.36	0.08
v/c Ratio	0.44	0.26	0.42	0.32	0.47		0.22	0.02			0.02	0.58
Control Delay	59.7	51.6	0.8	68.6	66.4		6.3	3.3			31.0	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	59.7	51.6	0.8	68.6	66.4		6.3	3.3			31.0	17.0
LOS	E	D	A	E	E		A	A			C	B
Approach Delay		14.9			67.0			6.0			18.7	
Approach LOS		B			E			A			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.58
 Intersection Signal Delay: 15.9 Intersection LOS: B
 Intersection Capacity Utilization 42.0% ICU Level of Service A
 Analysis Period (min) 15

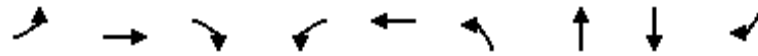
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

11/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	125	60	554	30	77	489	41	23	161
v/c Ratio	0.44	0.26	0.42	0.32	0.47	0.22	0.02	0.02	0.58
Control Delay	59.7	51.6	0.8	68.6	66.4	6.3	3.3	31.0	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	51.6	0.8	68.6	66.4	6.3	3.3	31.0	17.0
Queue Length 50th (ft)	59	54	0	25	64	59	1	6	0
Queue Length 95th (ft)	m79	m78	m0	59	114	96	8	18	68
Internal Link Dist (ft)		548			368		343	362	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	494	437	1332	107	282	2260	2413	1271	365
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.14	0.42	0.28	0.27	0.22	0.02	0.02	0.44

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

11/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Traffic Volume (vph)	120	20	180	161	10	40	20	328	173	150	399	10
Future Volume (vph)	120	20	180	161	10	40	20	328	173	150	399	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	180		0
Storage Lanes	0		1	0		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Frt			0.850			0.850		0.948			0.996	
Flt Protected		0.959			0.955		0.950			0.950		
Satd. Flow (prot)	0	1786	1583	0	1779	1583	1770	3355	0	1770	5065	0
Flt Permitted		0.458			0.545		0.950			0.950		
Satd. Flow (perm)	0	853	1583	0	1015	1583	1770	3355	0	1770	5065	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196			99		76			4	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		391			842			206			423	
Travel Time (s)		10.7			23.0			3.1			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	22	196	175	11	43	22	357	188	163	434	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	152	196	0	186	43	22	545	0	163	445	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4			1	6		5	2
Permitted Phases	8		8	4		4						

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

11/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	31.0	31.0	31.0	20.0	20.0	20.0	9.0	23.0		9.0	23.0	
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	13.0	47.0		34.0	68.0	
Total Split (%)	38.6%	38.6%	38.6%	38.6%	38.6%	38.6%	9.8%	35.6%		25.8%	51.5%	
Maximum Green (s)	46.0	46.0	46.0	47.0	47.0	47.0	8.0	42.0		29.0	63.0	
Yellow Time (s)	4.0	4.0	4.0	3.5	3.5	3.5	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	0.5	0.5	0.5	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		4.0	4.0	5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		Max	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		7.0			7.0	
Flash Dont Walk (s)	21.0	21.0	21.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		22.2	22.2		23.2	23.2	6.7	42.2		29.1	71.5	
Actuated g/C Ratio		0.20	0.20		0.21	0.21	0.06	0.39		0.27	0.66	
v/c Ratio		0.87	0.41		0.86	0.10	0.20	0.40		0.34	0.13	
Control Delay		83.1	7.4		74.1	0.5	55.1	22.5		36.3	8.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	10.8		0.0	0.0	
Total Delay		83.1	7.4		74.1	0.5	55.1	33.3		36.3	8.9	
LOS		F	A		E	A	E	C		D	A	
Approach Delay		40.5			60.3			34.2			16.3	
Approach LOS		D			E			C			B	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	108.6
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.87
Intersection Signal Delay:	32.6
Intersection LOS:	C
Intersection Capacity Utilization:	50.7%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 17: Dockweiler Drive/Arch Street & 12th Street



Queues

17: Dockweiler Drive/Arch Street & 12th Street

11/16/2021















Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	152	196	186	43	22	545	163	445
v/c Ratio	0.87	0.41	0.86	0.10	0.20	0.40	0.34	0.13
Control Delay	83.1	7.4	74.1	0.5	55.1	22.5	36.3	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	10.8	0.0	0.0
Total Delay	83.1	7.4	74.1	0.5	55.1	33.3	36.3	8.9
Queue Length 50th (ft)	103	0	125	0	15	121	91	31
Queue Length 95th (ft)	182	56	210	0	44	196	171	82
Internal Link Dist (ft)	311		762			126		343
Turn Bay Length (ft)							180	
Base Capacity (vph)	362	786	441	743	130	1349	474	3337
Starvation Cap Reductn	0	0	0	0	0	772	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.25	0.42	0.06	0.17	0.94	0.34	0.13

Intersection Summary

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

11/16/2021

												
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8		
Lane Configurations												
Traffic Volume (vph)	160	170	351	140	199	542						
Future Volume (vph)	160	170	351	140	199	542						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900						
Storage Length (ft)	150	0		0	0							
Storage Lanes	1	1		0	1							
Taper Length (ft)	25				25							
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95						
Frt		0.850	0.957									
Flt Protected	0.950				0.950							
Satd. Flow (prot)	1770	1583	3387	0	1770	3539						
Flt Permitted	0.950				0.950							
Satd. Flow (perm)	1770	1583	3387	0	1770	3539						
Right Turn on Red		Yes		Yes								
Satd. Flow (RTOR)		185	42									
Link Speed (mph)	30		45			45						
Link Distance (ft)	1067		195			206						
Travel Time (s)	24.3		3.0			3.1						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92						
Adj. Flow (vph)	174	185	382	152	216	589						
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	185	534	0	216	589						
Enter Blocked Intersection	No	No	No	No	No	No						
Lane Alignment	Left	Right	Left	Right	Left	Left						
Median Width(ft)	12		12			12						
Link Offset(ft)	0		0			0						
Crosswalk Width(ft)	16		16			16						
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00						
Turning Speed (mph)	15	9		9	15							
Number of Detectors	1	1	2		1	2						
Detector Template	Left	Right	Thru		Left	Thru						
Leading Detector (ft)	20	20	100		20	100						
Trailing Detector (ft)	0	0	0		0	0						
Detector 1 Position(ft)	0	0	0		0	0						
Detector 1 Size(ft)	20	20	6		20	6						
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex						
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0						
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0						
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0						
Detector 2 Position(ft)			94			94						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Turn Type	Prot	Perm	NA		Prot	NA						
Protected Phases	7 8!		6		5 1 2 7 8!		1	2	7	8		
Permitted Phases		7 8										

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

11/16/2021

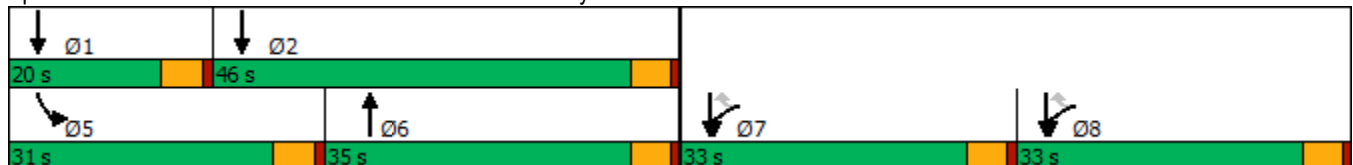


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø7	Ø8
Detector Phase	7 8	7 8	6		5	1 2 7 8				
Switch Phase										
Minimum Initial (s)			4.0		4.0		4.0	4.0	4.0	4.0
Minimum Split (s)			23.0		9.0		20.0	23.0	33.0	33.0
Total Split (s)			35.0		31.0		20.0	46.0	33.0	33.0
Total Split (%)			26.5%		23.5%		15%	35%	25%	25%
Maximum Green (s)			30.0		26.0		15.0	41.0	28.0	28.0
Yellow Time (s)			4.0		4.0		4.0	4.0	4.0	4.0
All-Red Time (s)			1.0		1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0		0.0					
Total Lost Time (s)			5.0		5.0					
Lead/Lag			Lag		Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0		3.0		3.0	3.0	3.0	3.0
Recall Mode			Min		None		Max	Ped	None	None
Walk Time (s)			7.0					7.0	7.0	7.0
Flash Dont Walk (s)			11.0					11.0	21.0	21.0
Pedestrian Calls (#/hr)			0					0	0	0
Act Effct Green (s)	28.8	28.8	21.8		15.9	81.8				
Actuated g/C Ratio	0.35	0.35	0.27		0.19	1.00				
v/c Ratio	0.28	0.27	0.57		0.63	0.17				
Control Delay	21.1	4.4	28.5		39.9	0.1				
Queue Delay	0.0	0.0	0.0		0.6	0.0				
Total Delay	21.1	4.4	28.5		40.5	0.1				
LOS	C	A	C		D	A				
Approach Delay	12.5		28.5			10.9				
Approach LOS	B		C			B				

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 81.8
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 16.8
 Intersection LOS: B
 Intersection Capacity Utilization 46.6%
 ICU Level of Service A
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

11/16/2021



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	174	185	534	216	589
v/c Ratio	0.28	0.27	0.57	0.63	0.17
Control Delay	21.1	4.4	28.5	39.9	0.1
Queue Delay	0.0	0.0	0.0	0.6	0.0
Total Delay	21.1	4.4	28.5	40.5	0.1
Queue Length 50th (ft)	56	0	111	93	0
Queue Length 95th (ft)	132	44	208	202	0
Internal Link Dist (ft)	987		115		126
Turn Bay Length (ft)	150				
Base Capacity (vph)	1037	1004	1295	574	3497
Starvation Cap Reductn	0	0	0	136	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.17	0.18	0.41	0.49	0.17
Intersection Summary					

Appendix H

**Memorandum: Traffic Evacuation Assessment
for Shadowbox Studios Evacuation Shed
Santa Clarita, California
(GTC, January 20, 2023)**



MEMORANDUM

TO: Mike Hennawy, City of Santa Clarita

FROM: Patrick A. Gibson, P.E., PTOE
Richard Gibson, LEED Green Associate
David Roachford

DATE: January 24, 2022
Revised January 20, 2023

RE: Traffic Evacuation Assessment for
Shadowbox Studios Evacuation Shed
Santa Clarita, California

Ref: J1814a

Gibson Transportation Consulting, Inc., (GTC) was asked to assess, in relation to the proposed Shadowbox Studios (Project) within the Placerita Canyon area of the City of Santa Clarita, California (City), the anticipated performance along Dockweiler Drive, Arch Street, and 13th Street (Dockweiler Corridor) in the event of an emergency evacuation. The assessment includes the determination of the approximate vehicular delays that would be experienced during an evacuation at each intersection within the Dockweiler Corridor under Existing Conditions, Future with Project with Dockweiler (Roundabout) Conditions, and Future with Project with Dockweiler (Traffic Signal) Conditions, as defined in *Transportation Assessment for the Shadowbox Studios Project, Santa Clarita, California* (GTC, January 2023) (Transportation Study).

For the purposes of this assessment, the Dockweiler Corridor includes the following intersections:

- Railroad Avenue & 13th Street (Intersection 5 in the Transportation Study)
- Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2 (Intersection 16 in the Transportation Study)
- EXISTING: Arch Street & 12th Street & Placerita Canyon Road (Intersection 17 in the Transportation Study)
- FUTURE: Arch Street & 12th Street & Dockweiler Drive (Intersection 17 in the Transportation Study)¹

¹ In this analysis, Railroad Avenue and Dockweiler Drive are considered north-south roadways and 12th Street and 13th Street are considered east-west roadways.

This evacuation analysis is based on a similar evacuation analysis prepared for a residential project on the same site as the proposed Shadowbox Studios. The previous evacuation analysis (the 2020 Evacuation Analysis) was approved by the City and included in the Placerita Meadows DEIR.²

EVACUATION SHED

The 2020 Evacuation Analysis assumed that the area to be evacuated was the Placerita Canyon Area, defined as the existing developments to the east of Railroad Avenue. This includes the single-family residential neighborhoods and industrial and commercial areas, as well as The Master's University. Currently, the primary access point to the Placerita Canyon Area is at Railroad Avenue & 13th Street.

In general, the Evacuation Shed is bounded by the area south of Parvin Drive on the north, Quigley Canyon Road and Melody Movie Ranch on the east, The Master's University campus and Placerita Canyon Road on the south, and Railroad Avenue on the west.

The 2020 Evacuation Analysis assumed that this evacuation shed would require a total of 1,340 cars to evacuate the area based on one vehicle per dwelling unit plus vehicles associated with students and faculty/staff at The Master's University. This assumption was utilized for this analysis.

METHODOLOGY

The evacuation analysis is based on a worst-case assumption that the emergency (fire, earthquake, etc.) occurs to the east and south of the Evacuation Shed and that all evacuations must exit the area through the intersection of Railroad Avenue & 13th Street to the west. To the extent that evacuation routes to the east and/or access from 12th Street to southbound Dockweiler Drive were available, the evacuation times in this analysis would be lessened.

Using a similar methodology to that described in the 2020 Evacuation Analysis, the following assumptions were made:

- Baseline traffic volumes were derived from the afternoon peak hour (i.e., the busiest hour of the day). Figures 1, 2, and 3 show the traffic volumes for the Existing Conditions, Future with Project with Dockweiler (Traffic Signal) Conditions, and Future with Project with Dockweiler (Roundabout) Conditions, respectively.
- A travel demand increase of 1,340 vehicles for the existing residential, commercial, and university uses in the Placerita Canyon Area during an evacuation.
- A travel demand increase of 75 vehicles for the commercial and industrial uses south of 13th Street in the Placerita Canyon Area during an evacuation.

² *Placerita Meadows Environmental Impact Report Traffic Evacuation Estimate*, Stantec, July 16, 2020

- A vehicular flow rate of 600 vehicles per lane per hour through an intersection, representing the conditions that could occur if power to the traffic signals was lost during the emergency and all traffic had to treat the traffic control devices effectively as stop signs. It also assumes that emergency personnel were not available to control evacuating traffic and create free-flow situations. If emergency personnel were available to direct traffic, the effective lane capacities would increase and the evacuation times could lessen.
- All vehicular traffic from the Placerita Canyon Area would evacuate via 13th Street at Railroad Avenue, making either left turns onto southbound Railroad Avenue or right turns onto northbound Railroad Avenue.
- The Existing Conditions volumes utilize the existing afternoon peak hour volumes for north-south traffic on Railroad Avenue and assume that, under emergency evacuation conditions, the traffic on Railroad Avenue and Dockweiler Drive would be prohibited from entering the area. The volumes leaving the Evacuation Shed are the evacuation demand volumes described above.
- The Future Conditions volumes include the Evacuation Shed demand volumes described above plus the exiting volumes from Shadowbox Studios and the north-south volumes along Railroad Avenue generated by the Related Projects described in the Transportation Study.
- The roadway lane configurations, shown in Figure 4 for the roundabout alternative and in Figure 5 for the traffic signal alternative, were based on the lane configurations as discussed in the Transportation Study.

The analysis considered both the average vehicle travel time through the Dockweiler Corridor and the total time needed to evacuate the Placerita Canyon Area. Travel time, which combines the movement delay at intersections and street segments along the evacuation route, is calculated using the *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016) (HCM) methodology. The total time for evacuation was calculated by dividing the total number of vehicles by the flow rate of 600 vehicles per lane per hour. The critical point of congestion was presumed to be the movement that would take the longest for traffic to clear.

Under true evacuation conditions, there are many variables the City may utilize that would change the assumptions in this assessment. These include, but are not limited to, traffic control officers stationed at intersections, signal timing changes, turning movement restrictions, and strategically rerouting traffic away from the area. The time of day, whether school is in session, and the location of the evacuation areas may also affect this analysis. However, this assessment presumes the worst-case, peak traffic scenario during an evacuation.

The average vehicle travel time results are shown in Table 1. The total evacuation times for vehicles leaving the Placerita Canyon Area under Existing Conditions, Future with Project (Traffic Signal) Conditions, and Future with Project (Roundabout) Conditions are displayed in Tables 2A, 2B, and 2C, respectively.

The HCM worksheet calculations and results for all evacuation conditions is provided in the Attachment.

EXISTING CONDITIONS

Based on the Existing Conditions for the afternoon peak hour, as established in the Transportation Study, travel time through the Dockweiler Corridor would be approximately 27 minutes for vehicles traveling northbound or southbound from the Placerita Canyon Area to Railroad Avenue under the evacuation scenario.

Table 2A shows that the current evacuation conditions are controlled by the signalized intersection of Railroad Avenue & 13th Street. The capacity constraints of the existing intersection configuration would result in severe congestion for traffic exiting the Placerita Canyon Area, with a total duration of 154 minutes (2.6 hours). This congestion is the result of having only one westbound lane serving exiting Placerita Canyon Area traffic at the intersection. The current design of the Arch Street & 12th Street & Placerita Canyon Road intersection is also a chokepoint for exiting traffic, with a severe congestion duration of 134 minutes (2.2 hours).³

FUTURE WITH PROJECT (TRAFFIC SIGNAL) CONDITIONS

Based on the Future with Project (Traffic Signal) Conditions for the afternoon peak hour, as established in the Transportation Study, travel time through the Dockweiler Corridor would be approximately seven minutes for vehicles traveling from the Placerita Canyon Area to northbound Railroad Avenue and approximately 16 minutes for vehicles traveling to southbound Railroad Avenue. This is a reduction in travel time of 20 minutes for northbound vehicles and 11 minutes for southbound vehicles compared to Existing Conditions.

Table 2B shows that even with the additional traffic generated by the Project, the widening of 13th Street and the improvement of the Railroad Avenue & 13th Street intersection will reduce that congested condition by more than half, from 154 minutes (2.6 hours) to 67 minutes (1.1 hours). Under Future with Project (Traffic Signal) Conditions, the congestion point for exiting Placerita Canyon Area traffic will be the northbound Arch Street turn onto westbound 13th Street, which will experience 87 minutes (1.5 hours) of congestion. With the intersection of Arch Street & 12th Street & Dockweiler Drive operating under the lane design provided for the traffic signal control, the evacuation could be completed with 67 minutes (1.1 hours) of congestion.

FUTURE WITH PROJECT (ROUNDBOUT) CONDITIONS

Based on Future with Project (Roundabout) Conditions for the afternoon peak hour, as established in the Transportation Study, travel time through the Dockweiler Corridor would be approximately 9.5 minutes for vehicles traveling from the Placerita Canyon Area to northbound Railroad Avenue and approximately 18 minutes for vehicles traveling to southbound Railroad Avenue. This is a reduction in travel time of 17.5 minutes for northbound vehicles and 9.0 minutes

³ Tables 2A-2C show both the Approach Delay for each intersection movement through the Dockweiler Corridor and the Minutes of Congestion for each movement. The Approach Delay is calculated using the HCM methodology, assuming that the traffic signals or stop/yield signs in place are operating under normal operations. These are the calculations used to determine the overall level of service for the intersection. The Approach Delays shown in Tables 2A-2C are for comparative informational purposes only. The actual Evacuation Delay is based on the overall Evacuation Demand constrained by a lane capacity of 600 vehicles per hour as described in the Methodology Assumptions.

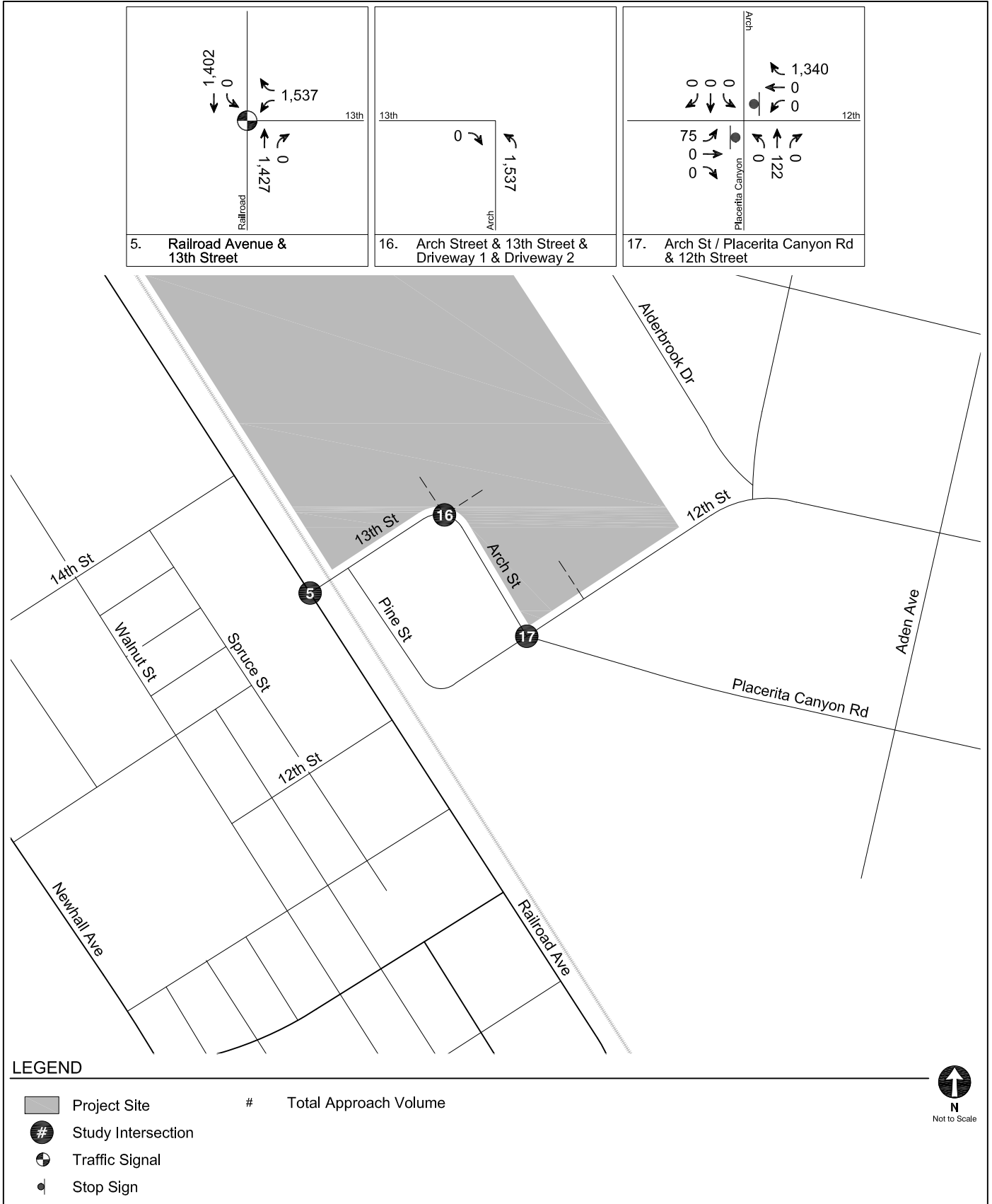
for southbound vehicles compared to Existing Conditions, but an increase in travel time from the Future with Project with Traffic Signal Conditions.

Table 2C shows that if Arch Street & 12th Street & Dockweiler Drive operated as a roundabout, the intersection would still reduce the congestion from Existing Conditions. However, the reduction would not be as great as under the traffic signal intersection design condition. Under Future with Project (Roundabout) Conditions, the congestion point for exiting Placerita Canyon Area traffic will shift from the Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2 intersection to the Arch Street & 12th Street & Dockweiler Drive intersection, due to the lane reduction with the roundabout. Exiting traffic under the roundabout conditions would experience congestion related to evacuation for 134 minutes (2.2 hours).

CONCLUSION

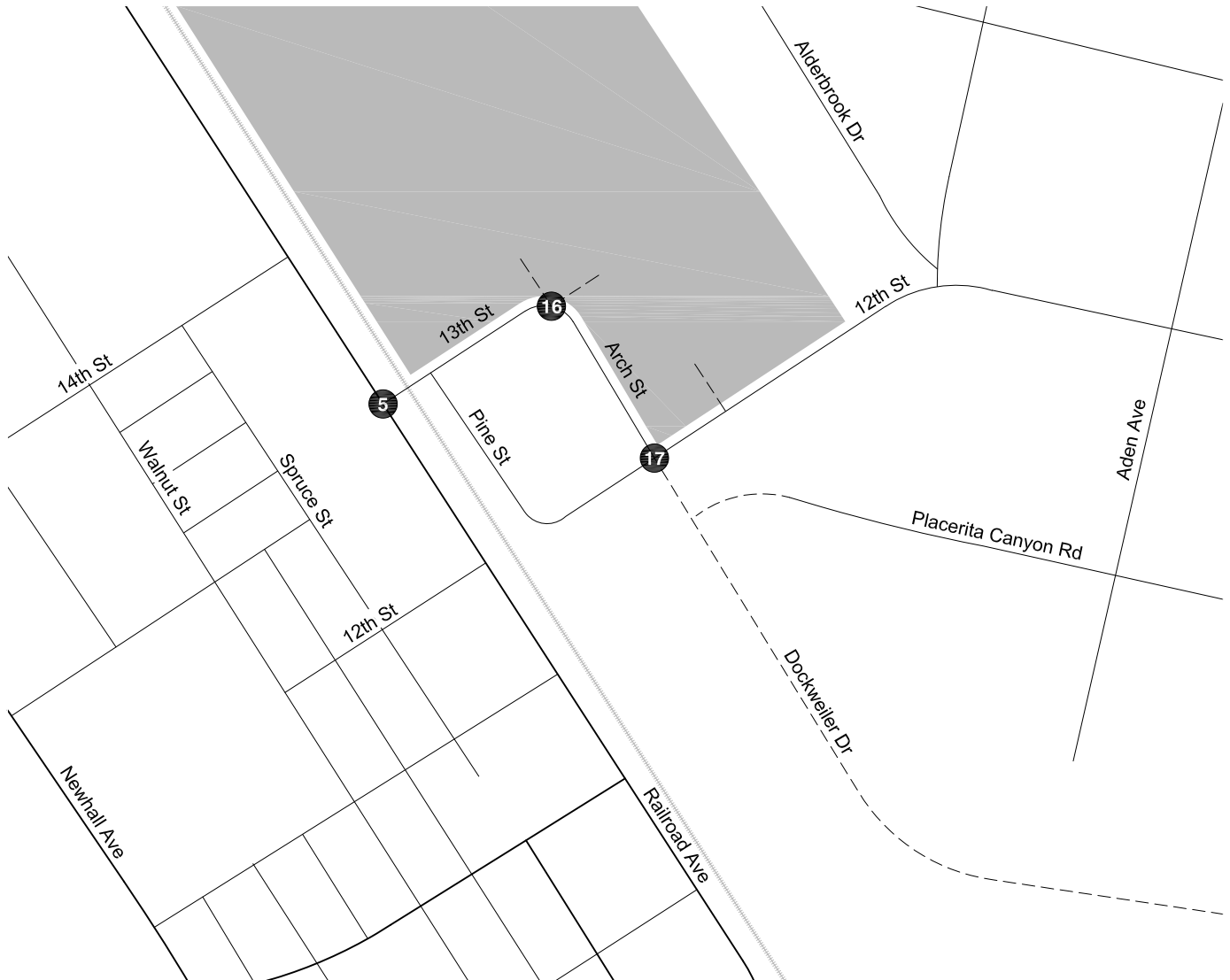
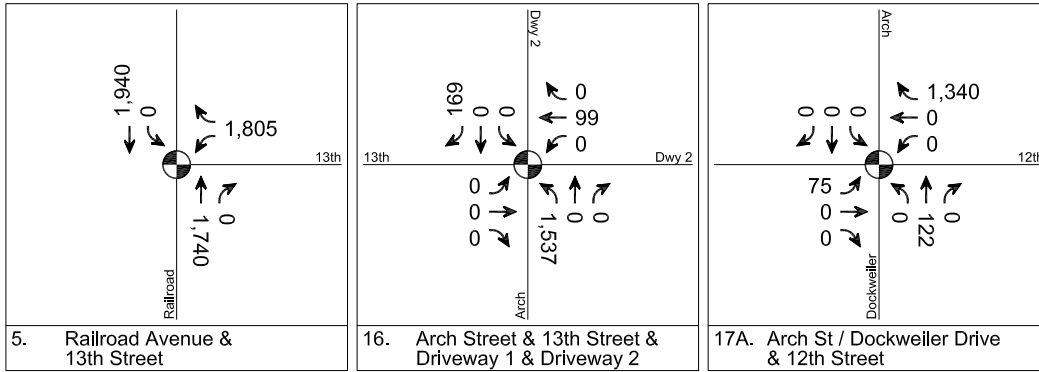
As shown in Figure 6, the improved Dockweiler Corridor would facilitate the evacuation of the Placerita Canyon Area by reducing the evacuation congestion period at Arch Street & 12th Street & Dockweiler Drive from 2.6 hours under Existing Conditions to 2.2 hours under Future with Project (Roundabout) Conditions and 1.5 hours under Future with Project (Traffic Signal) Conditions. Further, average travel times through the Dockweiler Corridor would be greatly reduced for vehicles evacuating the Placerita Canyon Area, from 27 minutes under Existing Conditions to under 18 minutes under Future with Project (Roundabout) Conditions and under 16 minutes in the Future with Project (Traffic Signal) Conditions.

Thus, the traffic signal intersection design would provide for the most efficient traffic operations under an evacuation scenario.



SUMMARY OF EVACUATION DELAY
EXISTING CONDITIONS

FIGURE
1



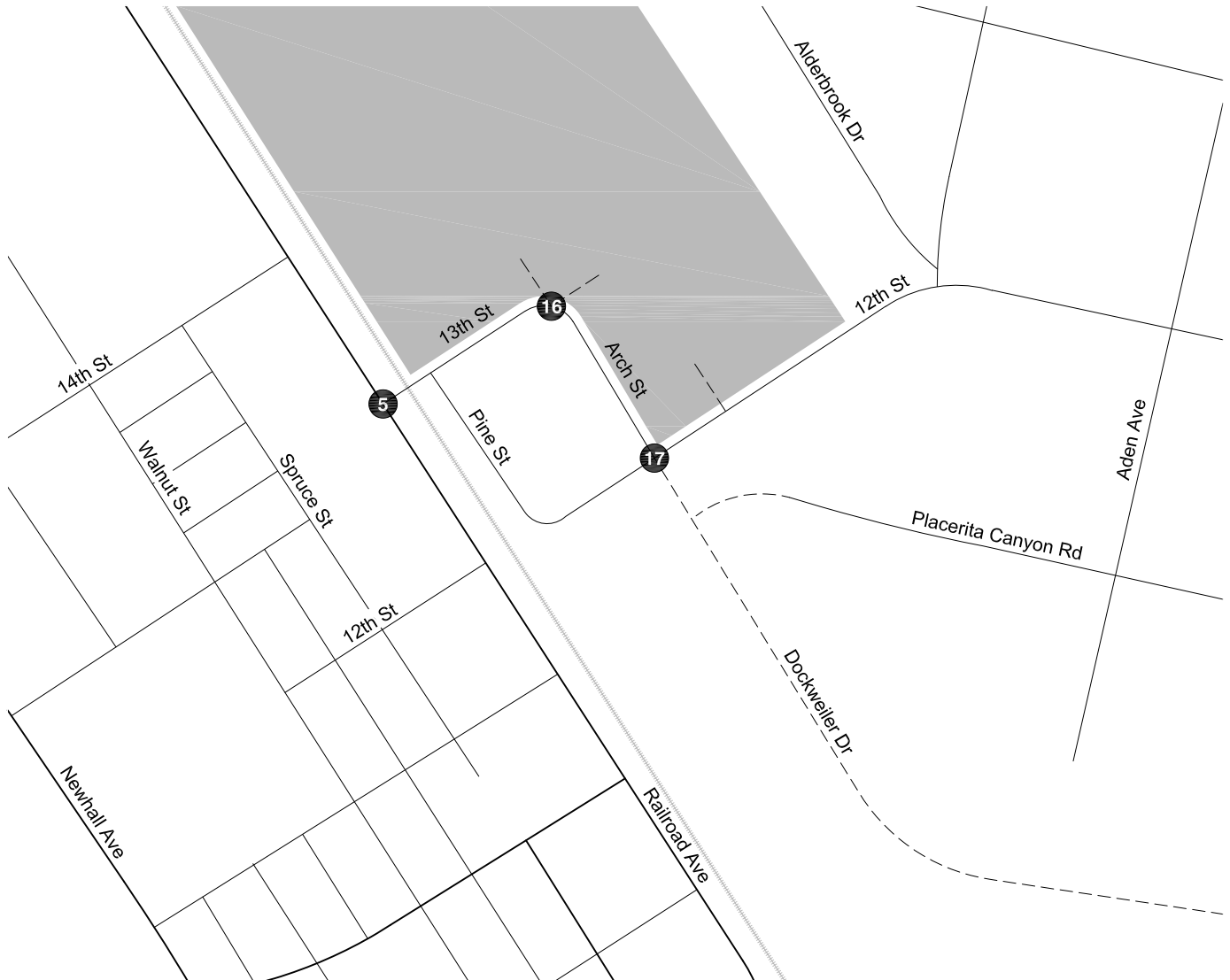
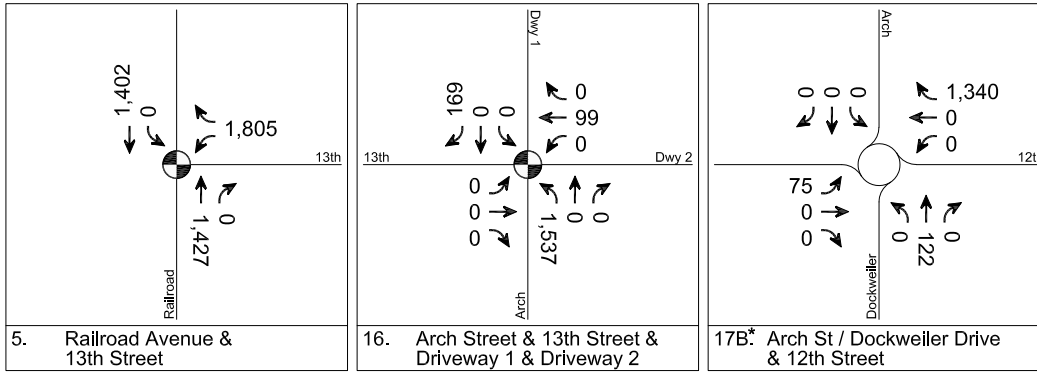
LEGEND

- Project Site
- Study Intersection
- Traffic Signal
- Stop Sign
- #** Total Approach Volume
- *** With the Dockweiler Dr Extension, Intersection 17A would be controlled by a traffic signal and Intersection 17B would be controlled by a roundabout and all-way stop



**PEAK TRAFFIC FLOW DURING EVACUATION
FUTURE WITH PROJECT CONDITIONS - TRAFFIC SIGNAL**

**FIGURE
2**



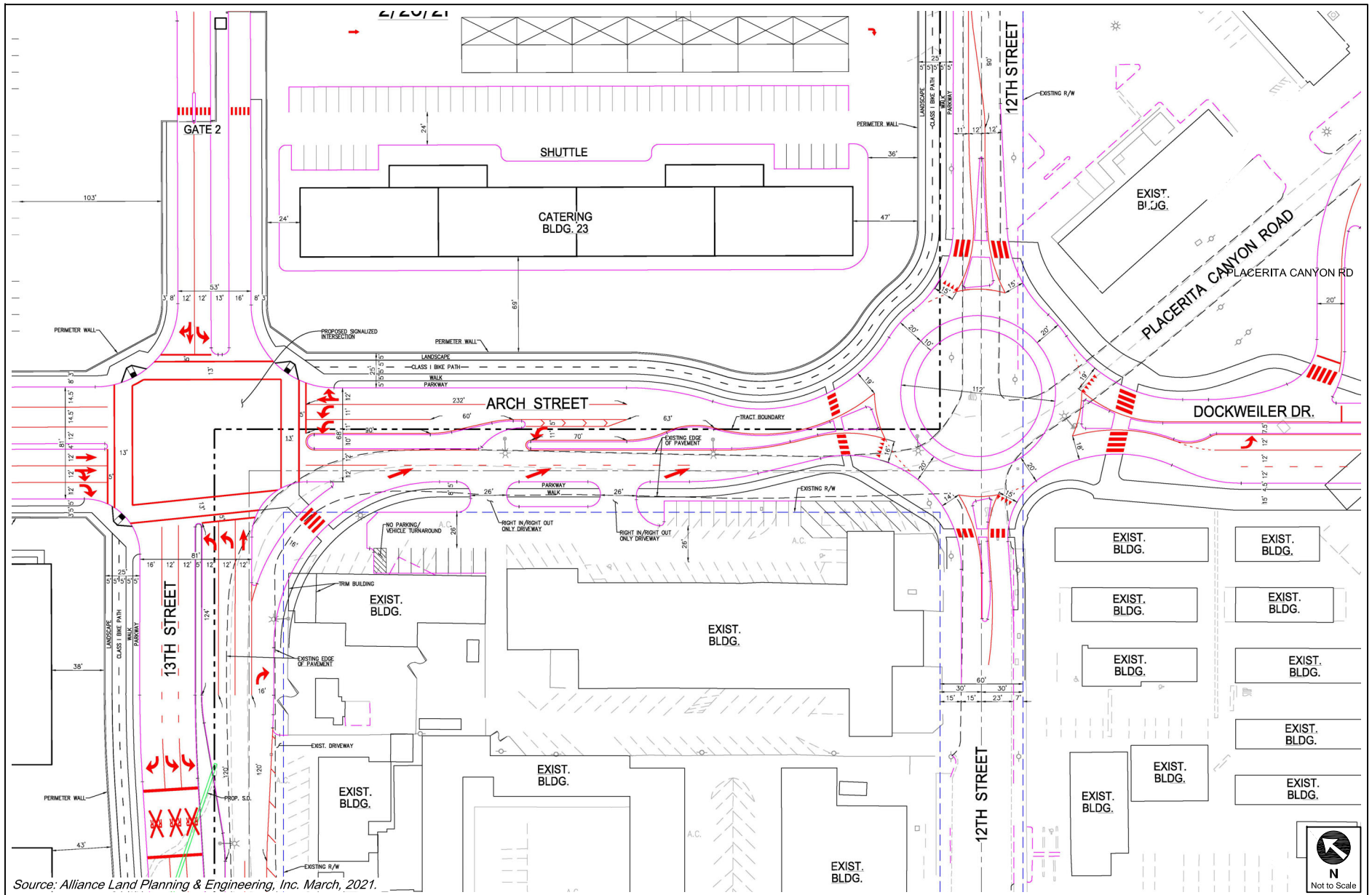
LEGEND

- Project Site
- Study Intersection
- Traffic Signal
- Stop Sign
- # Total Approach Volume
- * With the Dockweiler Dr Extension, Intersection 17A would be controlled by a traffic signal and Intersection 17B would be controlled by a roundabout and all-way stop



**PEAK TRAFFIC FLOW DURING EVACUATION
FUTURE WITH PROJECT CONDITIONS - ROUNDABOUT**

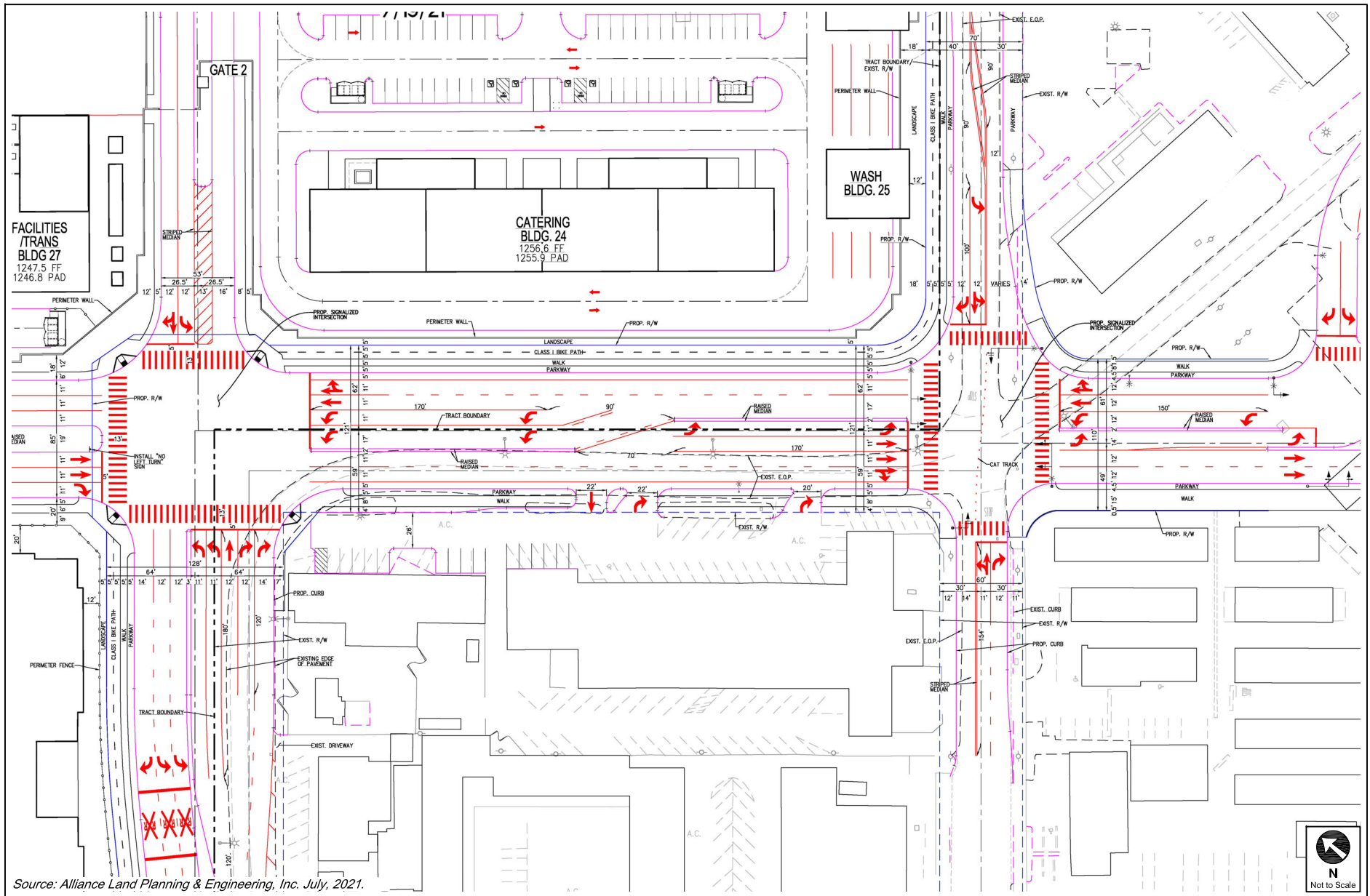
**FIGURE
3**



Source: Alliance Land Planning & Engineering, Inc. March, 2021.

**ROADWAY CONFIGURATION CONCEPT
ROUNDBOUT ALTERNATIVE**

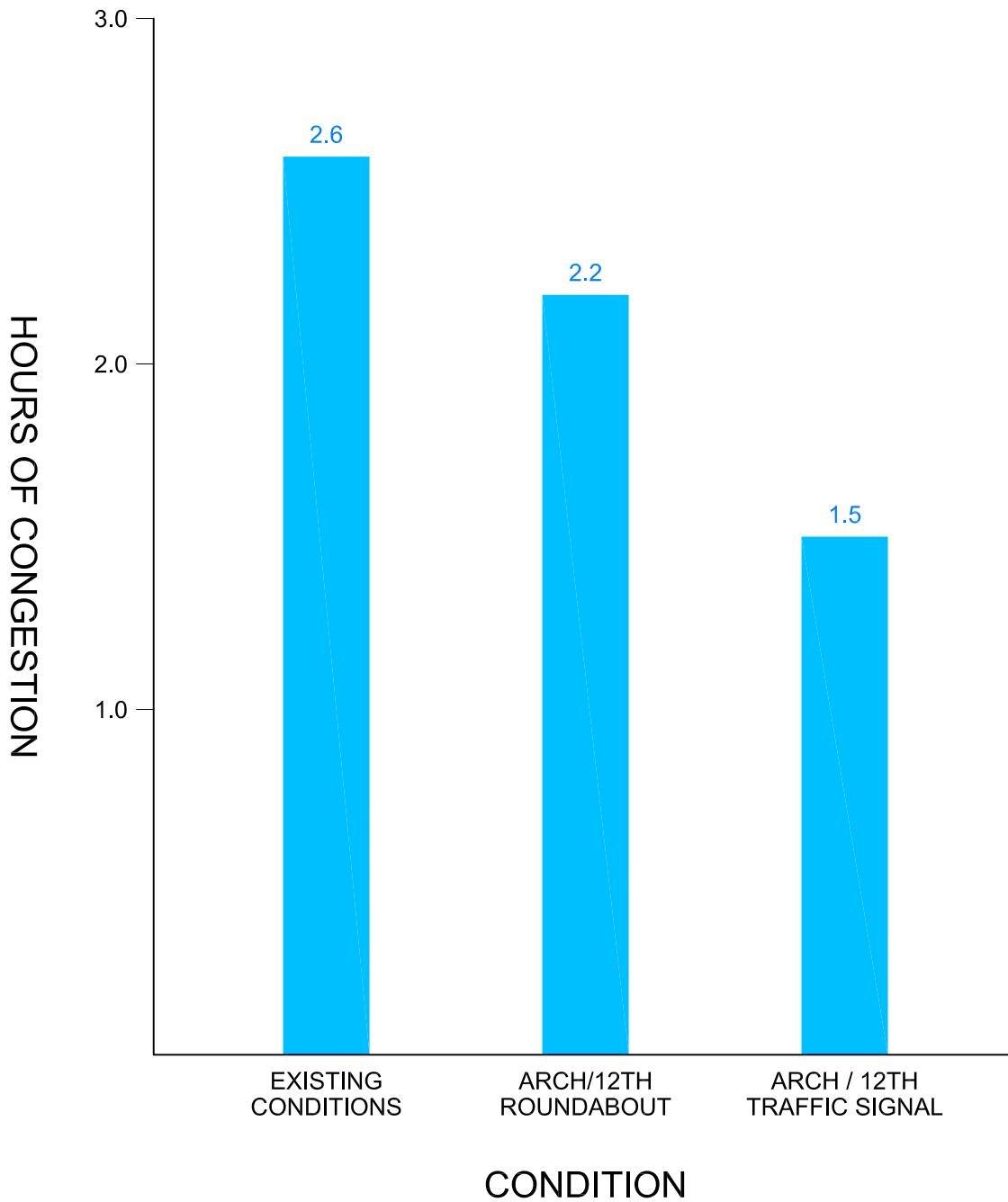
**FIGURE
4**



Source: Alliance Land Planning & Engineering, Inc. July, 2021.

**ROADWAY CONFIGURATION CONCEPT
TRAFFIC SIGNAL ALTERNATIVE**

**FIGURE
5**



HOURS OF SEVERE CONGESTION
LEAVING THE CANYON DURING EVACUATION

FIGURE
6

**TABLE 1
TRAVEL TIMES THROUGH DOCKWEILER CORRIDOR**

Trip Type	Evacuation Scenario		
	Existing Conditions	Future with Project Conditions (Traffic Signal)	Future with Project Conditions (Roundabout)
<i>Neighborhood to Northbound Railroad</i>			
Segment: 12th Street (s)	23	23	23
Intersection #17: Arch Street & 12th Street & Dockweiler Drive - WBR (s)	284.7	287	425.2
Segment: Arch Street (s)	11.5	6.4	6.4
Intersection #16: Arch Street & 13th Street & Driveway 1 & Driveway 2 - NBL (s)	0	70.1	70.1
Segment: 13th Street (s)	17.1	17.1	17.1
Intersection #5 Railroad Avenue & 13th Street - WBR (s)	1244.8	4.4	4.4
Segment: Railroad Avenue north of 13th Street (s)	16.3	16.3	16.3
<i>Sum WBR (Minutes)</i>	26.6	7.1	9.4
<i>TOTAL DELAY TO NB RAILROAD (HRS)</i>	449.7	156.8	207.6
<i>Neighborhood to Southbound Railroad</i>			
Segment: 12th Street (s)	23	23	23
Intersection #17: Arch Street & 12th Street & Dockweiler Drive - WBR (s)	284.7	287	425.2
Segment: Arch Street (s)	11.5	6.4	6.4
Intersection #16: Arch Street & 13th Street & Driveway 1 & Driveway 2 - NBL (s)	0	70.1	70.1
Segment: 13th Street (s)	17.1	17.1	17.1
Intersection #5: Railroad Avenue & 13th Street - WBL (s)	1244.8	521	521
Segment: Railroad Avenue south of 13th Street (s)	18.4	18.4	18.4
<i>Sum WBL (Minutes)</i>	26.7	15.7	18
<i>TOTAL DELAY TO SB RAILROAD (HRS)</i>	232.5	178.7	204.9
<i>TOTAL DELAY LEAVING CANYON (HRS)</i>	682.2	335.5	412.5

Notes:

(s): in seconds

NBL: Northbound Left

WBL: Westbound Left

WBR: Westbound Right

**TABLE 2A
SUMMARY OF EVACUATION DELAY
AFTERNOON PEAK HOUR (WORST-CASE CONDITIONS)**

Existing Conditions						
No.	Intersection	Approach	Approach Lanes	Evacuation Demand	Approach Delay [a]	Minutes of Congestion [b]
5	Railroad Avenue & 13th Street	Northbound	2	1427	9.7	71
		Southbound	2	1402	7.5	70
		Westbound	1	1537	1244.8	154
16	Arch Street & 13th Street & Driveway 1 & Driveway 2	Northbound	1	1537	N/A	
		Southbound	N/A			
		Eastbound	1	0	N/A	
		Westbound	N/A			
17	Arch Street & 12th Street & Placerita Canyon Road	Northbound	1	122	0	12
		Southbound	1	0	N/A	
		Eastbound	1	75	0	8
		Westbound	1	1340	284.7	134
SEVERE CONGESTION = 154 MINUTES (2.6 HOURS)						

Notes:

[a] Approach Delay determined by using HCM 6th Edition methodology

[b] Minutes to Clear determined by using an assumed vehicular flow of 600 vehicles per lane per hour

Indicates highest congestion for exiting Canyon traffic

**TABLE 2B
SUMMARY OF EVACUATION DELAY
AFTERNOON PEAK HOUR (WORST-CASE CONDITIONS)**

Future with Project Conditions with Traffic Signal [a]						
No.	Intersection	Approach	Approach Lanes	Evacuation Demand	Approach Delay [b]	Minutes of Congestion [c]
5	Railroad Avenue & 13th Street	Northbound	2	1740	13.1	87
		Southbound	2	1940	22.5	97
		Westbound	3	2008	365.9	67
16	Arch Street & 13th Street & Driveway 1 & Driveway 2	Northbound	2	1740	70.1	87
		Southbound	2	169	35.6	8
		Eastbound	1	0	N/A	
		Westbound	1	99	68.3	10
17 [d]	Arch Street & 12th Street & Dockweiler Drive(traffic signal)	Northbound	2	328	53.3	16
		Southbound	2	0	N/A	
		Eastbound	1	75	32.7	8
		Westbound	2	1340	287	67
SEVERE CONGESTION = 87 MINUTES (1.5 HOURS)						

Notes:

[a] Future Conditions represent Year 2028 with full Shadowbox Studio Project in place and Related Projects open and operating

[b] Approach Delay determined by using HCM 6th Edition methodology used in Level of Service calculations

[c] Minutes to Clear determined by using an assumed vehicular flow of 600 vehicles per lane per hour. Intersection control by emergency personnel could increase the capacity of each lane.

[d] With the Dockweiler Dr Extension, Intersection #17 would be controlled by a traffic signal

 Indicates highest congestion for exiting Canyon traffic

**TABLE 2C
SUMMARY OF EVACUATION DELAY
AFTERNOON PEAK HOUR (WORST-CASE CONDITIONS)**

Future with Project Conditions with Roundabout [a]						
No.	Intersection	Approach	Approach Lanes	Evacuation Demand	Approach Delay [b]	Minutes of Congestion [c]
5	Railroad Avenue & 13th Street	Northbound	2	1740	13.1	87
		Southbound	2	1940	22.5	97
		Westbound	3	2008	365.9	67
16	Arch Street & 13th Street & Driveway 2 & Driveway 1	Northbound	2	1740	70.1	87
		Southbound	2	169	35.6	8
		Eastbound	1	0	N/A	
		Westbound	1	99	68.3	10
17B [d]	Arch Street & 12th Street & Dockweiler Drive (roundabout)	Northbound	1	328	21.9	33
		Southbound	1	0	N/A	
		Eastbound	1	75	12.6	8
		Westbound	1	1340	425.2	134
SEVERE CONGESTION = 134 MINUTES (2.2 HOURS)						

Notes:

[a] Future Conditions represent Year 2028 with full Shadowbox Studio Project in place and Related Projects open and operating

[b] Approach Delay determined by using HCM 6th Edition methodology used in Level of Service calculations

[c] Minutes to Clear determined by using an assumed vehicular flow of 600 vehicles per lane per hour. Intersection control by emergency personnel could increase the capacity of each lane.

[d] With the Dockweiler Dr Extension, Intersection #17 would be controlled by a traffic signal

Indicates highest congestion for exiting Canyon traffic




















Attachment

***HCM Analysis Worksheets
Evacuation Scenario***

Existing Conditions

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/04/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1009	0	528	0	1427	0	0	1402	0
Future Volume (vph)	0	0	0	1009	0	528	0	1427	0	0	1402	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		570	140		0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt					0.954							
Flt Protected					0.968							
Satd. Flow (prot)	0	0	0	0	1720	0	1863	3539	1863	1863	3539	0
Flt Permitted					0.968							
Satd. Flow (perm)	0	0	0	0	1720	0	1863	3539	1863	1863	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					107							
Link Speed (mph)		30			25			45			45	
Link Distance (ft)		273			628			1217			3340	
Travel Time (s)		6.2			17.1			18.4			50.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1097	0	574	0	1551	0	0	1524	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1671	0	0	1551	0	0	1524	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2	1	1	2	
Detector Template				Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)				20	100		20	100	20	20	100	
Trailing Detector (ft)				0	0		0	0	0	0	0	
Detector 1 Position(ft)				0	0		0	0	0	0	0	
Detector 1 Size(ft)				20	6		20	6	20	20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Split	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases				7	7		1	6	7	5	2	
Permitted Phases									6			

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

01/04/2022

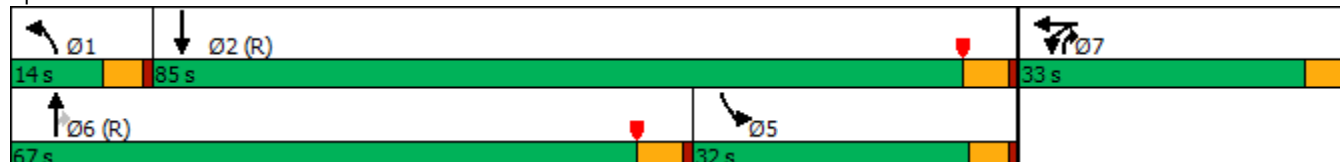


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				7	7		1	6	7	5	2	
Switch Phase												
Minimum Initial (s)				10.0	10.0		9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				33.0	33.0		14.0	23.5	33.0	14.0	23.5	
Total Split (s)				33.0	33.0		14.0	67.0	33.0	32.0	85.0	
Total Split (%)				25.0%	25.0%		10.6%	50.8%	25.0%	24.2%	64.4%	
Maximum Green (s)				28.0	28.0		9.0	61.5	28.0	27.0	79.5	
Yellow Time (s)				4.0	4.0		4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)					5.0		5.0	5.5	5.0	5.0	5.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None		None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)					28.0			93.5			93.5	
Actuated g/C Ratio					0.21			0.71			0.71	
v/c Ratio					3.72			0.62			0.61	
Control Delay					1244.8			9.7			7.5	
Queue Delay					0.0			0.0			0.0	
Total Delay					1244.8			9.7			7.5	
LOS					F			A			A	
Approach Delay					1244.8			9.7			7.5	
Approach LOS					F			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 60 (45%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 3.72
 Intersection Signal Delay: 443.9
 Intersection LOS: F
 Intersection Capacity Utilization 136.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 5: Railroad Avenue & 13th Street



Queues

5: Railroad Avenue & 13th Street

01/04/2022



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	1671	1551	1524
v/c Ratio	3.72	0.62	0.61
Control Delay	1244.8	9.7	7.5
Queue Delay	0.0	0.0	0.0
Total Delay	1244.8	9.7	7.5
Queue Length 50th (ft)	~2529	153	161
Queue Length 95th (ft)	#2798	416	270
Internal Link Dist (ft)	548	1137	3260
Turn Bay Length (ft)			
Base Capacity (vph)	449	2506	2506
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	3.72	0.62	0.61

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
 17: Placerita Canyon Road/Arch Street & 12th Street

01/04/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	75	0	0	0	0	1340	0	122	0	0	0	0
Future Volume (vph)	75	0	0	0	0	1340	0	122	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr t						0.865						
Flt Protected	0.950											
Satd. Flow (prot)	0	1770	0	0	1611	0	0	1863	0	0	1863	0
Flt Permitted	0.950											
Satd. Flow (perm)	0	1770	0	0	1611	0	0	1863	0	0	1863	0
Link Speed (mph)	25				25		35				25	
Link Distance (ft)	391				842		1231				423	
Travel Time (s)	10.7				23.0		24.0				11.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	0	0	0	0	1457	0	133	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	82	0	0	1457	0	0	133	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	0				0		0				0	
Link Offset(ft)	0				0		0				0	
Crosswalk Width(ft)	16				16		16				16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control	Stop				Stop		Free				Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	96.1%
ICU Level of Service	F
Analysis Period (min)	15

HCM 6th TWSC
 17: Placerita Canyon Road/Arch Street & 12th Street

01/04/2022

Intersection												
Int Delay, s/veh	248											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	75	0	0	0	0	1340	0	122	0	0	0	0
Future Vol, veh/h	75	0	0	0	0	1340	0	122	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	82	0	0	0	0	1457	0	133	0	0	0	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	863	134	1	134	134	133	1	0	0	133	0	0
Stage 1	1	1	-	133	133	-	-	-	-	-	-	-
Stage 2	862	133	-	1	1	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	275	757	1084	838	757	~ 916	1622	-	-	1452	-	-
Stage 1	1022	895	-	870	786	-	-	-	-	-	-	-
Stage 2	350	786	-	1022	895	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	757	1084	838	757	~ 916	1622	-	-	1452	-	-
Mov Cap-2 Maneuver	-	757	-	838	757	-	-	-	-	-	-	-
Stage 1	1022	895	-	870	786	-	-	-	-	-	-	-
Stage 2	-	786	-	1022	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		284.7	0	0
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	-	916	1452	-
HCM Lane V/C Ratio	-	-	-	-	1.59	-	-
HCM Control Delay (s)	0	-	-	-	284.7	0	-
HCM Lane LOS	A	-	-	-	F	A	-
HCM 95th %tile Q(veh)	0	-	-	-	74.9	0	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

***Future with Project Conditions
with Traffic Signal***

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/04/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔↔		↗	↖	↕	↗	↔↔	↗↔	↕↔
Traffic Volume (vph)	0	0	0	1405	0	603	0	1740	0	0	1940	0
Future Volume (vph)	0	0	0	1405	0	603	0	1740	0	0	1940	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	140		0
Storage Lanes	0		0	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt						0.850						
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	3433	0	1583	1863	3539	1863	3614	3539	0
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	3433	0	1583	1863	3539	1863	3614	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						655						
Link Speed (mph)		25			25			45				45
Link Distance (ft)		337			628			1217				3340
Travel Time (s)		9.2			17.1			18.4				50.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1527	0	655	0	1891	0	0	2109	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	1527	0	655	0	1891	0	0	2109	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	2	1	1		2
Detector Template				Left		Right	Left	Thru	Right	Left		Thru
Leading Detector (ft)				20		20	20	100	20	20		100
Trailing Detector (ft)				0		0	0	0	0	0		0
Detector 1 Position(ft)				0		0	0	0	0	0		0
Detector 1 Size(ft)				20		20	20	6	20	20		6
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)								94				94
Detector 2 Size(ft)								6				6
Detector 2 Type								Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)								0.0				0.0
Turn Type				Prot		Prot	Prot	NA	pm+ov	Prot		NA
Protected Phases				3		9!	5	2!	3	1		6
Permitted Phases									2			

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/04/2022

Lane Group	Ø8	Ø10
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	8	10
Permitted Phases		

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/04/2022

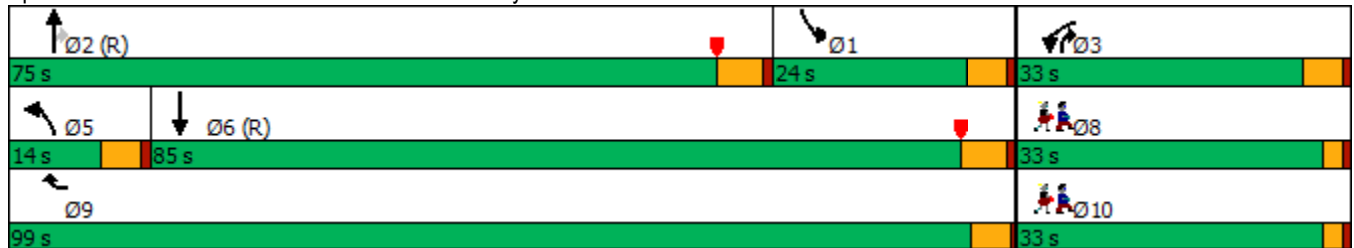


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				3		9	5	2	3	1		6
Switch Phase												
Minimum Initial (s)				10.0		4.0	9.0	10.0	10.0	9.0		10.0
Minimum Split (s)				33.0		14.0	14.0	23.5	33.0	14.0		23.5
Total Split (s)				33.0		99.0	14.0	75.0	33.0	24.0		85.0
Total Split (%)				25.0%		75.0%	10.6%	56.8%	25.0%	18.2%		64.4%
Maximum Green (s)				28.0		94.5	9.0	69.5	28.0	19.0		79.5
Yellow Time (s)				4.0		4.0	4.0	4.5	4.0	4.0		4.5
All-Red Time (s)				1.0		0.5	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)				5.0		4.5	5.0	5.5	5.0	5.0		5.5
Lead/Lag							Lead	Lead		Lag		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode				None		None	None	C-Max	None	None		C-Max
Walk Time (s)								7.0				7.0
Flash Dont Walk (s)								11.0				11.0
Pedestrian Calls (#/hr)								0				0
Act Effct Green (s)				28.0		94.5		93.5				93.5
Actuated g/C Ratio				0.21		0.72		0.71				0.71
v/c Ratio				2.10		0.50		0.75				0.84
Control Delay				521.0		4.0		13.1				22.5
Queue Delay				0.0		0.4		0.0				0.0
Total Delay				521.0		4.4		13.1				22.5
LOS				F		A		B				C
Approach Delay						365.9		13.1				22.5
Approach LOS						F		B				C

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.10
 Intersection Signal Delay: 140.8
 Intersection LOS: F
 Intersection Capacity Utilization 101.6%
 ICU Level of Service G
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/04/2022

Lane Group	Ø8	Ø10
Detector Phase		
Switch Phase		
Minimum Initial (s)	4.0	4.0
Minimum Split (s)	31.0	16.0
Total Split (s)	33.0	33.0
Total Split (%)	25%	25%
Maximum Green (s)	30.0	30.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	21.0	6.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

5: Railroad Avenue & Driveway/13th Street

01/04/2022



Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	1527	655	1891	2109
v/c Ratio	2.10	0.50	0.75	0.84
Control Delay	521.0	4.0	13.1	22.5
Queue Delay	0.0	0.4	0.0	0.0
Total Delay	521.0	4.4	13.1	22.5
Queue Length 50th (ft)	~1080	39	256	979
Queue Length 95th (ft)	#1204	m191	480	1060
Internal Link Dist (ft)			1137	3260
Turn Bay Length (ft)	110			
Base Capacity (vph)	728	1319	2506	2506
Starvation Cap Reductn	0	257	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	2.10	0.62	0.75	0.84

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/04/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	99	0	1740	0	0	0	0	169
Future Volume (vph)	0	0	0	0	99	0	1740	0	0	0	0	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt												0.850
Flt Protected							0.950					
Satd. Flow (prot)	3614	1863	3278	1863	1863	0	3433	3539	0	0	3539	1583
Flt Permitted							0.757					
Satd. Flow (perm)	3614	1863	3278	1863	1863	0	2736	3539	0	0	3539	1583
Right Turn on Red			Yes				Yes		Yes			Yes
Satd. Flow (RTOR)												132
Link Speed (mph)		45			30			45				30
Link Distance (ft)		628			448			423				442
Travel Time (s)		9.5			10.2			6.4				10.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	108	0	1891	0	0	0	0	184
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	108	0	1891	0	0	0	0	184
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				36
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2				2
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru				Thru
Leading Detector (ft)	20	100	20	20	100		20	100				100
Trailing Detector (ft)	0	0	0	0	0		0	0				0
Detector 1 Position(ft)	0	0	0	0	0		0	0				0
Detector 1 Size(ft)	20	6	20	20	6		20	6				6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0				0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0				0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0				0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot		Over	Prot	NA		pm+pt					Over
Protected Phases	7	4	5	3	8		5	2				6
Permitted Phases							2					

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/04/2022

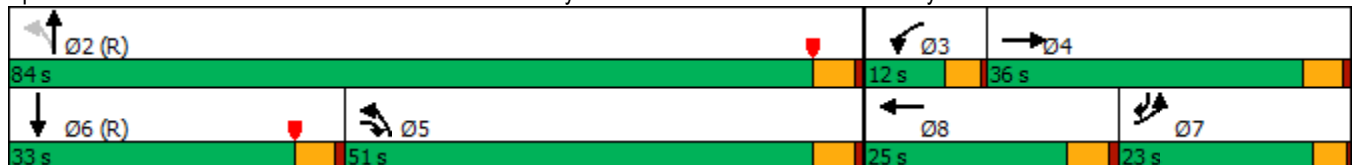


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	20.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	23.0	36.0	51.0	12.0	25.0		51.0	84.0			33.0	23.0
Total Split (%)	17.4%	27.3%	38.6%	9.1%	18.9%		38.6%	63.6%			25.0%	17.4%
Maximum Green (s)	19.0	31.0	46.0	8.0	20.0		46.0	79.0			28.0	19.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)					13.3			93.9				10.8
Actuated g/C Ratio					0.10			0.71				0.08
v/c Ratio					0.57			0.86				0.74
Control Delay					68.3			23.2				35.6
Queue Delay					0.0			46.9				0.0
Total Delay					68.3			70.1				35.6
LOS					E			E				D
Approach Delay					68.3			70.1			35.6	
Approach LOS					E			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 67.1
 Intersection LOS: E
 Intersection Capacity Utilization 80.1%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/04/2022



Lane Group	WBT	NBL	SBR
Lane Group Flow (vph)	108	1891	184
v/c Ratio	0.57	0.86	0.74
Control Delay	68.3	23.2	35.6
Queue Delay	0.0	46.9	0.0
Total Delay	68.3	70.1	35.6
Queue Length 50th (ft)	90	468	43
Queue Length 95th (ft)	147	#891	119
Internal Link Dist (ft)	368		
Turn Bay Length (ft)		100	
Base Capacity (vph)	282	2188	340
Starvation Cap Reductn	0	569	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.38	1.17	0.54

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/04/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Traffic Volume (vph)	120	0	0	0	0	1340	0	328	0	0	0	0
Future Volume (vph)	120	0	0	0	0	1340	0	328	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	180		0
Storage Lanes	0		1	0		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Frt						0.850						
Flt Protected		0.950										
Satd. Flow (prot)	0	1770	1863	0	1863	1583	1863	3539	0	1863	5085	0
Flt Permitted		0.757										
Satd. Flow (perm)	0	1410	1863	0	1863	1583	1863	3539	0	1863	5085	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						558						
Link Speed (mph)		25			25			45				45
Link Distance (ft)		391			842			206				423
Travel Time (s)		10.7			23.0			3.1				6.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	0	0	0	0	1457	0	357	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	130	0	0	0	1457	0	357	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA	Perm			Perm	Prot	NA		Prot		
Protected Phases		8			4		1	6		5		2
Permitted Phases	8		8	4		4						

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/04/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	31.0	31.0	31.0	20.0	20.0	20.0	9.0	23.0		9.0	23.0	
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	13.0	47.0		34.0	68.0	
Total Split (%)	38.6%	38.6%	38.6%	38.6%	38.6%	38.6%	9.8%	35.6%		25.8%	51.5%	
Maximum Green (s)	46.0	46.0	46.0	47.0	47.0	47.0	8.0	42.0		29.0	63.0	
Yellow Time (s)	4.0	4.0	4.0	3.5	3.5	3.5	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	0.5	0.5	0.5	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0			0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0			4.0	4.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		Max	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		7.0			7.0	
Flash Dont Walk (s)	21.0	21.0	21.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		46.0				47.0		42.0				
Actuated g/C Ratio		0.35				0.36		0.32				
v/c Ratio		0.26				1.58		0.32				
Control Delay		32.7				287.0		35.1				
Queue Delay		0.0				0.0		18.3				
Total Delay		32.7				287.0		53.3				
LOS		C				F		D				
Approach Delay		32.7				287.0		53.3				
Approach LOS		C				F		D				

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.58
Intersection Signal Delay:	227.1
Intersection LOS:	F
Intersection Capacity Utilization:	110.4%
ICU Level of Service:	H
Analysis Period (min):	15

Splits and Phases: 17: Dockweiler Drive/Arch Street & 12th Street



Queues

17: Dockweiler Drive/Arch Street & 12th Street

01/04/2022



Lane Group	EBT	WBR	NBT
Lane Group Flow (vph)	130	1457	357
v/c Ratio	0.26	1.58	0.32
Control Delay	32.7	287.0	35.1
Queue Delay	0.0	0.0	18.3
Total Delay	32.7	287.0	53.3
Queue Length 50th (ft)	80	~1456	121
Queue Length 95th (ft)	133	#1727	165
Internal Link Dist (ft)	311		126
Turn Bay Length (ft)			
Base Capacity (vph)	491	922	1126
Starvation Cap Reductn	0	0	756
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.26	1.58	0.96

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

***Future with Project Conditions
with Roundabout***

Lanes, Volumes, Timings
5: Railroad Avenue & Driveway/13th Street

01/04/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔↔		↗	↖	↕↕	↗	↔↔	↕↕	↔↔
Traffic Volume (vph)	0	0	0	1405	0	603	0	1740	0	0	1940	0
Future Volume (vph)	0	0	0	1405	0	603	0	1740	0	0	1940	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	110		0	100		570	140		0
Storage Lanes	0		0	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt						0.850						
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	3433	0	1583	1863	3539	1863	3614	3539	0
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	3433	0	1583	1863	3539	1863	3614	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						655						
Link Speed (mph)		25			25			45				45
Link Distance (ft)		337			628			1217				3340
Travel Time (s)		9.2			17.1			18.4				50.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1527	0	655	0	1891	0	0	2109	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	1527	0	655	0	1891	0	0	2109	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	2	1	1		2
Detector Template				Left		Right	Left	Thru	Right	Left		Thru
Leading Detector (ft)				20		20	20	100	20	20		100
Trailing Detector (ft)				0		0	0	0	0	0		0
Detector 1 Position(ft)				0		0	0	0	0	0		0
Detector 1 Size(ft)				20		20	20	6	20	20		6
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)				0.0		0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)								94				94
Detector 2 Size(ft)								6				6
Detector 2 Type								Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)								0.0				0.0
Turn Type				Prot		Prot	Prot	NA	pm+ov	Prot		NA
Protected Phases				3		9!	5	2!	3	1		6
Permitted Phases									2			

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/04/2022

Lane Group	Ø8	Ø10
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	8	10
Permitted Phases		

Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/04/2022

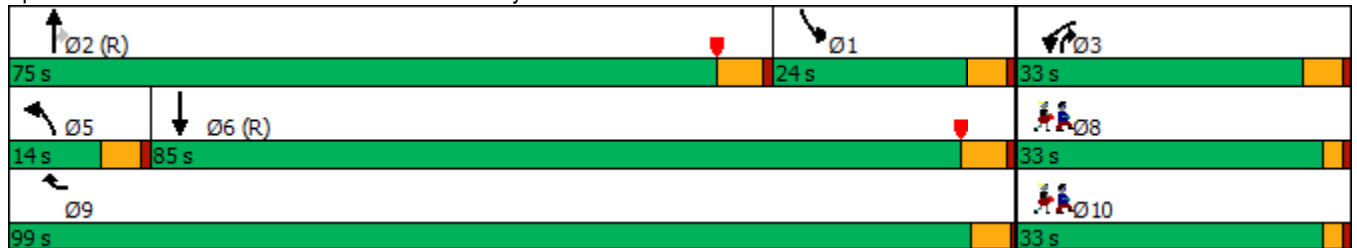


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				3		9	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)				10.0		4.0	9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)				33.0		14.0	14.0	23.5	33.0	14.0	23.5	
Total Split (s)				33.0		99.0	14.0	75.0	33.0	24.0	85.0	
Total Split (%)				25.0%		75.0%	10.6%	56.8%	25.0%	18.2%	64.4%	
Maximum Green (s)				28.0		94.5	9.0	69.5	28.0	19.0	79.5	
Yellow Time (s)				4.0		4.0	4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)				1.0		0.5	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0		4.5	5.0	5.5	5.0	5.0	5.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode				None		None	None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				28.0		94.5		93.5			93.5	
Actuated g/C Ratio				0.21		0.72		0.71			0.71	
v/c Ratio				2.10		0.50		0.75			0.84	
Control Delay				521.0		4.0		13.1			22.5	
Queue Delay				0.0		0.4		0.0			0.0	
Total Delay				521.0		4.4		13.1			22.5	
LOS				F		A		B			C	
Approach Delay					365.9			13.1			22.5	
Approach LOS					F			B			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.10
 Intersection Signal Delay: 140.8
 Intersection LOS: F
 Intersection Capacity Utilization 101.6%
 ICU Level of Service G
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & Driveway/13th Street



Lanes, Volumes, Timings
 5: Railroad Avenue & Driveway/13th Street

01/04/2022

Lane Group	Ø8	Ø10
Detector Phase		
Switch Phase		
Minimum Initial (s)	4.0	4.0
Minimum Split (s)	31.0	16.0
Total Split (s)	33.0	33.0
Total Split (%)	25%	25%
Maximum Green (s)	30.0	30.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	21.0	6.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

5: Railroad Avenue & Driveway/13th Street

01/04/2022



Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	1527	655	1891	2109
v/c Ratio	2.10	0.50	0.75	0.84
Control Delay	521.0	4.0	13.1	22.5
Queue Delay	0.0	0.4	0.0	0.0
Total Delay	521.0	4.4	13.1	22.5
Queue Length 50th (ft)	~1080	39	256	979
Queue Length 95th (ft)	#1204	m191	480	1060
Internal Link Dist (ft)			1137	3260
Turn Bay Length (ft)	110			
Base Capacity (vph)	728	1319	2506	2506
Starvation Cap Reductn	0	257	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	2.10	0.62	0.75	0.84































Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/04/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		  		 		 	 			  	 
Traffic Volume (vph)	0	0	0	0	99	0	1740	0	0	0	0	169
Future Volume (vph)	0	0	0	0	99	0	1740	0	0	0	0	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt												0.850
Flt Protected							0.950					
Satd. Flow (prot)	3614	1863	3278	1863	1863	0	3433	3539	0	0	3539	1583
Flt Permitted							0.757					
Satd. Flow (perm)	3614	1863	3278	1863	1863	0	2736	3539	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												132
Link Speed (mph)		45			30			45				30
Link Distance (ft)		628			448			423				442
Travel Time (s)		9.5			10.2			6.4				10.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	108	0	1891	0	0	0	0	184
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	108	0	1891	0	0	0	0	184
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				36
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2				2
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru				Thru
Leading Detector (ft)	20	100	20	20	100		20	100				100
Trailing Detector (ft)	0	0	0	0	0		0	0				0
Detector 1 Position(ft)	0	0	0	0	0		0	0				0
Detector 1 Size(ft)	20	6	20	20	6		20	6				6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0				0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0				0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0				0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot		Over	Prot	NA		pm+pt					Over
Protected Phases	7	4	5	3	8		5	2				6
Permitted Phases							2					

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/04/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	20.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	23.0	36.0	51.0	12.0	25.0		51.0	84.0			33.0	23.0
Total Split (%)	17.4%	27.3%	38.6%	9.1%	18.9%		38.6%	63.6%			25.0%	17.4%
Maximum Green (s)	19.0	31.0	46.0	8.0	20.0		46.0	79.0			28.0	19.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)					13.3			93.9				10.8
Actuated g/C Ratio					0.10			0.71				0.08
v/c Ratio					0.57			0.86				0.74
Control Delay					68.3			23.2				35.6
Queue Delay					0.0			0.0				0.0
Total Delay					68.3			23.2				35.6
LOS					E			C				D
Approach Delay					68.3			23.2			35.6	
Approach LOS					E			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 132

Actuated Cycle Length: 132

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 26.5

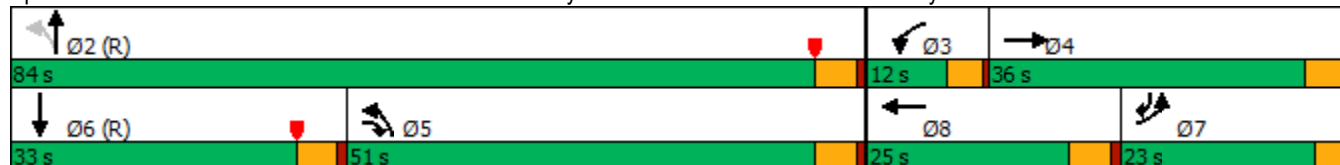
Intersection LOS: C

Intersection Capacity Utilization 80.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

01/04/2022



















Lane Group	WBT	NBL	SBR
Lane Group Flow (vph)	108	1891	184
v/c Ratio	0.57	0.86	0.74
Control Delay	68.3	23.2	35.6
Queue Delay	0.0	0.0	0.0
Total Delay	68.3	23.2	35.6
Queue Length 50th (ft)	90	468	43
Queue Length 95th (ft)	147	#891	119
Internal Link Dist (ft)	368		
Turn Bay Length (ft)		100	
Base Capacity (vph)	282	2188	340
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.38	0.86	0.54

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

01/04/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	0	0	0	0	1340	0	328	0	0	0	0
Future Volume (vph)	120	0	0	0	0	1340	0	328	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	180		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865							
Flt Protected		0.950										
Satd. Flow (prot)	0	1770	0	0	1611	0	0	1863	0	0	1863	0
Flt Permitted		0.950										
Satd. Flow (perm)	0	1770	0	0	1611	0	0	1863	0	0	1863	0
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		391			842			206			423	
Travel Time (s)		10.7			23.0			3.1			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	0	0	0	0	1457	0	357	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	130	0	0	1457	0	0	357	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Roundabout											
Intersection Capacity Utilization	116.9%						ICU Level of Service H					
Analysis Period (min)	15											

HCM 6th AWSC
 17: Dockweiler Drive/Arch Street & 12th Street

01/04/2022

Intersection	
Intersection Delay, s/veh	323.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	120	0	0	0	0	1340	0	328	0	0	0	0
Future Vol, veh/h	120	0	0	0	0	1340	0	328	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	130	0	0	0	0	1457	0	357	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.6	425.2	21.9	0
HCM LOS	B	F	C	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	100%	0%	0%
Vol Thru, %	100%	0%	0%	100%
Vol Right, %	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	328	120	1340	0
LT Vol	0	120	0	0
Through Vol	328	0	0	0
RT Vol	0	0	1340	0
Lane Flow Rate	357	130	1457	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.601	0.228	1.906	0
Departure Headway (Hd)	7.806	7.403	4.712	9.129
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	467	488	772	0
Service Time	5.806	5.403	2.76	7.129
HCM Lane V/C Ratio	0.764	0.266	1.887	0
HCM Control Delay	21.9	12.6	425.2	12.1
HCM Lane LOS	C	B	F	N
HCM 95th-tile Q	3.9	0.9	91.6	0

**Level of Service Analysis of Gate 3 Modification
Alternate Designs of Arch Street & 13th Street**



MEMORANDUM

TO: Erika Iverson, City of Santa Clarita
Joel Bareng, City of Santa Clarita
Ian Pari, City of Santa Clarita
Cesar Romo, City of Santa Clarita

FROM: Patrick A. Gibson, P.E., Richard Gibson, and David Roachford

DATE: March 31, 2023

RE: Level of Service Analysis of Gate 3 Modification
Alternate Designs of Arch Street & 13th Street
LA-1 Shadowbox Studios
Santa Clarita, California

Ref: J1814a

This memorandum summarizes the level of service (LOS) effects of two design alternates for the intersection of Arch Street & 13th Street.

SHADOWBOX STUDIOS ACCESS CHANGES

Several meetings with the adjacent neighbors led to a discussion of limiting inbound Shadowbox Studios (Project) traffic on eastbound 12th Street east of Dockweiler Drive / Arch Street. The neighbors stated that minimizing Project traffic usage of eastbound 12th Street would result in fewer cars and trucks proceeding easterly on 12th Street and entering the neighborhood.

An alternate access plan for the Project was developed that changed the Gate 3 access from a two-way inbound/outbound driveway onto 12th Street to a one-way outbound-only driveway onto 12th Street. The exit movement would be limited to right-turn-only onto westbound 12th Street.

The traffic flow patterns shown in the Project Transportation Assessment¹ would change slightly as a result of the modification of Gate 3. Project traffic approaching the site from northbound Dockweiler Drive would no longer be able to enter the Project site by turning right onto eastbound 12th Street to use Gate 3. Instead, this traffic would have to proceed northerly on Arch Street to enter the site via Gates 1 or 2 at the Arch Street / 13th Street entrances.

The effects of the Gate 3 access changes and the lane modifications at the Arch Street & 13th Street intersection that accompany those changes were analyzed.

¹ *Draft Transportation Assessment for Shadowbox Studios, Santa Clarita, California*, GTC, January 2023.

ALTERNATE DESIGNS FOR ARCH STREET & 13TH STREET INTERSECTION

The alternate designs were developed as a result of design changes necessitated by the changes to the Gate 3 access driveway and by the desire to allow large trucks to make an eastbound to southbound right turn at the intersection without encroaching into the adjacent southbound lane. The resulting design moved the center median on Arch Street to the east and eliminated one northbound lane at the intersection. Figure 1 shows the Alternate 1 design. Alternate 2 differs in the treatment of the three remaining northbound lanes at the intersection.

- Alternate 1 treats the three northbound lanes as:
 - One northbound left-turn lane
 - One optional northbound left-turn/through lane
 - One optional through/right-turn lane

- Alternate 2 treats the three northbound lanes as:
 - Two northbound left-turn lanes
 - One optional through/right-turn lane

Alternate 1 would require split phasing for the north-south movements, while Alternate 2 would require a leading or lagging left-turn phase to accommodate the northbound left turns.

Under both alternates, the east-west left turns could be accommodated on a single left-turn phase or on a lead-lag situation.

TRAFFIC AND TRUCK VOLUMES

Figure 2 presents a series of traffic volume sheets for the Dockweiler/Arch Street corridor, assuming that the Gate 3 driveway would operate as an exit only.

The first summary shows the Future Base volumes without the Project. These volumes assume Dockweiler Drive is constructed on the existing curve alignment at Arch Street & 13th Street.

The second summary shows the trucks associated with Future Base volumes. These are derived from the 1.4% truck percentage counted along the Railroad Avenue corridor but reduced by 50% to reflect the local nature of the trucks into/out of Placerita Canyon. These truck volumes are included in the first set of Future Base volumes.

The third set of numbers shows the Project volumes with Gate 3 changed to an exit only operation.

The fourth set shows the Project trucks through the Dockweiler/Arch Street corridor, based on a projection of daily and hourly trucks to/from the Project site. A total of 6.4% of the Project volumes would be trucks, including 1.8% large trucks (mostly WB-40s with one or two WB-67s per week) and 4.6% smaller trucks (SU and stake trucks). Again, these truck volumes are included in the Project Trip totals.

The fifth set of numbers represents the total trucks through the study intersections, representing the Future Base + Project trucks.

The last set of numbers represents the total Future Trips with Project through the intersections and are the volumes used to test the LOS of the two roadway alternatives.

LOS RESULTS

Capacity Calculations

Tables 1 and 2 present a summary of the LOS capacity calculation results for the two Alternates. The worksheets for the analyses are presented in the Attachment.

The key intersection of Dockweiler/Arch Street operates at LOS C in both the morning and afternoon peak periods for both Alternates.

Railroad Avenue & 13th Street operates at LOS B in the morning and LOS C in the afternoon peak hour for both Alternates.

Dockweiler Drive & Arch Street & 12th Street operates at LOS C in the morning and LOS D in the afternoon for both Alternates as more Project traffic leaves Gate 3 and has to turn left or right at the intersection. The LOS is also affected by more Project traffic heading north to Gates 1 and 2 with Gate 3 no longer an entrance to the Project.

At Dockweiler Drive & Placerita Canyon Road, both Alternates operate at LOS B in the morning and LOS C in the afternoon.

Queuing Analysis

The queuing analyses for Dockweiler/Arch Street (Intersection 16) show an advantage for Alternate 2 with a smaller queue for the northbound dual left turns without the split phase needed for Alternate 1.

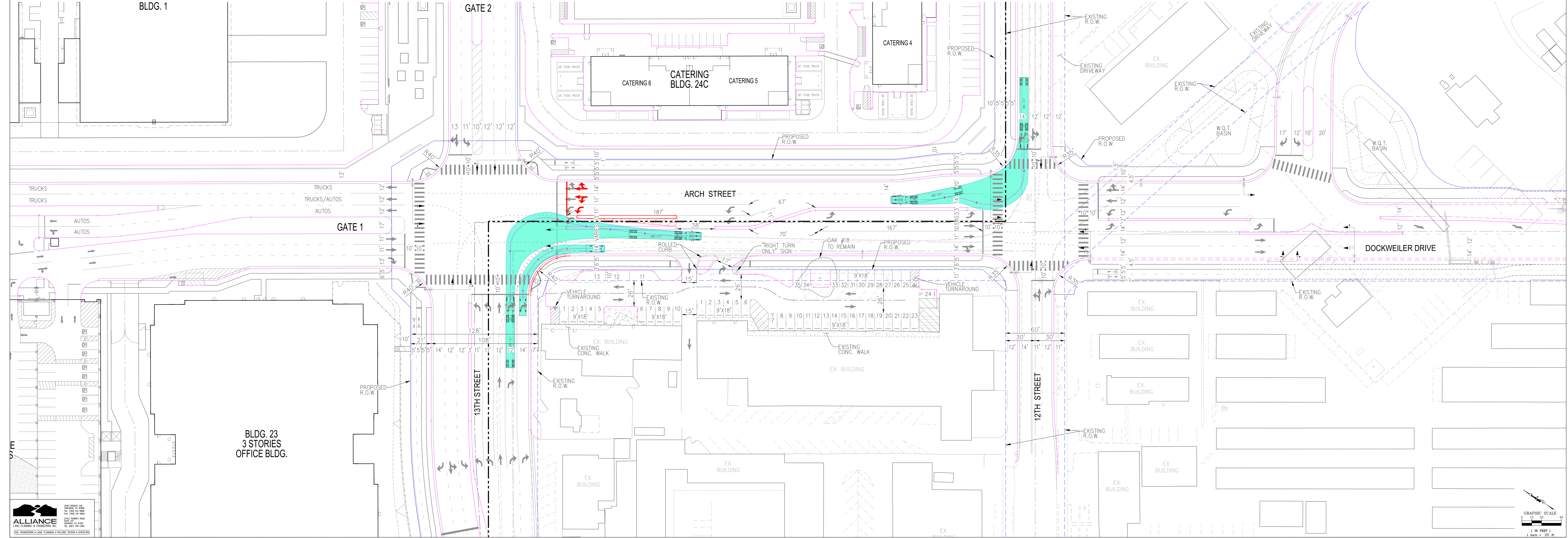
The queue lengths for the left turns at the intersections operating at LOS B or C may be able to be reduced through signal timing adjustments, especially in the afternoon peak hour. Alternate 2 will likely have more flexibility to adjust signal timing because the intersection of Arch Street & 13th Street does not need the north-south split phase that Alternate 1 requires.

CONCLUSION

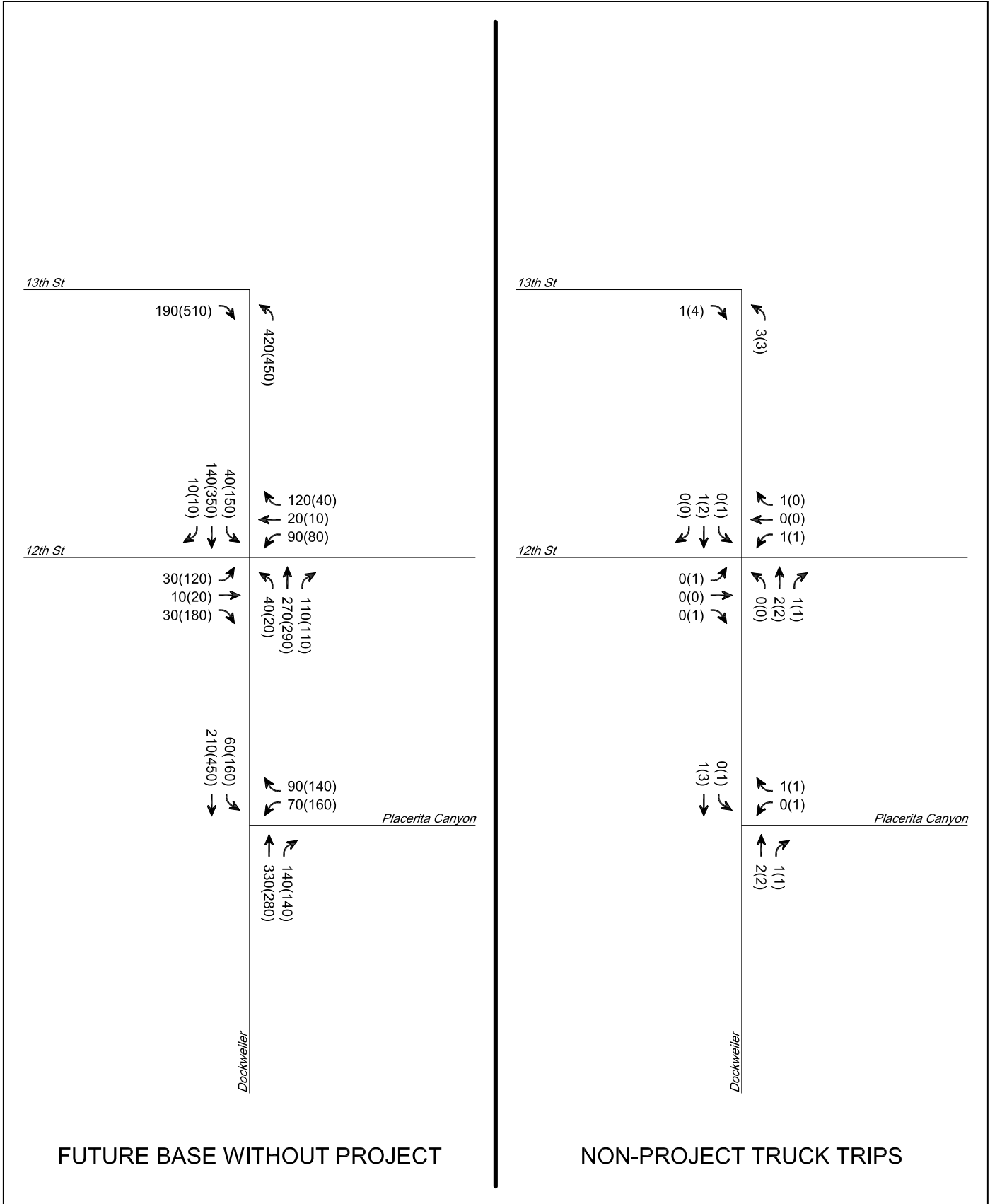
The Dockweiler / Arch Street corridor has the capacity to accommodate the future traffic levels even if the Project Gate 3 is limited to an exit only operation.

Alternate 2 with dual northbound left-turn lanes and a single optional through/right-turn movement from a single northbound lane performs better than Alternate 1 because Alternate 1 needs a north-south split phase to accommodate the optional northbound through/left shared lane.

SHADOWBOX STUDIOS-SANTA CLARITA
ARCH STREET LANE ADJUSTMENT CONCEPT (13TH STREET WB-67/AUTO RIGHT TURN)
 2/16/23

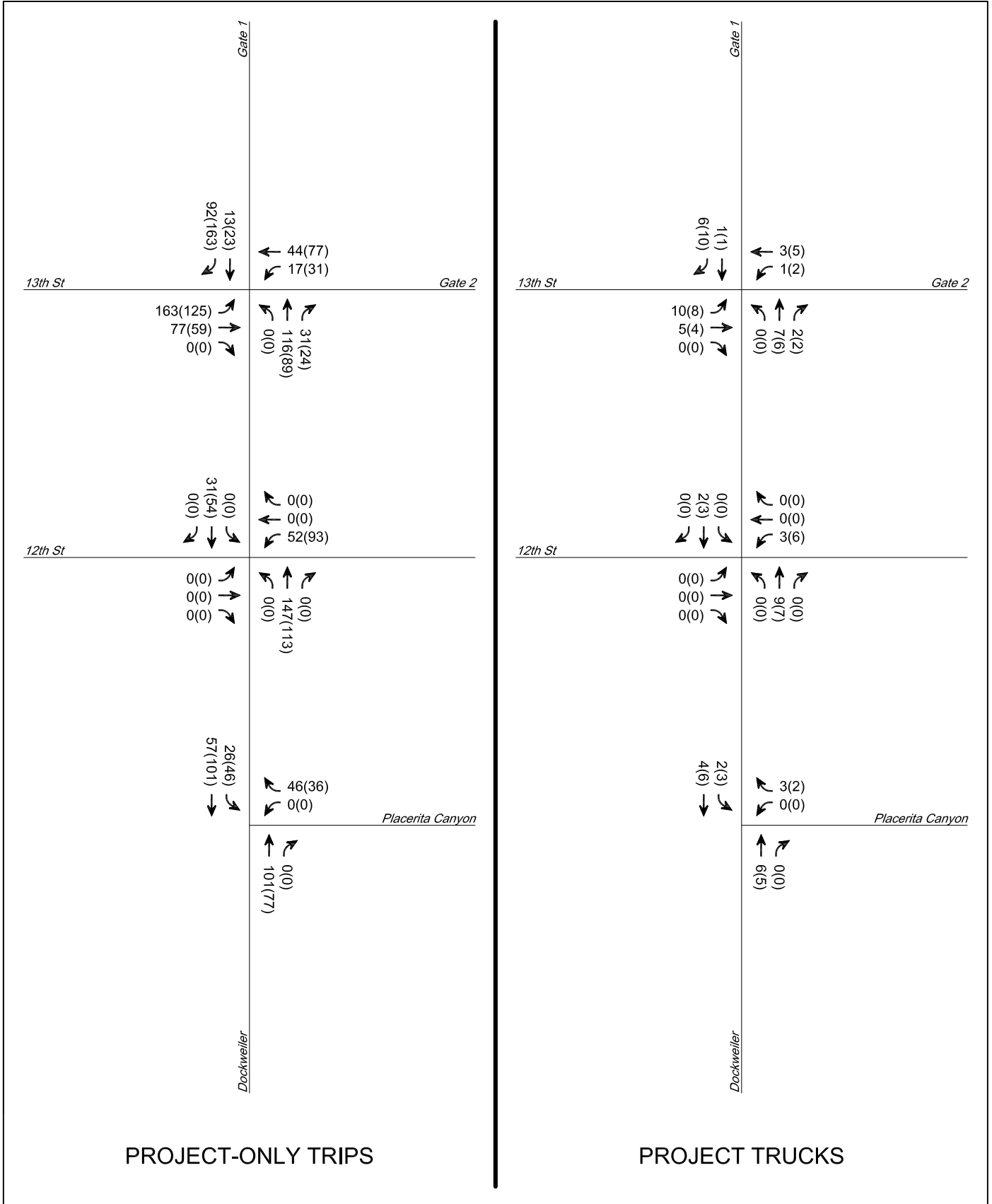


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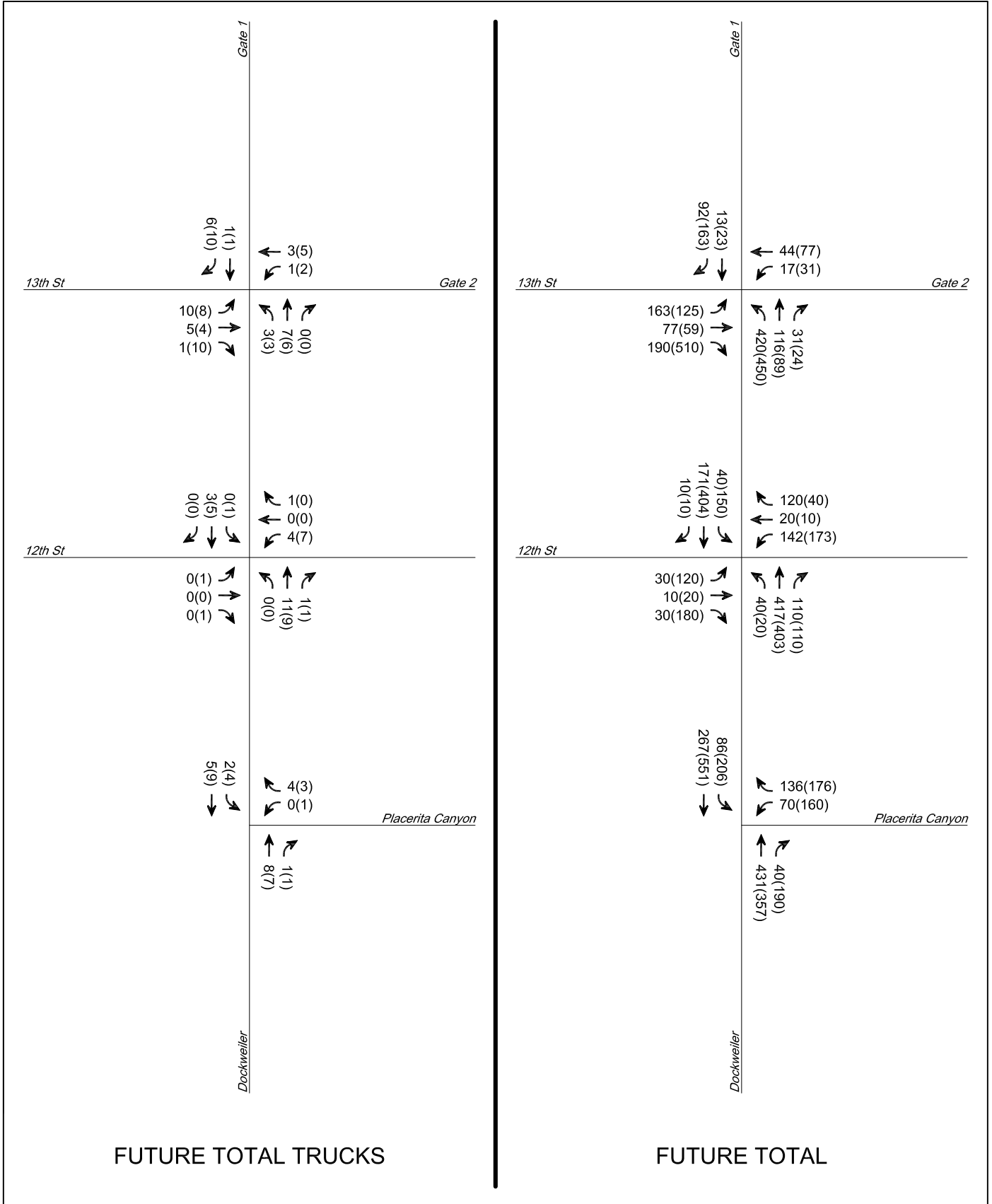
DOCKWEILER / ARCH ST CORRIDOR TRAFFIC VOLUMES

FIGURE 2A



DOCKWEILER / ARCH ST CORRIDOR TRAFFIC VOLUMES

FIGURE 2B



DOCKWEILER / ARCH ST CORRIDOR TRAFFIC VOLUMES

FIGURE 2C

**TABLE 1
FUTURE CONDITIONS 2028
LANE CONFIGURATION AND SPLIT PHASE -- ALTERNATE 1**

No.	Intersection	Control Type	Peak Hour	Future without Studio Conditions (Year 2028)		Future with Studio Conditions Alt. 1 -- (Year 2028)		
				Delay	Delay LOS	Delay	Delay LOS	Change in Delay
5.	Railroad Avenue & 13th Street	Signal	A.M.	10.2	B	14.1	B	3.9
			P.M.	13.7	B	21.6	C	7.9
16.	Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2	Signal	A.M.	New Intersection		29.6	C	N/A
			P.M.			28.2	C	N/A
17.	Arch Street & 12th Street & Dockweiler Drive	Signal	A.M.	24.1	C	31.2	C	7.1
			P.M.	25.0	C	35.5	D	10.5
18.	Dockweiler Drive & Placerita Canyon Road	Signal	A.M.	17.0	B	17.8	B	0.8
			P.M.	19.5	B	32.4	C	12.9

**TABLE 2
FUTURE CONDITIONS 2028
LANE CONFIGURATION -- ALTERNATE 2**

No.	Intersection	Control Type	Peak Hour	Future without Studio Conditions (Year 2028)		Future with Studio Conditions Alt. 2 -- (Year 2028)		
				Delay	Delay LOS	Delay	Delay LOS	Change in Delay
5.	Railroad Avenue & 13th Street	Signal	A.M.	10.2	B	13.5	B	3.3
			P.M.	13.7	B	20.5	C	6.8
16.	Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2	Signal	A.M.	New Intersection		25.4	C	N/A
			P.M.			21.6	C	N/A
17.	Arch Street & 12th Street & Dockweiler Drive	Signal	A.M.	24.1	C	32.4	C	8.3
			P.M.	25.0	C	36.4	D	11.4
18.	Dockweiler Drive & Placerita Canyon Road	Signal	A.M.	17.0	B	18.4	B	1.4
			P.M.	19.5	B	33.1	C	13.6

**TABLE 3
FUTURE CONDITIONS WITH DOCKWEILER DRIVE EXTENSION PROJECT (YEAR 2028)
INTERSECTION QUEUES**

Intersection	Turn Pocket Length	Peak Hour	Queue Length					
			With Alt. 1 Lane Modification + Split Phase			With Alt. 2 Lane Modification		
			Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length	Future without Project Conditions	Future with Project Conditions	Project Contribution to Queue Length
Intersection #5, Railroad Avenue & 13th Street								
Westbound Left-Turn [a][b] <i>from 13th Street to Railroad Avenue</i>	280	A.M.	37	99	62	37	94	57
		P.M.	76	164	88	76	145	69
Northbound Left-Turn <i>from Railroad Avenue to 13th Street</i>	100	A.M.	25	29	4	25	29	4
		P.M.	13	29	16	13	29	16
Southbound Left-Turn <i>from Railroad Avenue to 13th Street</i>	160	A.M.	138	171	33	138	171	33
		P.M.	234	236	2	234	236	2
Intersection #16, Arch Street & 13th Street & Project Driveway #1 & Project Driveway #2								
Eastbound Left-Turn [b] <i>from 13th Street to 13th Street Driveway 1</i>	200	A.M.	N/A	119	N/A	N/A	119	N/A
		P.M.		94			61	
Westbound Left-Turn [b] <i>from 13th Street Driveway 2 to Arch Street</i>	100	A.M.		40			40	
		P.M.		61			28	
Northbound Left-Turn [b] <i>from Arch Street to 13th Street</i>	300	A.M.		248			131	
		P.M.		239			180	
Intersection #17, Arch Street & 12th Street & Dockweiler Drive								
Northbound Left-Turn [b] <i>from Dockwiler Drive to 12th Street</i>	150	A.M.	59	68	9	59	68	9
		P.M.	50	41	-9	50	41	-9
Southbound Left-Turn [b] <i>from Arch Street to 12th Street</i>	215	A.M.	53	73	20	53	77	24
		P.M.	156	212	56	156	220	64
Intersection #18, Dockweiler Drive & Placerita Canyon Road								
Westbound Right-Turn [b] <i>from Placerita Canyon Road to Dockweiler Drive</i>	150	A.M.	36	65	29	36	65	29
		P.M.	41	66	25	41	66	25
Southbound Left-Turn [b] <i>from Dockwiler Drive to Placerita Canyon Road</i>	340	A.M.	72	110	38	72	113	41
		P.M.	167	218	51	167	268	101

Notes:

All lengths shown in feet based on 25 feet per vehicle. Queues based on 95th percentile queue calculated by the HCM methodology.

[a] The travel lane ends in a left-turn pocket, and therefore the queue does not block through traffic.

[b] Estimated distance as turn lane has not yet been constructed



ATTACHMENT






















CAPACITY CALCULATION WORKSHEETS



***ALTERNATE 1
AM PEAK HOUR***

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

04/03/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	125	0	430	10	1060	181	289	1580	0
Future Volume (vph)	0	0	0	125	0	430	10	1060	181	289	1580	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	100		100	100		0
Storage Lanes	0		0	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor				0.99			1.00		0.95	0.99		
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1863	0	3433	0	1531	1770	3539	1583	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	1863	0	3398	0	1531	1761	3539	1506	3407	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						467			110			
Link Speed (mph)		25			35			45				45
Link Distance (ft)		183			612			2880				3196
Travel Time (s)		5.0			11.9			43.6				48.4
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	136	0	467	11	1152	197	314	1717	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	136	0	467	11	1152	197	314	1717	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		48			48			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1		1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50		50	50	50	50	50	50	
Trailing Detector (ft)	0	0		0		0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0		0	0	0	0	0	0	
Detector 1 Size(ft)	50	50		50		50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type				Prot		custom	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3		9 11!	5	2!	3	1	6	
Permitted Phases	4								2			
Detector Phase	4	4		3		9 11	5	2	3	1	6	
Switch Phase												

Lanes, Volumes, Timings
 5: Railroad Avenue & 13th Street

04/03/2023

Lane Group	Ø8	Ø9	Ø10	Ø11
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Turn Type				
Protected Phases	8	9	10	11
Permitted Phases				
Detector Phase				
Switch Phase				

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

04/03/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		10.0			9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)	15.0	15.0		15.0			14.0	23.5	15.0	14.0	25.0	
Total Split (s)	15.0	15.0		36.0			15.0	51.0	36.0	30.0	66.0	
Total Split (%)	11.4%	11.4%		27.3%			11.4%	38.6%	27.3%	22.7%	50.0%	
Maximum Green (s)	11.0	11.0		31.0			10.0	45.5	31.0	25.0	60.5	
Yellow Time (s)	3.5	3.5		4.0			4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)	0.5	0.5		1.0			1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.0		-1.0			-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)		3.0		4.0			4.5	3.5	4.0	4.5	3.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None			None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				12.2		132.0	9.5	82.3	94.0	25.5	109.5	
Actuated g/C Ratio				0.09		1.00	0.07	0.62	0.71	0.19	0.83	
v/c Ratio				0.43		0.31	0.09	0.52	0.18	0.47	0.59	
Control Delay				78.6		4.2	59.0	15.1	2.5	50.0	5.5	
Queue Delay				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay				78.6		4.2	59.0	15.1	2.5	50.0	5.5	
LOS				E		A	E	B	A	D	A	
Approach Delay					21.0			13.6			12.4	
Approach LOS					C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay: 14.1 Intersection LOS: B
 Intersection Capacity Utilization 71.9% ICU Level of Service C
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & 13th Street



Lane Group	Ø8	Ø9	Ø10	Ø11
Minimum Initial (s)	7.0	9.0	4.0	4.0
Minimum Split (s)	31.0	14.0	15.0	8.0
Total Split (s)	36.0	81.0	15.0	36.0
Total Split (%)	27%	61%	11%	27%
Maximum Green (s)	33.0	76.0	13.0	32.0
Yellow Time (s)	2.0	4.0	2.0	3.5
All-Red Time (s)	1.0	1.0	0.0	0.5
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0		7.0	
Flash Dont Walk (s)	21.0		6.0	
Pedestrian Calls (#/hr)	0		0	
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Intersection Summary				

Queues

5: Railroad Avenue & 13th Street

04/03/2023



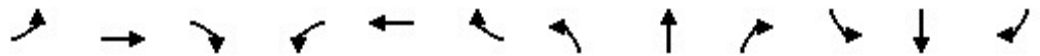
Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	136	467	11	1152	197	314	1717
v/c Ratio	0.43	0.31	0.09	0.52	0.18	0.47	0.59
Control Delay	78.6	4.2	59.0	15.1	2.5	50.0	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.6	4.2	59.0	15.1	2.5	50.0	5.5
Queue Length 50th (ft)	63	150	9	269	18	124	159
Queue Length 95th (ft)	99	178	29	346	39	171	434
Internal Link Dist (ft)				2800			3116
Turn Bay Length (ft)			100		100	100	
Base Capacity (vph)	832	1531	140	2206	1165	663	2935
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.31	0.08	0.52	0.17	0.47	0.59

Intersection Summary

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	77	190	17	44	0	420	116	31	0	13	92
Future Volume (vph)	163	77	190	17	44	0	420	116	31	0	13	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00
Frt			0.850					0.987				0.850
Flt Protected	0.950			0.950			0.950	0.971				
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	1610	3249	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950	0.971				
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	1610	3249	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			207					7				100
Link Speed (mph)		35			30			25				30
Link Distance (ft)		612			408			505				500
Travel Time (s)		11.9			9.3			13.8				11.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	84	207	18	48	0	457	126	34	0	14	100
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	177	84	207	18	48	0	228	389	0	0	14	100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Over	Prot	NA		Split	NA			NA	Over
Protected Phases	3	8	2	7	4		2	2			6	3
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

04/03/2023

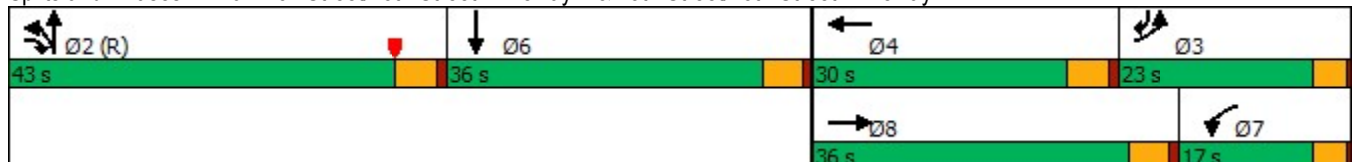


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	8	2	7	4		2	2			6	3
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0		10.0	10.0			10.0	4.0
Minimum Split (s)	8.0	23.0	23.0	8.0	23.0		23.0	23.0			30.0	8.0
Total Split (s)	23.0	36.0	43.0	17.0	30.0		43.0	43.0			36.0	23.0
Total Split (%)	17.4%	27.3%	32.6%	12.9%	22.7%		32.6%	32.6%			27.3%	17.4%
Maximum Green (s)	19.0	31.0	38.0	13.0	25.0		38.0	38.0			31.0	19.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lead		Lag	Lead							Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	C-Max	None	None		C-Max	C-Max			Max	None
Walk Time (s)		7.0	7.0		7.0		7.0	7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0			18.0	
Pedestrian Calls (#/hr)		0	0		0		0	0			0	
Act Effct Green (s)	12.6	17.9	62.0	8.1	10.4		62.0	62.0			31.0	12.6
Actuated g/C Ratio	0.10	0.14	0.47	0.06	0.08		0.47	0.47			0.23	0.10
v/c Ratio	0.54	0.33	0.15	0.17	0.33		0.30	0.25			0.02	0.41
Control Delay	48.3	35.0	23.6	60.5	63.6		25.6	23.0			39.0	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	48.3	35.0	23.6	60.5	63.6		25.6	23.0			39.0	15.3
LOS	D	C	C	E	E		C	C			D	B
Approach Delay		35.0			62.7			24.0			18.3	
Approach LOS		D			E			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 29.6
 Intersection LOS: C
 Intersection Capacity Utilization 38.0%
 ICU Level of Service A
 Analysis Period (min) 15

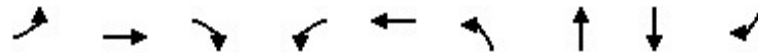
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	177	84	207	18	48	228	389	14	100
v/c Ratio	0.54	0.33	0.15	0.17	0.33	0.30	0.25	0.02	0.41
Control Delay	48.3	35.0	23.6	60.5	63.6	25.6	23.0	39.0	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.3	35.0	23.6	60.5	63.6	25.6	23.0	39.0	15.3
Queue Length 50th (ft)	80	68	40	15	40	187	157	4	0
Queue Length 95th (ft)	119	123	84	40	81	248	186	14	54
Internal Link Dist (ft)		532			328		425	420	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	494	437	1418	174	352	756	1529	831	313
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.19	0.15	0.10	0.14	0.30	0.25	0.02	0.32

Intersection Summary

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Traffic Volume (vph)	30	10	30	142	20	120	40	417	110	40	171	10
Future Volume (vph)	30	10	30	142	20	120	40	417	110	40	171	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	200		0
Storage Lanes	0		1	0		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Frt			0.850			0.850		0.969			0.992	
Flt Protected		0.964			0.958		0.950			0.950		
Satd. Flow (prot)	0	1796	1583	0	1785	1583	1770	3429	0	1770	5045	0
Flt Permitted		0.637			0.721		0.950			0.950		
Satd. Flow (perm)	0	1187	1583	0	1343	1583	1770	3429	0	1770	5045	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			130		37			10	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		391			842			164			505	
Travel Time (s)		10.7			23.0			2.5			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	11	33	154	22	130	43	453	120	43	186	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	33	0	176	130	43	573	0	43	197	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4			1	6		5	2
Permitted Phases	8		8	4		4						

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

04/03/2023

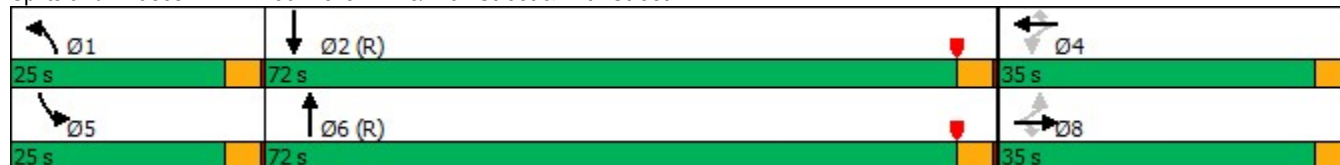


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	8.0	20.0		20.0	20.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0	35.0	25.0	72.0		25.0	72.0	
Total Split (%)	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	18.9%	54.5%		18.9%	54.5%	
Maximum Green (s)	31.0	31.0	31.0	31.0	31.0	31.0	21.0	68.0		21.0	68.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		8.0			8.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		22.5	22.5		22.5	22.5	8.6	68.0		29.5	90.8	
Actuated g/C Ratio		0.17	0.17		0.17	0.17	0.07	0.52		0.22	0.69	
v/c Ratio		0.22	0.11		0.77	0.34	0.37	0.32		0.11	0.06	
Control Delay		47.0	9.7		73.0	9.3	63.4	23.0		49.5	2.9	
Queue Delay		0.0	0.0		0.0	0.0	0.1	6.2		0.0	0.0	
Total Delay		47.0	9.7		73.1	9.3	63.5	29.2		49.5	2.9	
LOS		D	A		E	A	E	C		D	A	
Approach Delay		31.0			46.0			31.6			11.2	
Approach LOS		C			D			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 92 (70%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 31.2
 Intersection LOS: C
 Intersection Capacity Utilization 44.0%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 17: Dockweiler Drive/Arch Street & 12th Street



Queues

17: Dockweiler Drive/Arch Street & 12th Street

04/03/2023



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	44	33	176	130	43	573	43	197
v/c Ratio	0.22	0.11	0.77	0.34	0.37	0.32	0.11	0.06
Control Delay	47.0	9.7	73.0	9.3	63.4	23.0	49.5	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.1	6.2	0.0	0.0
Total Delay	47.0	9.7	73.1	9.3	63.5	29.2	49.5	2.9
Queue Length 50th (ft)	33	0	145	0	36	205	34	5
Queue Length 95th (ft)	65	22	214	52	68	204	73	13
Internal Link Dist (ft)	311		762			84		425
Turn Bay Length (ft)							200	
Base Capacity (vph)	278	403	315	471	281	1784	395	3471
Starvation Cap Reductn	0	0	0	0	44	1144	0	0
Spillback Cap Reductn	0	3	2	0	0	0	0	79
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.08	0.56	0.28	0.18	0.90	0.11	0.06

Intersection Summary

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

04/03/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø2	Ø9
Lane Configurations								
Traffic Volume (vph)	70	136	431	140	86	267		
Future Volume (vph)	70	136	431	140	86	267		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	100	0		0	0			
Storage Lanes	1	1		0	1			
Taper Length (ft)	25				25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95		
Frt		0.850	0.967					
Flt Protected	0.950				0.950			
Satd. Flow (prot)	1770	1583	1801	0	1770	3539		
Flt Permitted	0.950				0.950			
Satd. Flow (perm)	1770	1583	1801	0	1770	3539		
Right Turn on Red		Yes		Yes				
Satd. Flow (RTOR)		148	19					
Link Speed (mph)	30		45			45		
Link Distance (ft)	550		354			164		
Travel Time (s)	12.5		5.4			2.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	76	148	468	152	93	290		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	76	148	620	0	93	290		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Right	Left	Left		
Median Width(ft)	12		12			12		
Link Offset(ft)	0		0			0		
Crosswalk Width(ft)	16		16			16		
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9		9	15			
Number of Detectors	1	1	2		1	2		
Detector Template	Left	Right	Thru		Left	Thru		
Leading Detector (ft)	20	20	100		20	100		
Trailing Detector (ft)	0	0	0		0	0		
Detector 1 Position(ft)	0	0	0		0	0		
Detector 1 Size(ft)	20	20	6		20	6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel								
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0		
Detector 2 Position(ft)			94			94		
Detector 2 Size(ft)			6			6		
Detector 2 Type			Cl+Ex			Cl+Ex		
Detector 2 Channel								
Detector 2 Extend (s)			0.0			0.0		
Turn Type	Prot	Perm	NA		Prot	NA		
Protected Phases	4!		6		5	2 9!	2	9
Permitted Phases		4						

Lanes, Volumes, Timings

18: Dockweiler Drive & Placerita Canyon Road

04/03/2023

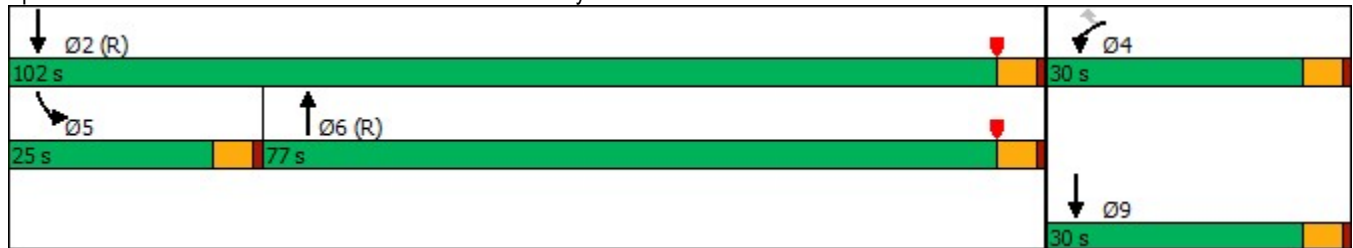


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø2	Ø9
Detector Phase	4	4	6		5	2 9		
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0		4.0		4.0	4.0
Minimum Split (s)	30.0	30.0	23.0		9.0		23.0	23.0
Total Split (s)	30.0	30.0	77.0		25.0		102.0	30.0
Total Split (%)	22.7%	22.7%	58.3%		18.9%		77%	23%
Maximum Green (s)	25.0	25.0	72.0		20.0		97.0	25.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0			
Total Lost Time (s)	5.0	5.0	5.0		5.0			
Lead/Lag			Lag		Lead			
Lead-Lag Optimize?			Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0
Recall Mode	None	None	C-Min		None		C-Min	None
Walk Time (s)			7.0					
Flash Dont Walk (s)			11.0					
Pedestrian Calls (#/hr)			0					
Act Effect Green (s)	11.0	11.0	93.7		12.3	132.0		
Actuated g/C Ratio	0.08	0.08	0.71		0.09	1.00		
v/c Ratio	0.51	0.55	0.48		0.57	0.08		
Control Delay	69.4	16.4	10.6		71.8	0.0		
Queue Delay	0.0	0.2	1.0		2.2	0.0		
Total Delay	69.4	16.6	11.6		74.0	0.0		
LOS	E	B	B		E	A		
Approach Delay	34.5		11.6			18.0		
Approach LOS	C		B			B		

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.57
 Intersection Signal Delay: 17.8
 Intersection LOS: B
 Intersection Capacity Utilization 52.3%
 ICU Level of Service A
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

04/03/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	76	148	620	93	290
v/c Ratio	0.51	0.55	0.48	0.57	0.08
Control Delay	69.4	16.4	10.6	71.8	0.0
Queue Delay	0.0	0.2	1.0	2.2	0.0
Total Delay	69.4	16.6	11.6	74.0	0.0
Queue Length 50th (ft)	63	0	204	71	0
Queue Length 95th (ft)	113	65	359	110	0
Internal Link Dist (ft)	470		274		84
Turn Bay Length (ft)	100				
Base Capacity (vph)	335	419	1283	268	3539
Starvation Cap Reductn	0	0	0	89	0
Spillback Cap Reductn	0	32	396	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.23	0.38	0.70	0.52	0.08

Intersection Summary



***ALTERNATE 1
PM PEAK HOUR***

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔		↔	↔	↕	↔	↔	↕	↕
Traffic Volume (vph)	0	0	0	251	0	439	10	1560	296	398	1610	0
Future Volume (vph)	0	0	0	251	0	439	10	1560	296	398	1610	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	100		100	100		0
Storage Lanes	0		0	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor				0.99			1.00		0.95	1.00		
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1863	0	3433	0	1531	1770	3539	1583	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	1863	0	3398	0	1531	1762	3539	1506	3421	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						477			122			
Link Speed (mph)		25			35			45				45
Link Distance (ft)		183			612			2880				3196
Travel Time (s)		5.0			11.9			43.6				48.4
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	273	0	477	11	1696	322	433	1750	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	273	0	477	11	1696	322	433	1750	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		48			48			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1		1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50		50	50	50	50	50	50	
Trailing Detector (ft)	0	0		0		0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0		0	0	0	0	0	0	
Detector 1 Size(ft)	50	50		50		50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type				Prot		custom	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3		9 11!	5	2!	3	1	6	
Permitted Phases	4								2			
Detector Phase	4	4		3		9 11	5	2	3	1	6	
Switch Phase												

Lanes, Volumes, Timings
 5: Railroad Avenue & 13th Street

04/03/2023

Lane Group	Ø8	Ø9	Ø10	Ø11
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Turn Type				
Protected Phases	8	9	10	11
Permitted Phases				
Detector Phase				
Switch Phase				

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

04/03/2023

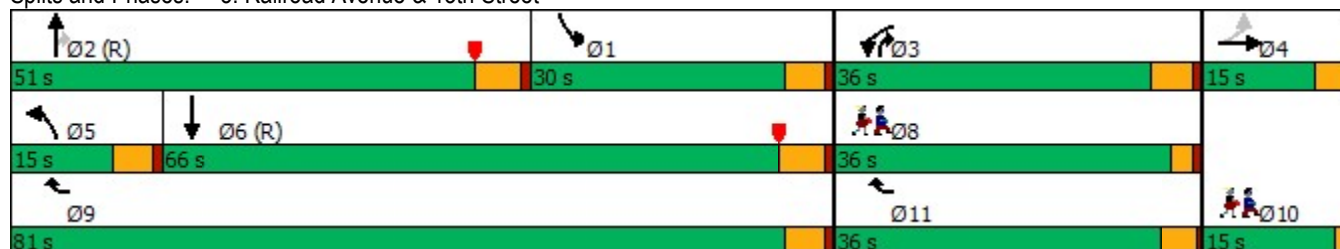


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		10.0			9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)	15.0	15.0		15.0			14.0	23.5	15.0	14.0	25.0	
Total Split (s)	15.0	15.0		36.0			15.0	51.0	36.0	30.0	66.0	
Total Split (%)	11.4%	11.4%		27.3%			11.4%	38.6%	27.3%	22.7%	50.0%	
Maximum Green (s)	11.0	11.0		31.0			10.0	45.5	31.0	25.0	60.5	
Yellow Time (s)	3.5	3.5		4.0			4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)	0.5	0.5		1.0			1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.0		-1.0			-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)		3.0		4.0			4.5	3.5	4.0	4.5	3.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None			None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effect Green (s)				17.2		132.0	9.5	77.3	94.0	25.5	104.5	
Actuated g/C Ratio				0.13		1.00	0.07	0.59	0.71	0.19	0.79	
v/c Ratio				0.61		0.31	0.09	0.82	0.29	0.65	0.62	
Control Delay				77.0		2.6	59.0	26.6	3.9	54.5	8.2	
Queue Delay				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay				77.0		2.6	59.0	26.6	3.9	54.5	8.2	
LOS				E		A	E	C	A	D	A	
Approach Delay						29.7		23.1			17.4	
Approach LOS						C		C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 21.6
 Intersection LOS: C
 Intersection Capacity Utilization 79.3%
 ICU Level of Service D
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & 13th Street



Lanes, Volumes, Timings
 5: Railroad Avenue & 13th Street

04/03/2023

Lane Group	Ø8	Ø9	Ø10	Ø11
Minimum Initial (s)	7.0	9.0	4.0	4.0
Minimum Split (s)	31.0	14.0	15.0	8.0
Total Split (s)	36.0	81.0	15.0	36.0
Total Split (%)	27%	61%	11%	27%
Maximum Green (s)	33.0	76.0	13.0	32.0
Yellow Time (s)	2.0	4.0	2.0	3.5
All-Red Time (s)	1.0	1.0	0.0	0.5
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0		7.0	
Flash Dont Walk (s)	21.0		6.0	
Pedestrian Calls (#/hr)	0		0	
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Intersection Summary				

Queues

5: Railroad Avenue & 13th Street

04/03/2023



Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	273	477	11	1696	322	433	1750
v/c Ratio	0.61	0.31	0.09	0.82	0.29	0.65	0.62
Control Delay	77.0	2.6	59.0	26.6	3.9	54.5	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.0	2.6	59.0	26.6	3.9	54.5	8.2
Queue Length 50th (ft)	125	106	9	574	45	178	232
Queue Length 95th (ft)	164	95	29	753	75	236	560
Internal Link Dist (ft)				2800			3116
Turn Bay Length (ft)			100		100	100	
Base Capacity (vph)	832	1531	140	2073	1168	663	2802
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.31	0.08	0.82	0.28	0.65	0.62

Intersection Summary

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

04/03/2023

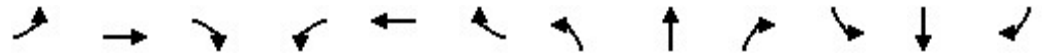


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	59	510	31	77	0	450	89	24	0	23	163
Future Volume (vph)	125	59	510	31	77	0	450	89	24	0	23	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00
Frt			0.850					0.989				0.850
Flt Protected	0.950			0.950			0.950	0.968				
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	1610	3246	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950	0.968				
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	1610	3246	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			554					6				177
Link Speed (mph)		35			30			25				30
Link Distance (ft)		612			408			505				500
Travel Time (s)		11.9			9.3			13.8				11.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	64	554	34	84	0	489	97	26	0	25	177
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	136	64	554	34	84	0	244	368	0	0	25	177
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Over	Prot	NA		Split	NA			NA	Over
Protected Phases	3	8	2	7	4		2	2			6	3
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

04/03/2023

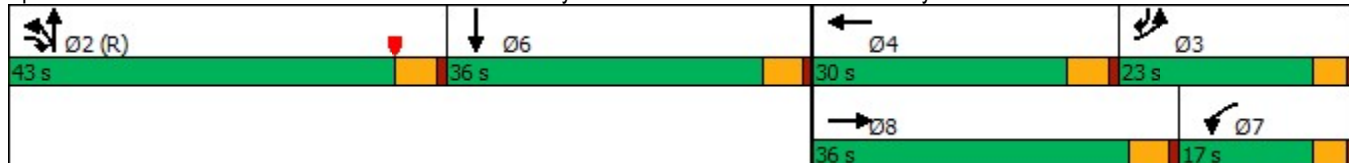


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	8	2	7	4		2	2			6	3
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0		10.0	10.0			10.0	4.0
Minimum Split (s)	8.0	23.0	23.0	8.0	23.0		23.0	23.0			30.0	8.0
Total Split (s)	23.0	36.0	43.0	17.0	30.0		43.0	43.0			36.0	23.0
Total Split (%)	17.4%	27.3%	32.6%	12.9%	22.7%		32.6%	32.6%			27.3%	17.4%
Maximum Green (s)	19.0	31.0	38.0	13.0	25.0		38.0	38.0			31.0	19.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lead		Lag	Lead							Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	C-Max	None	None		C-Max	C-Max			Max	None
Walk Time (s)		7.0	7.0		7.0		7.0	7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0			18.0	
Pedestrian Calls (#/hr)		0	0		0		0	0			0	
Act Effct Green (s)	10.6	13.7	59.4	14.0	12.0		59.4	59.4			31.0	10.6
Actuated g/C Ratio	0.08	0.10	0.45	0.11	0.09		0.45	0.45			0.23	0.08
v/c Ratio	0.49	0.33	0.36	0.18	0.50		0.34	0.25			0.03	0.61
Control Delay	49.6	38.6	22.1	57.2	66.9		25.5	22.6			39.2	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	49.6	38.6	22.1	57.2	66.9		25.5	22.6			39.2	17.3
LOS	D	D	C	E	E		C	C			D	B
Approach Delay		28.4			64.1			23.7			20.0	
Approach LOS		C			E			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	0 (0%), Referenced to phase 2:NBT, Start of Yellow
Natural Cycle:	85
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.61
Intersection Signal Delay:	28.2
Intersection LOS:	C
Intersection Capacity Utilization:	42.6%
ICU Level of Service:	A
Analysis Period (min):	15

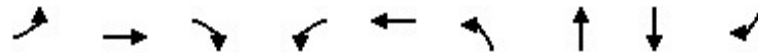
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	136	64	554	34	84	244	368	25	177
v/c Ratio	0.49	0.33	0.36	0.18	0.50	0.34	0.25	0.03	0.61
Control Delay	49.6	38.6	22.1	57.2	66.9	25.5	22.6	39.2	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.6	38.6	22.1	57.2	66.9	25.5	22.6	39.2	17.3
Queue Length 50th (ft)	62	53	134	28	70	176	130	8	0
Queue Length 95th (ft)	m94	m89	168	61	122	m239	m161	21	71
Internal Link Dist (ft)		532			328		425	420	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	494	437	1559	207	352	724	1464	831	379
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.15	0.36	0.16	0.24	0.34	0.25	0.03	0.47

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Traffic Volume (vph)	120	20	180	173	10	40	20	403	110	150	404	10
Future Volume (vph)	120	20	180	173	10	40	20	403	110	150	404	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	200		0
Storage Lanes	0		1	0		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Frt			0.850			0.850		0.968			0.996	
Flt Protected		0.959			0.955		0.950			0.950		
Satd. Flow (prot)	0	1786	1583	0	1779	1583	1770	3426	0	1770	5065	0
Flt Permitted		0.437			0.513		0.950			0.950		
Satd. Flow (perm)	0	814	1583	0	956	1583	1770	3426	0	1770	5065	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196			43		39			4	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		391			842			164			505	
Travel Time (s)		10.7			23.0			2.5			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	22	196	188	11	43	22	438	120	163	439	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	152	196	0	199	43	22	558	0	163	450	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4			1	6		5	2
Permitted Phases	8		8	4		4						

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

04/03/2023

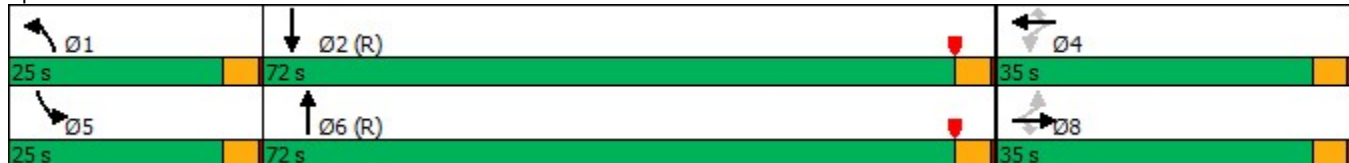


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	8.0	22.0		20.0	22.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0	35.0	25.0	72.0		25.0	72.0	
Total Split (%)	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	18.9%	54.5%		18.9%	54.5%	
Maximum Green (s)	31.0	31.0	31.0	31.0	31.0	31.0	21.0	68.0		21.0	68.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		8.0			8.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		29.1	29.1		29.1	29.1	7.2	68.0		22.9	87.6	
Actuated g/C Ratio		0.22	0.22		0.22	0.22	0.05	0.52		0.17	0.66	
v/c Ratio		0.85	0.39		0.95	0.11	0.23	0.31		0.53	0.13	
Control Delay		86.1	7.8		99.8	11.9	74.5	17.7		62.6	7.8	
Queue Delay		0.0	0.2		8.5	0.0	0.0	2.3		0.0	0.0	
Total Delay		86.1	8.0		108.4	11.9	74.5	19.9		62.6	7.8	
LOS		F	A		F	B	E	B		E	A	
Approach Delay		42.1			91.2			22.0			22.4	
Approach LOS		D			F			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 92 (70%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 35.5
 Intersection LOS: D
 Intersection Capacity Utilization 49.7%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 17: Dockweiler Drive/Arch Street & 12th Street



Queues

17: Dockweiler Drive/Arch Street & 12th Street

04/03/2023















Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	152	196	199	43	22	558	163	450
v/c Ratio	0.85	0.39	0.95	0.11	0.23	0.31	0.53	0.13
Control Delay	86.1	7.8	99.8	11.9	74.5	17.7	62.6	7.8
Queue Delay	0.0	0.2	8.5	0.0	0.0	2.3	0.0	0.0
Total Delay	86.1	8.0	108.4	11.9	74.5	19.9	62.6	7.8
Queue Length 50th (ft)	123	0	166	0	16	185	138	19
Queue Length 95th (ft)	#243	62	#313	31	m41	72	212	77
Internal Link Dist (ft)	311		762			84		425
Turn Bay Length (ft)							200	
Base Capacity (vph)	191	521	224	404	281	1783	306	3362
Starvation Cap Reductn	0	0	0	0	0	1057	0	0
Spillback Cap Reductn	0	59	14	0	0	0	0	891
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.42	0.95	0.11	0.08	0.77	0.53	0.18

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
18: Dockweiler Drive & Placerita Canyon Road

04/03/2023

														
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø2	Ø9						
Lane Configurations														
Traffic Volume (vph)	160	176	357	140	206	551								
Future Volume (vph)	160	176	357	140	206	551								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900								
Storage Length (ft)	100	0		0	0									
Storage Lanes	1	1		0	1									
Taper Length (ft)	25				25									
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95								
Frt		0.850	0.962											
Flt Protected	0.950				0.950									
Satd. Flow (prot)	1770	1583	1792	0	1770	3539								
Flt Permitted	0.950				0.950									
Satd. Flow (perm)	1770	1583	1792	0	1770	3539								
Right Turn on Red		Yes		Yes										
Satd. Flow (RTOR)		191	24											
Link Speed (mph)	30		45			45								
Link Distance (ft)	550		354			164								
Travel Time (s)	12.5		5.4			2.5								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92								
Adj. Flow (vph)	174	191	388	152	224	599								
Shared Lane Traffic (%)														
Lane Group Flow (vph)	174	191	540	0	224	599								
Enter Blocked Intersection	No	No	No	No	No	No								
Lane Alignment	Left	Right	Left	Right	Left	Left								
Median Width(ft)	12		12			12								
Link Offset(ft)	0		0			0								
Crosswalk Width(ft)	16		16			16								
Two way Left Turn Lane														
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00								
Turning Speed (mph)	15	9		9	15									
Number of Detectors	1	1	2		1	2								
Detector Template	Left	Right	Thru		Left	Thru								
Leading Detector (ft)	20	20	100		20	100								
Trailing Detector (ft)	0	0	0		0	0								
Detector 1 Position(ft)	0	0	0		0	0								
Detector 1 Size(ft)	20	20	6		20	6								
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex								
Detector 1 Channel														
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0								
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0								
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0								
Detector 2 Position(ft)			94			94								
Detector 2 Size(ft)			6			6								
Detector 2 Type			Cl+Ex			Cl+Ex								
Detector 2 Channel														
Detector 2 Extend (s)			0.0			0.0								
Turn Type	Prot	Perm	NA		Prot	NA								
Protected Phases	4!		6		5	2 9!	2	9						
Permitted Phases		4												

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

04/03/2023

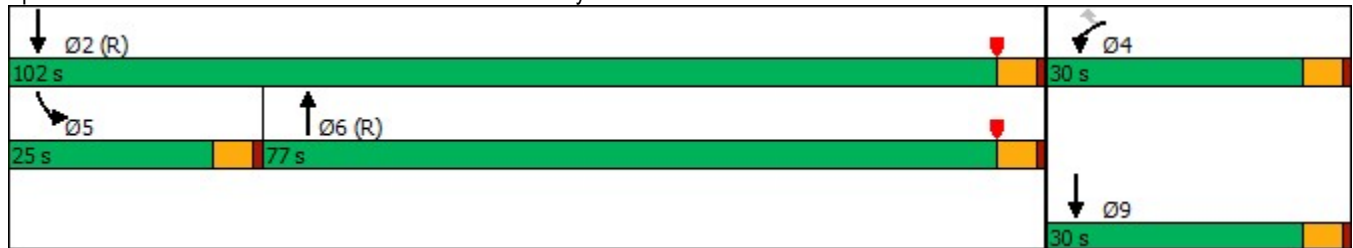


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø2	Ø9
Detector Phase	4	4	6		5	2 9		
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0		4.0		4.0	4.0
Minimum Split (s)	30.0	30.0	23.0		9.0		23.0	23.0
Total Split (s)	30.0	30.0	77.0		25.0		102.0	30.0
Total Split (%)	22.7%	22.7%	58.3%		18.9%		77%	23%
Maximum Green (s)	25.0	25.0	72.0		20.0		97.0	25.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0			
Total Lost Time (s)	5.0	5.0	5.0		5.0			
Lead/Lag			Lag		Lead			
Lead-Lag Optimize?			Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0
Recall Mode	None	None	C-Min		None		C-Min	None
Walk Time (s)			7.0					
Flash Dont Walk (s)			11.0					
Pedestrian Calls (#/hr)			0					
Act Effct Green (s)	18.2	18.2	76.2		22.6	132.0		
Actuated g/C Ratio	0.14	0.14	0.58		0.17	1.00		
v/c Ratio	0.71	0.50	0.52		0.74	0.17		
Control Delay	70.0	11.1	20.0		64.3	0.1		
Queue Delay	0.0	0.1	0.6		71.6	0.0		
Total Delay	70.0	11.2	20.6		135.9	0.1		
LOS	E	B	C		F	A		
Approach Delay	39.2		20.6			37.1		
Approach LOS	D		C			D		

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 32.4
 Intersection LOS: C
 Intersection Capacity Utilization 60.1%
 ICU Level of Service B
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

04/03/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	174	191	540	224	599
v/c Ratio	0.71	0.50	0.52	0.74	0.17
Control Delay	70.0	11.1	20.0	64.3	0.1
Queue Delay	0.0	0.1	0.6	71.6	0.0
Total Delay	70.0	11.2	20.6	135.9	0.1
Queue Length 50th (ft)	145	0	256	187	0
Queue Length 95th (ft)	213	66	440	m268	m0
Internal Link Dist (ft)	470		274		84
Turn Bay Length (ft)	100				
Base Capacity (vph)	335	454	1070	314	3510
Starvation Cap Reductn	0	0	0	199	0
Spillback Cap Reductn	0	23	224	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.52	0.44	0.64	1.95	0.17

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



***ALTERNATE 2
AM PEAK HOUR***

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔		↔	↔	↕	↔	↔	↕	↕
Traffic Volume (vph)	0	0	0	125	0	430	10	1060	181	289	1580	0
Future Volume (vph)	0	0	0	125	0	430	10	1060	181	289	1580	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	100		100	100		0
Storage Lanes	0		0	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor				0.99			1.00		0.95	0.99		
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1863	0	3433	0	1531	1770	3539	1583	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	1863	0	3398	0	1531	1761	3539	1506	3407	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						467			110			
Link Speed (mph)		25			35			45				45
Link Distance (ft)		183			612			657				1598
Travel Time (s)		5.0			11.9			10.0				24.2
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	136	0	467	11	1152	197	314	1717	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	136	0	467	11	1152	197	314	1717	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		48			48			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1		1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50		50	50	50	50	50	50	
Trailing Detector (ft)	0	0		0		0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0		0	0	0	0	0	0	
Detector 1 Size(ft)	50	50		50		50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type				Prot		custom	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3		9 11!	5	2!	3	1	6	
Permitted Phases	4								2			
Detector Phase	4	4		3		9 11	5	2	3	1	6	
Switch Phase												

Lanes, Volumes, Timings
 5: Railroad Avenue & 13th Street

04/03/2023

Lane Group	Ø8	Ø9	Ø10	Ø11
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Turn Type				
Protected Phases	8	9	10	11
Permitted Phases				
Detector Phase				
Switch Phase				

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

04/03/2023

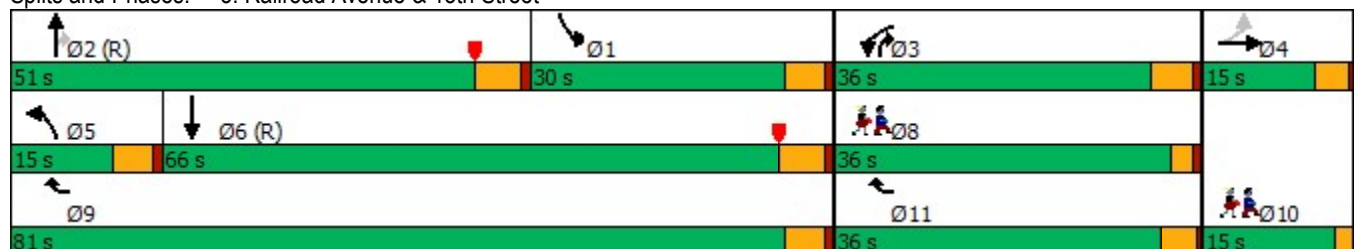


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		10.0			9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)	15.0	15.0		15.0			14.0	23.5	15.0	14.0	25.0	
Total Split (s)	15.0	15.0		36.0			15.0	51.0	36.0	30.0	66.0	
Total Split (%)	11.4%	11.4%		27.3%			11.4%	38.6%	27.3%	22.7%	50.0%	
Maximum Green (s)	11.0	11.0		31.0			10.0	45.5	31.0	25.0	60.5	
Yellow Time (s)	3.5	3.5		4.0			4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)	0.5	0.5		1.0			1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.0		-1.0			-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)		3.0		4.0			4.5	3.5	4.0	4.5	3.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None			None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effect Green (s)				12.2		132.0	9.5	82.3	94.0	25.5	109.5	
Actuated g/C Ratio				0.09		1.00	0.07	0.62	0.71	0.19	0.83	
v/c Ratio				0.43		0.31	0.09	0.52	0.18	0.47	0.59	
Control Delay				69.3		2.0	59.0	15.1	2.5	50.0	5.5	
Queue Delay				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay				69.3		2.0	59.0	15.1	2.5	50.0	5.5	
LOS				E		A	E	B	A	D	A	
Approach Delay						17.2		13.6			12.4	
Approach LOS						B		B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay: 13.5 Intersection LOS: B
 Intersection Capacity Utilization 71.9% ICU Level of Service C
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & 13th Street



Lane Group	Ø8	Ø9	Ø10	Ø11
Minimum Initial (s)	7.0	9.0	4.0	4.0
Minimum Split (s)	31.0	14.0	15.0	8.0
Total Split (s)	36.0	81.0	15.0	36.0
Total Split (%)	27%	61%	11%	27%
Maximum Green (s)	33.0	76.0	13.0	32.0
Yellow Time (s)	2.0	4.0	2.0	3.5
All-Red Time (s)	1.0	1.0	0.0	0.5
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0			
Flash Dont Walk (s)	21.0			
Pedestrian Calls (#/hr)	0			
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Intersection Summary				

Queues

5: Railroad Avenue & 13th Street

04/03/2023



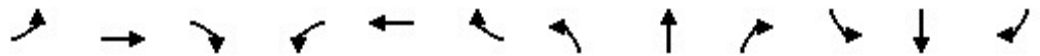
Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	136	467	11	1152	197	314	1717
v/c Ratio	0.43	0.31	0.09	0.52	0.18	0.47	0.59
Control Delay	69.3	2.0	59.0	15.1	2.5	50.0	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.3	2.0	59.0	15.1	2.5	50.0	5.5
Queue Length 50th (ft)	61	16	9	269	18	124	159
Queue Length 95th (ft)	94	160	29	346	39	171	434
Internal Link Dist (ft)				577			1518
Turn Bay Length (ft)			100		100	100	
Base Capacity (vph)	832	1531	140	2206	1165	663	2935
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.31	0.08	0.52	0.17	0.47	0.59

Intersection Summary

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	77	190	17	44	0	420	116	31	0	13	92
Future Volume (vph)	163	77	190	17	44	0	420	116	31	0	13	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00
Frt			0.850					0.968				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	1803	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	3433	1803	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			207					17				140
Link Speed (mph)		35			30			25				30
Link Distance (ft)		612			408			505				500
Travel Time (s)		11.9			9.3			13.8				11.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	84	207	18	48	0	457	126	34	0	14	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	84	207	18	48	0	457	160	0	0	14	100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				36
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Over	Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

04/03/2023

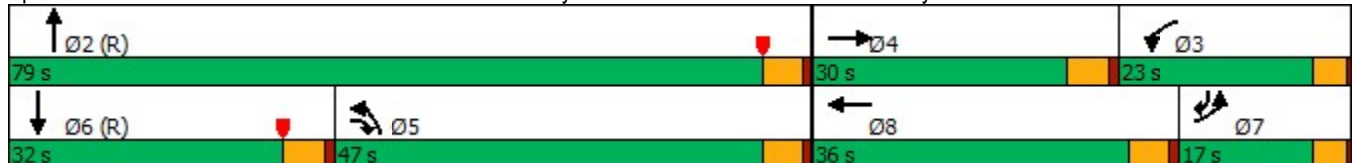


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	21.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	17.0	30.0	47.0	23.0	36.0		47.0	79.0			32.0	17.0
Total Split (%)	12.9%	22.7%	35.6%	17.4%	27.3%		35.6%	59.8%			24.2%	12.9%
Maximum Green (s)	13.0	25.0	42.0	19.0	31.0		42.0	74.0			27.0	13.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lead	Lag	Lag	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	12.6	17.9	42.0	8.1	10.4		42.0	98.0			51.0	12.6
Actuated g/C Ratio	0.10	0.14	0.32	0.06	0.08		0.32	0.74			0.39	0.10
v/c Ratio	0.54	0.33	0.20	0.17	0.33		0.42	0.12			0.01	0.36
Control Delay	61.3	48.0	0.4	60.5	63.6		24.7	4.0			28.3	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	61.3	48.0	0.4	60.5	63.6		24.7	4.0			28.3	6.5
LOS	E	D	A	E	E		C	A			C	A
Approach Delay		32.0			62.7			19.4			9.1	
Approach LOS		C			E			B			A	

Intersection Summary

Area Type:	Other
Cycle Length:	132
Actuated Cycle Length:	132
Offset:	10 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	25.4
Intersection LOS:	C
Intersection Capacity Utilization	38.3%
ICU Level of Service	A
Analysis Period (min)	15

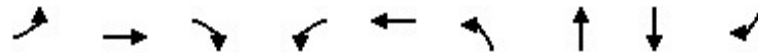
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	177	84	207	18	48	457	160	14	100
v/c Ratio	0.54	0.33	0.20	0.17	0.33	0.42	0.12	0.01	0.36
Control Delay	61.3	48.0	0.4	60.5	63.6	24.7	4.0	28.3	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.3	48.0	0.4	60.5	63.6	24.7	4.0	28.3	6.5
Queue Length 50th (ft)	80	71	0	15	40	73	17	4	0
Queue Length 95th (ft)	119	130	0	40	81	131	53	12	21
Internal Link Dist (ft)		532			328		425	420	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	353	355	1027	254	437	1092	1343	1367	288
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.24	0.20	0.07	0.11	0.42	0.12	0.01	0.35

Intersection Summary

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Traffic Volume (vph)	30	10	30	142	20	120	40	417	110	40	171	10
Future Volume (vph)	30	10	30	142	20	120	40	417	110	40	171	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	200		0
Storage Lanes	0		1	0		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Frt			0.850			0.850		0.969			0.992	
Flt Protected		0.964			0.958		0.950			0.950		
Satd. Flow (prot)	0	1796	1583	0	1785	1583	1770	3429	0	1770	5045	0
Flt Permitted		0.637			0.721		0.950			0.950		
Satd. Flow (perm)	0	1187	1583	0	1343	1583	1770	3429	0	1770	5045	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			130		37			10	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		391			421			164			505	
Travel Time (s)		10.7			11.5			2.5			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	11	33	154	22	130	43	453	120	43	186	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	33	0	176	130	43	573	0	43	197	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4			1	6		5	2
Permitted Phases	8		8	4		4						

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

04/03/2023

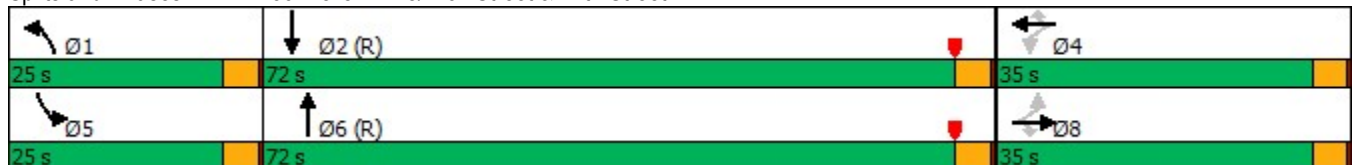


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	8.0	22.0		20.0	22.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0	35.0	25.0	72.0		25.0	72.0	
Total Split (%)	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	18.9%	54.5%		18.9%	54.5%	
Maximum Green (s)	31.0	31.0	31.0	31.0	31.0	31.0	21.0	68.0		21.0	68.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		8.0			8.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effect Green (s)		22.5	22.5		22.5	22.5	8.6	68.0		29.5	90.8	
Actuated g/C Ratio		0.17	0.17		0.17	0.17	0.07	0.52		0.22	0.69	
v/c Ratio		0.22	0.11		0.77	0.34	0.37	0.32		0.11	0.06	
Control Delay		47.0	9.7		73.0	9.3	63.0	23.1		70.7	4.2	
Queue Delay		0.0	0.0		0.0	0.0	0.1	6.8		0.0	0.0	
Total Delay		47.0	9.7		73.0	9.3	63.2	29.9		70.7	4.2	
LOS		D	A		E	A	E	C		E	A	
Approach Delay		31.0			46.0			32.2			16.1	
Approach LOS		C			D			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 93 (70%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 32.4
 Intersection LOS: C
 Intersection Capacity Utilization 44.0%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 17: Dockweiler Drive/Arch Street & 12th Street



Queues

17: Dockweiler Drive/Arch Street & 12th Street

04/03/2023



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	44	33	176	130	43	573	43	197
v/c Ratio	0.22	0.11	0.77	0.34	0.37	0.32	0.11	0.06
Control Delay	47.0	9.7	73.0	9.3	63.0	23.1	70.7	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.1	6.8	0.0	0.0
Total Delay	47.0	9.7	73.0	9.3	63.2	29.9	70.7	4.2
Queue Length 50th (ft)	33	0	145	0	36	204	36	8
Queue Length 95th (ft)	65	22	214	52	68	206	77	17
Internal Link Dist (ft)	311		341			84		425
Turn Bay Length (ft)							200	
Base Capacity (vph)	278	403	315	471	281	1784	395	3471
Starvation Cap Reductn	0	0	0	0	44	1150	0	0
Spillback Cap Reductn	0	5	1	0	0	0	0	539
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.08	0.56	0.28	0.18	0.90	0.11	0.07

Intersection Summary

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

04/03/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø2	Ø9
Lane Configurations								
Traffic Volume (vph)	70	136	431	140	86	267		
Future Volume (vph)	70	136	431	140	86	267		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	100	0		0	0			
Storage Lanes	1	1		0	1			
Taper Length (ft)	25				25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95		
Frt		0.850	0.967					
Flt Protected	0.950				0.950			
Satd. Flow (prot)	1770	1583	1801	0	1770	3539		
Flt Permitted	0.950				0.950			
Satd. Flow (perm)	1770	1583	1801	0	1770	3539		
Right Turn on Red		Yes		Yes				
Satd. Flow (RTOR)		148	19					
Link Speed (mph)	30		45			45		
Link Distance (ft)	337		560			164		
Travel Time (s)	7.7		8.5			2.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	76	148	468	152	93	290		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	76	148	620	0	93	290		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Right	Left	Left		
Median Width(ft)	12		12			12		
Link Offset(ft)	0		0			0		
Crosswalk Width(ft)	16		16			16		
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9		9	15			
Number of Detectors	1	1	2		1	2		
Detector Template	Left	Right	Thru		Left	Thru		
Leading Detector (ft)	20	20	100		20	100		
Trailing Detector (ft)	0	0	0		0	0		
Detector 1 Position(ft)	0	0	0		0	0		
Detector 1 Size(ft)	20	20	6		20	6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel								
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0		
Detector 2 Position(ft)			94			94		
Detector 2 Size(ft)			6			6		
Detector 2 Type			Cl+Ex			Cl+Ex		
Detector 2 Channel								
Detector 2 Extend (s)			0.0			0.0		
Turn Type	Prot	Perm	NA		Prot	NA		
Protected Phases	4!		6		5	2 9!	2	9
Permitted Phases		4						

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

04/03/2023

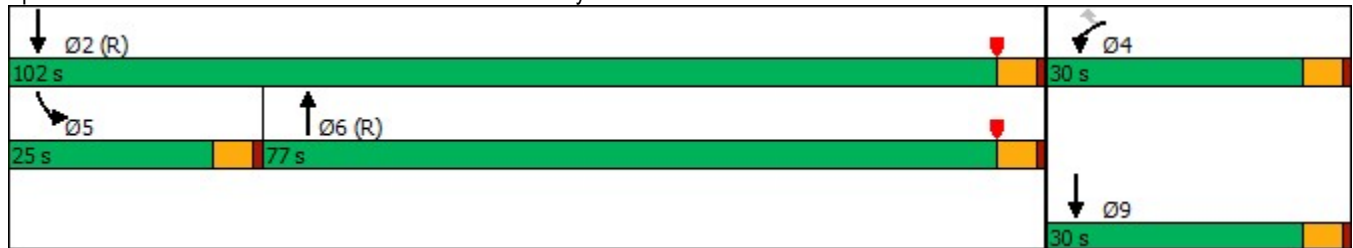


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø2	Ø9
Detector Phase	4	4	6		5	2 9		
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0		4.0		4.0	4.0
Minimum Split (s)	30.0	30.0	23.0		9.0		9.0	9.0
Total Split (s)	30.0	30.0	77.0		25.0		102.0	30.0
Total Split (%)	22.7%	22.7%	58.3%		18.9%		77%	23%
Maximum Green (s)	25.0	25.0	72.0		20.0		97.0	25.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0			
Total Lost Time (s)	5.0	5.0	5.0		5.0			
Lead/Lag			Lag		Lead			
Lead-Lag Optimize?			Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0
Recall Mode	None	None	C-Min		None		C-Min	None
Walk Time (s)			7.0					
Flash Dont Walk (s)			11.0					
Pedestrian Calls (#/hr)			0					
Act Effct Green (s)	11.0	11.0	93.7		12.3	132.0		
Actuated g/C Ratio	0.08	0.08	0.71		0.09	1.00		
v/c Ratio	0.51	0.55	0.48		0.57	0.08		
Control Delay	69.4	16.4	10.6		79.3	0.0		
Queue Delay	0.0	0.2	1.0		2.2	0.0		
Total Delay	69.4	16.6	11.7		81.5	0.0		
LOS	E	B	B		F	A		
Approach Delay	34.5		11.7			19.8		
Approach LOS	C		B			B		

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.57
 Intersection Signal Delay: 18.4
 Intersection LOS: B
 Intersection Capacity Utilization 52.3%
 ICU Level of Service A
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

04/03/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	76	148	620	93	290
v/c Ratio	0.51	0.55	0.48	0.57	0.08
Control Delay	69.4	16.4	10.6	79.3	0.0
Queue Delay	0.0	0.2	1.0	2.2	0.0
Total Delay	69.4	16.6	11.7	81.5	0.0
Queue Length 50th (ft)	63	0	204	83	0
Queue Length 95th (ft)	113	65	359	113	0
Internal Link Dist (ft)	257		480		84
Turn Bay Length (ft)	100				
Base Capacity (vph)	335	419	1283	268	3539
Starvation Cap Reductn	0	0	0	89	0
Spillback Cap Reductn	0	32	400	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.23	0.38	0.70	0.52	0.08
Intersection Summary					



***ALTERNATE 2
PM PEAK HOUR***

Lanes, Volumes, Timings
5: Railroad Avenue & 13th Street

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔		↔	↔	↕	↔	↔	↕	↕
Traffic Volume (vph)	0	0	0	251	0	439	10	1560	296	398	1610	0
Future Volume (vph)	0	0	0	251	0	439	10	1560	296	398	1610	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	100		100	100		0
Storage Lanes	0		0	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor				0.99			1.00		0.95	1.00		
Frt						0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1863	0	3433	0	1531	1770	3539	1583	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	1863	0	3398	0	1531	1762	3539	1506	3421	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						477			122			
Link Speed (mph)		25			35			45				45
Link Distance (ft)		183			612			657				1598
Travel Time (s)		5.0			11.9			10.0				24.2
Confl. Peds. (#/hr)	25		5	5		25	14		17	17		14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	273	0	477	11	1696	322	433	1750	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	273	0	477	11	1696	322	433	1750	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		48			48			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1		1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50		50	50	50	50	50	50	
Trailing Detector (ft)	0	0		0		0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0		0	0	0	0	0	0	
Detector 1 Size(ft)	50	50		50		50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type				Prot		custom	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3		9 11!	5	2!	3	1	6	
Permitted Phases	4								2			
Detector Phase	4	4		3		9 11	5	2	3	1	6	
Switch Phase												

Lanes, Volumes, Timings
 5: Railroad Avenue & 13th Street

04/03/2023

Lane Group	Ø8	Ø9	Ø10	Ø11
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Turn Type				
Protected Phases	8	9	10	11
Permitted Phases				
Detector Phase				
Switch Phase				

Lanes, Volumes, Timings

5: Railroad Avenue & 13th Street

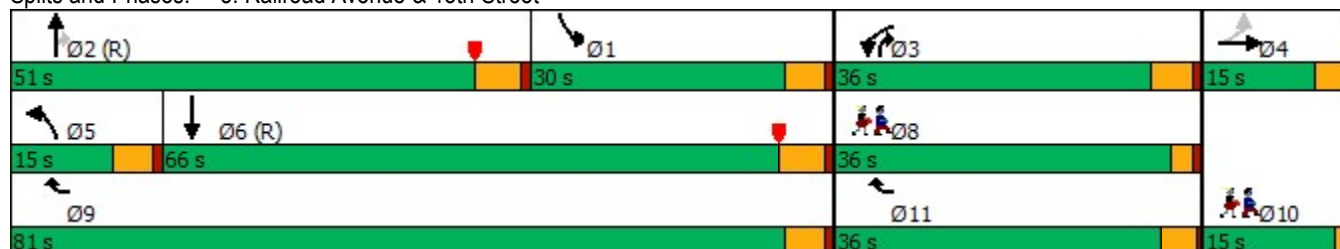
04/03/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		10.0			9.0	10.0	10.0	9.0	10.0	
Minimum Split (s)	15.0	15.0		15.0			14.0	23.5	15.0	14.0	25.0	
Total Split (s)	15.0	15.0		36.0			15.0	51.0	36.0	30.0	66.0	
Total Split (%)	11.4%	11.4%		27.3%			11.4%	38.6%	27.3%	22.7%	50.0%	
Maximum Green (s)	11.0	11.0		31.0			10.0	45.5	31.0	25.0	60.5	
Yellow Time (s)	3.5	3.5		4.0			4.0	4.5	4.0	4.0	4.5	
All-Red Time (s)	0.5	0.5		1.0			1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.0		-1.0			-0.5	-2.0	-1.0	-0.5	-2.0	
Total Lost Time (s)		3.0		4.0			4.5	3.5	4.0	4.5	3.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None			None	C-Max	None	None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effect Green (s)				17.2		132.0	9.5	77.3	94.0	25.5	104.5	
Actuated g/C Ratio				0.13		1.00	0.07	0.59	0.71	0.19	0.79	
v/c Ratio				0.61		0.31	0.09	0.82	0.29	0.65	0.62	
Control Delay				60.1		1.4	59.0	26.6	3.9	54.5	8.2	
Queue Delay				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay				60.1		1.4	59.0	26.6	3.9	54.5	8.2	
LOS				E		A	E	C	A	D	A	
Approach Delay						22.8		23.1			17.4	
Approach LOS						C		C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 20.5 Intersection LOS: C
 Intersection Capacity Utilization 79.3% ICU Level of Service D
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 5: Railroad Avenue & 13th Street



Lanes, Volumes, Timings
 5: Railroad Avenue & 13th Street

04/03/2023

Lane Group	Ø8	Ø9	Ø10	Ø11
Minimum Initial (s)	7.0	9.0	4.0	4.0
Minimum Split (s)	31.0	14.0	15.0	8.0
Total Split (s)	36.0	81.0	15.0	36.0
Total Split (%)	27%	61%	11%	27%
Maximum Green (s)	33.0	76.0	13.0	32.0
Yellow Time (s)	2.0	4.0	2.0	3.5
All-Red Time (s)	1.0	1.0	0.0	0.5
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0			
Flash Dont Walk (s)	21.0			
Pedestrian Calls (#/hr)	0			
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Intersection Summary				

Queues

5: Railroad Avenue & 13th Street

04/03/2023



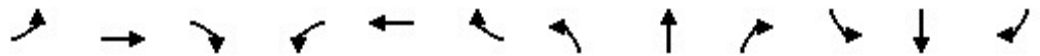
Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	273	477	11	1696	322	433	1750
v/c Ratio	0.61	0.31	0.09	0.82	0.29	0.65	0.62
Control Delay	60.1	1.4	59.0	26.6	3.9	54.5	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	1.4	59.0	26.6	3.9	54.5	8.2
Queue Length 50th (ft)	118	0	9	574	45	178	232
Queue Length 95th (ft)	145	187	29	753	75	236	560
Internal Link Dist (ft)				577			1518
Turn Bay Length (ft)			100		100	100	
Base Capacity (vph)	832	1531	140	2073	1168	663	2802
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.31	0.08	0.82	0.28	0.65	0.62

Intersection Summary

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	59	510	31	77	0	450	89	24	0	23	163
Future Volume (vph)	125	59	510	31	77	0	450	89	24	0	23	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	100		0	0		0
Storage Lanes	2		2	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00
Frt			0.850					0.968				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3433	1863	2787	1770	1863	0	3433	1803	0	0	3539	1583
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3433	1863	2787	1770	1863	0	3433	1803	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			554					17				177
Link Speed (mph)		35			30			25				30
Link Distance (ft)		612			408			505				500
Travel Time (s)		11.9			9.3			13.8				11.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	64	554	34	84	0	489	97	26	0	25	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	64	554	34	84	0	489	123	0	0	25	177
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				36
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2			2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru			Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100			100	20
Trailing Detector (ft)	0	0	0	0	0		0	0			0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0			0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6			6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Over	Prot	NA		Prot	NA			NA	Over
Protected Phases	7	4	5	3	8		5	2			6	7
Permitted Phases												

Lanes, Volumes, Timings

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

04/03/2023

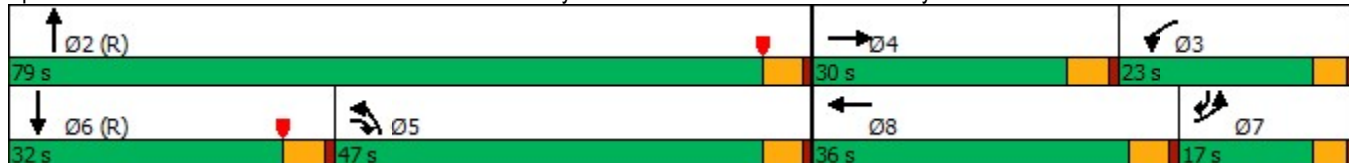


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2			6	7
Switch Phase												
Minimum Initial (s)	4.0	10.0	9.0	4.0	10.0		9.0	10.0			10.0	4.0
Minimum Split (s)	8.0	21.0	14.0	8.0	23.0		14.0	23.0			30.0	8.0
Total Split (s)	17.0	30.0	47.0	23.0	36.0		47.0	79.0			32.0	17.0
Total Split (%)	12.9%	22.7%	35.6%	17.4%	27.3%		35.6%	59.8%			24.2%	12.9%
Maximum Green (s)	13.0	25.0	42.0	19.0	31.0		42.0	74.0			27.0	13.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		4.0	4.0			4.0	3.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0		1.0	1.0			1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0			5.0	4.0
Lead/Lag	Lag	Lead	Lag	Lag	Lead		Lag				Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max			C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			18.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)	10.6	16.0	42.0	10.6	12.0		42.0	95.4			48.4	10.6
Actuated g/C Ratio	0.08	0.12	0.32	0.08	0.09		0.32	0.72			0.37	0.08
v/c Ratio	0.49	0.28	0.44	0.24	0.50		0.45	0.09			0.02	0.61
Control Delay	61.1	47.1	1.0	58.9	66.9		25.7	4.1			28.9	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	61.1	47.1	1.0	58.9	66.9		25.7	4.1			28.9	17.3
LOS	E	D	A	E	E		C	A			C	B
Approach Delay		15.7			64.6			21.4			18.7	
Approach LOS		B			E			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 10 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 21.6
 Intersection LOS: C
 Intersection Capacity Utilization 42.9%
 ICU Level of Service A
 Analysis Period (min) 15

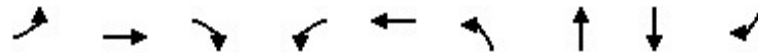
Splits and Phases: 16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2



Queues

16: Arch Street/13th Street Driveway 1 & 13th Street/13th Street Driveway 2

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	136	64	554	34	84	489	123	25	177
v/c Ratio	0.49	0.28	0.44	0.24	0.50	0.45	0.09	0.02	0.61
Control Delay	61.1	47.1	1.0	58.9	66.9	25.7	4.1	28.9	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.1	47.1	1.0	58.9	66.9	25.7	4.1	28.9	17.3
Queue Length 50th (ft)	61	56	0	28	70	97	11	7	0
Queue Length 95th (ft)	m94	m95	0	61	122	180	m41	18	71
Internal Link Dist (ft)		532			328		425	420	
Turn Bay Length (ft)	150					100			
Base Capacity (vph)	341	352	1264	254	437	1092	1307	1297	316
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.18	0.44	0.13	0.19	0.45	0.09	0.02	0.56

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Traffic Volume (vph)	120	20	180	173	10	40	20	403	110	150	404	10
Future Volume (vph)	120	20	180	173	10	40	20	403	110	150	404	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	200		0
Storage Lanes	0		1	0		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Frt			0.850			0.850		0.968			0.996	
Flt Protected		0.959			0.955		0.950			0.950		
Satd. Flow (prot)	0	1786	1583	0	1779	1583	1770	3426	0	1770	5065	0
Flt Permitted		0.437			0.513		0.950			0.950		
Satd. Flow (perm)	0	814	1583	0	956	1583	1770	3426	0	1770	5065	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196			43		39			4	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		391			421			164			505	
Travel Time (s)		10.7			11.5			2.5			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	22	196	188	11	43	22	438	120	163	439	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	152	196	0	199	43	22	558	0	163	450	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4			1	6		5	2
Permitted Phases	8		8	4		4						

Lanes, Volumes, Timings
 17: Dockweiler Drive/Arch Street & 12th Street

04/03/2023

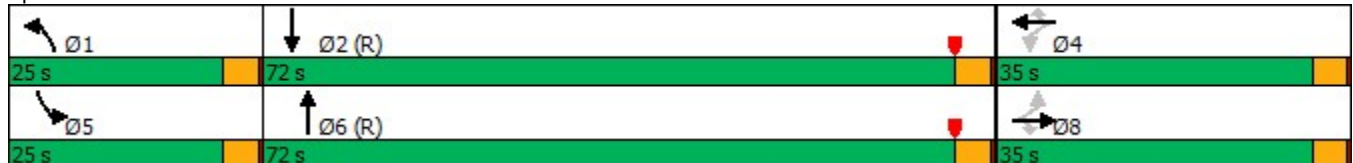


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8	8	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	8.0	22.0		20.0	22.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0	35.0	25.0	72.0		25.0	72.0	
Total Split (%)	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	18.9%	54.5%		18.9%	54.5%	
Maximum Green (s)	31.0	31.0	31.0	31.0	31.0	31.0	21.0	68.0		21.0	68.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		8.0			8.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		29.1	29.1		29.1	29.1	7.2	68.0		22.9	87.6	
Actuated g/C Ratio		0.22	0.22		0.22	0.22	0.05	0.52		0.17	0.66	
v/c Ratio		0.85	0.39		0.95	0.11	0.23	0.31		0.53	0.13	
Control Delay		86.1	7.8		99.8	11.9	74.5	17.7		81.6	4.8	
Queue Delay		0.0	0.2		8.5	0.0	0.0	2.3		0.0	0.0	
Total Delay		86.1	8.0		108.4	11.9	74.5	19.9		81.6	4.8	
LOS		F	A		F	B	E	B		F	A	
Approach Delay		42.1			91.2			22.0			25.3	
Approach LOS		D			F			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 92 (70%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 36.4
 Intersection LOS: D
 Intersection Capacity Utilization 49.7%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 17: Dockweiler Drive/Arch Street & 12th Street



Queues

17: Dockweiler Drive/Arch Street & 12th Street

04/03/2023



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	152	196	199	43	22	558	163	450
v/c Ratio	0.85	0.39	0.95	0.11	0.23	0.31	0.53	0.13
Control Delay	86.1	7.8	99.8	11.9	74.5	17.7	81.6	4.8
Queue Delay	0.0	0.2	8.5	0.0	0.0	2.3	0.0	0.0
Total Delay	86.1	8.0	108.4	11.9	74.5	19.9	81.6	4.8
Queue Length 50th (ft)	123	0	166	0	16	185	142	26
Queue Length 95th (ft)	#243	62	#313	31	m41	72	220	38
Internal Link Dist (ft)	311		341			84		425
Turn Bay Length (ft)							200	
Base Capacity (vph)	191	521	224	404	281	1783	306	3362
Starvation Cap Reductn	0	0	0	0	0	1057	0	0
Spillback Cap Reductn	0	57	14	0	0	0	0	828
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.42	0.95	0.11	0.08	0.77	0.53	0.18

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

04/03/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø2	Ø9
Lane Configurations								
Traffic Volume (vph)	160	176	357	140	206	551		
Future Volume (vph)	160	176	357	140	206	551		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	100	0		0	0			
Storage Lanes	1	1		0	1			
Taper Length (ft)	25				25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95		
Frt		0.850	0.962					
Flt Protected	0.950				0.950			
Satd. Flow (prot)	1770	1583	1792	0	1770	3539		
Flt Permitted	0.950				0.950			
Satd. Flow (perm)	1770	1583	1792	0	1770	3539		
Right Turn on Red		Yes		Yes				
Satd. Flow (RTOR)		191	24					
Link Speed (mph)	30		45			45		
Link Distance (ft)	337		560			164		
Travel Time (s)	7.7		8.5			2.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	174	191	388	152	224	599		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	174	191	540	0	224	599		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Right	Left	Left		
Median Width(ft)	12		12			12		
Link Offset(ft)	0		0			0		
Crosswalk Width(ft)	16		16			16		
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9		9	15			
Number of Detectors	1	1	2		1	2		
Detector Template	Left	Right	Thru		Left	Thru		
Leading Detector (ft)	20	20	100		20	100		
Trailing Detector (ft)	0	0	0		0	0		
Detector 1 Position(ft)	0	0	0		0	0		
Detector 1 Size(ft)	20	20	6		20	6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel								
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0		
Detector 2 Position(ft)			94			94		
Detector 2 Size(ft)			6			6		
Detector 2 Type			Cl+Ex			Cl+Ex		
Detector 2 Channel								
Detector 2 Extend (s)			0.0			0.0		
Turn Type	Prot	Perm	NA		Prot	NA		
Protected Phases	4!		6		5	2 9!	2	9
Permitted Phases		4						

Lanes, Volumes, Timings
 18: Dockweiler Drive & Placerita Canyon Road

04/03/2023

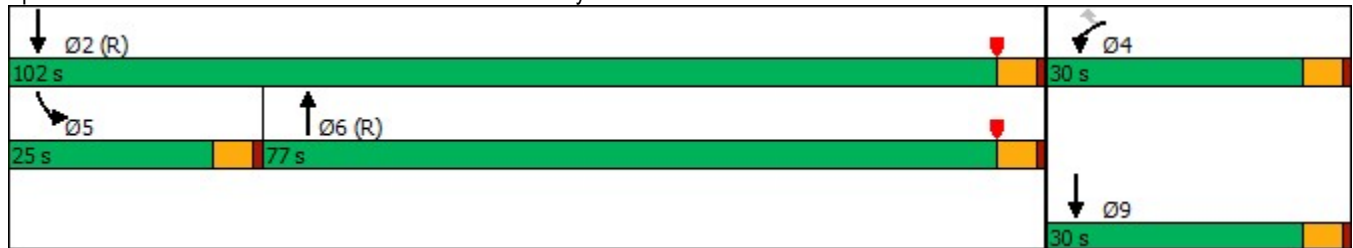


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø2	Ø9
Detector Phase	4	4	6		5	2 9		
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0		4.0		4.0	4.0
Minimum Split (s)	30.0	30.0	23.0		9.0		9.0	9.0
Total Split (s)	30.0	30.0	77.0		25.0		102.0	30.0
Total Split (%)	22.7%	22.7%	58.3%		18.9%		77%	23%
Maximum Green (s)	25.0	25.0	72.0		20.0		97.0	25.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0			
Total Lost Time (s)	5.0	5.0	5.0		5.0			
Lead/Lag			Lag		Lead			
Lead-Lag Optimize?			Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0
Recall Mode	None	None	C-Min		None		C-Min	None
Walk Time (s)			7.0					
Flash Dont Walk (s)			11.0					
Pedestrian Calls (#/hr)			0					
Act Effct Green (s)	18.2	18.2	76.2		22.6	132.0		
Actuated g/C Ratio	0.14	0.14	0.58		0.17	1.00		
v/c Ratio	0.71	0.50	0.52		0.74	0.17		
Control Delay	70.0	11.1	20.0		69.9	0.1		
Queue Delay	0.0	0.1	0.6		71.6	0.0		
Total Delay	70.0	11.2	20.6		141.4	0.1		
LOS	E	B	C		F	A		
Approach Delay	39.2		20.6			38.6		
Approach LOS	D		C			D		

Intersection Summary

Area Type: Other
 Cycle Length: 132
 Actuated Cycle Length: 132
 Offset: 97 (73%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 33.1
 Intersection LOS: C
 Intersection Capacity Utilization 60.1%
 ICU Level of Service B
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 18: Dockweiler Drive & Placerita Canyon Road



Queues

18: Dockweiler Drive & Placerita Canyon Road

04/03/2023



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	174	191	540	224	599
v/c Ratio	0.71	0.50	0.52	0.74	0.17
Control Delay	70.0	11.1	20.0	69.9	0.1
Queue Delay	0.0	0.1	0.6	71.6	0.0
Total Delay	70.0	11.2	20.6	141.4	0.1
Queue Length 50th (ft)	145	0	256	187	0
Queue Length 95th (ft)	213	66	440	m268	m0
Internal Link Dist (ft)	257		480		84
Turn Bay Length (ft)	100				
Base Capacity (vph)	335	454	1070	314	3510
Starvation Cap Reductn	0	0	0	199	0
Spillback Cap Reductn	0	23	224	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.52	0.44	0.64	1.95	0.17

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.