Appendix B
Addendum Traffic Impact Analysis

ADDENDUM TRAFFIC IMPACT ANALYSIS

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DOCKWEILER DRIVE ALIGNMENT PROJECT ALTERNATIVE 3 SANTA CLARITA, CA

CITY OF SANTA CLARITA

DAVID EVANS AND ASSOCIATES INC.

DRAFT REPORT
JANUARY 4, 2018

DAVID EVANS AND ASSOCIATES INC.

January 4, 2018 Job No. SCLA0000-0004

Mike Hennawy,
Senior Engineer
City of Santa Clarita

RE: DRAFT REPORT – ADDENDUM TRAFFIC IMPACT ANLYSIS – DOCKWEILER DRIVE ALIGNMENT PROJECT ALTERNATIVE 3- Santa Clarita, California

Dear Mr. Hennawy;

David Evans and Associates, Inc. is pleased to submit this Addendum Traffic Impact Analysis report for the proposed Alternative 3 for the Dockweiler Drive Alignment project located in the City of Santa Clarita. The Dockweiler Drive Alignment project is intended to serve as a major east-west corridor link segment in the area and to facilitate access to existing and planned development. Construction of this link is anticipated to reduce "cross valley" trip lengths and travel times, provide an alternate travel route, support a multi-modal transportation network by reducing bus travel times in the City and by providing the opportunity for increased bike and pedestrian traffic.

The Dockweiler Drive Alignment Project Traffic Impact Analysis, dated August 8, 2017, by David Evans and Associates, Inc. reviewed four (4) alternatives to include a No Build Condition, Proposed Project, and two (2) Alternatives. The report examined the traffic impacts specifically for the No Build Condition, the Proposed Project, and two (2) Alternatives. The report also addresses the impacts of overall growth within the area to represent utilization of the proposed Dockweiler Drive Alignment Alternative.

The Addendum Report will review the impacts of the proposed Alternative 3: Market Street. The report will provide a comparison to the alternatives presented in the Dockweiler Drive Alignment Project Traffic Impact Analysis report.

We are pleased to have been of assistance to you in processing and obtaining approval for the project. If you have any questions or comments, please feel free to contact me at 760-524-9115.

Respectfully submitted,

David Evans and Associates, Inc.

Robert A. Kilpatrick, P.E., T.E.
Senior Project Manager / Senior Associate

DAVID EVANS AND ASSOCIATES INC.

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DAVID EVANS AND ASSOCIATES INC.

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DAVID EVANS AND ASSOCIATES INC.

1 INTRODUCTION

The City of Santa Clarita is one of the fastest growing cities in Los Angeles County. The City's General Plan includes several large developments in the area, and traffic volumes are expected to increase significantly. As such the City of Santa Clarita has identified a project to extend Dockweiler Drive to Lyons Avenue. The proposed Dockweiler Drive Alignment project is located in the City of Santa Clarita, approximately 35 miles northwest of the City of Los Angeles, in the Newhall area of the City. Sierra Highway and the SR-14 (Antelope Valley) Freeway provide a boundary for the study area along the eastern side. Through traffic access on Placerita Canyon Road is restricted with a gate entrance west of Sierra Highway. Placerita Canyon Road currently is the primary connection to The Master's College and residents to the north. Newhall Avenue on the southern boundary of the study area provides a direct connection for cross valley traffic and connects Sierra Highway and Railroad Avenue. The UP/Metrolink Railroad line restricts access to the west with three (3) existing at-grade railroad crossings located at 13th Street, Market Street, and Newhall Avenue. *Figure 1-1* illustrates the vicinity map and project location.

The extension of Lyons Avenue to Dockweiler Drive across the existing Metrolink line has been identified by the City as one (1) of five (5) key transportation projects. The alignment is part of the City's General Plan and consistent with the goals of the Downtown Newhall Specific Plan, Santa Clarita Valley Consolidated Traffic Model (SCVCTM), and the Compass Blue Print Plan.

The purpose of the Dockweiler Drive Alignment Project is to ascertain the feasibility of the General Plan alignment for Dockweiler Drive, which identifies the connection of Dockweiler Drive to Lyons Avenue at Railroad Avenue. The project would extend Lyons Avenue from its existing terminus at Railroad Avenue on the west to future Master College Master Plan Dockweiler extension at north of railroad crossing consistent with the Council-approved Compass Blueprint Concept Plan. This project would include the consideration of a new at-grade rail crossing at Lyons Avenue and Railroad Avenue, which is expected to result in the closure of the 13th Street rail crossing.

This Addendum report examines the traffic impacts specifically for the Alternative 3: Market Street and provides a comparison to the alternatives presented in the Dockweiler Drive Alignment Project Traffic Impact Analysis. The report also addresses the impacts of overall projected growth within the area to represent utilization of the proposed Dockweiler Drive Alignment alternative. Consideration will be provided to pedestrian, rail, and vehicular traffic within the study area. The study area is based on the North Newhall Specific Plan Stage II.

1.1 City Circulation Plan

The Santa Clarita Valley's circulation system is a comprehensive transportation network of roadways, multi-use trails, bicycle paths, bus transit, and commuter rail. This network provides mobility options to Valley residents and businesses. *Figure 1-2* illustrates a portion of the Santa Clarita Valley Circulation Plan bounded by the study area.

A major component in the development of the Santa Clarita Valley is the inclusion of alternative travel modes and support facilities. These facilities increase efficiency and capacity of existing systems, by promoting mixed-use development near transit facilities. Bicycle lanes and accessibility to bike paths are a fundamental component to a comprehensive transportation network. *Figure 1-3* illustrates a portion of the Santa Clarita Valley's Bicycle Master Plan bounded by the study area.

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FIGURE 1-1: VICINITY MAP
ADDENDUM REPORT FOR THE PROPOSED EXPANSION OF DOCKWEILER DRIVE
SANTA CLARITA, CALIFORNIA

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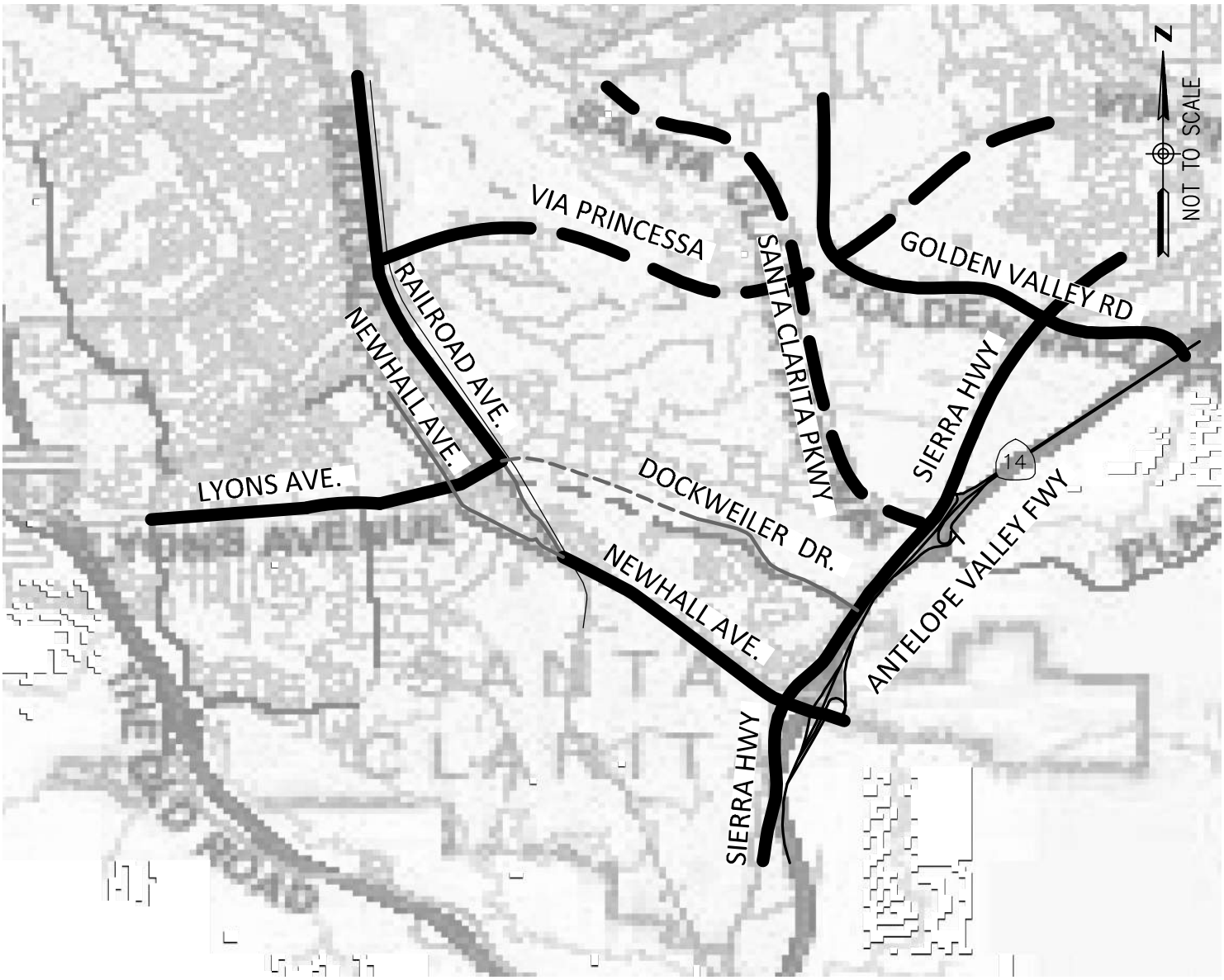

LEGEND:

- MAJOR HIGHWAY - EXISTING (6 LANES)
- MAJOR HIGHWAY - PROPOSED (6 LANES)
- SECONDARY HIGHWAY EXISTING (4 LANES)
- SECONDARY HIGHWAY PROPOSED (4 LANES)

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FIGURE 1-2: SANTA CLARITA VALLEY CIRCULATION PLAN
ADDENDUM REPORT FOR THE PROPOSED EXPANSION OF DOCKWEILER DRIVE
SANTA CLARITA, CALIFORNIA

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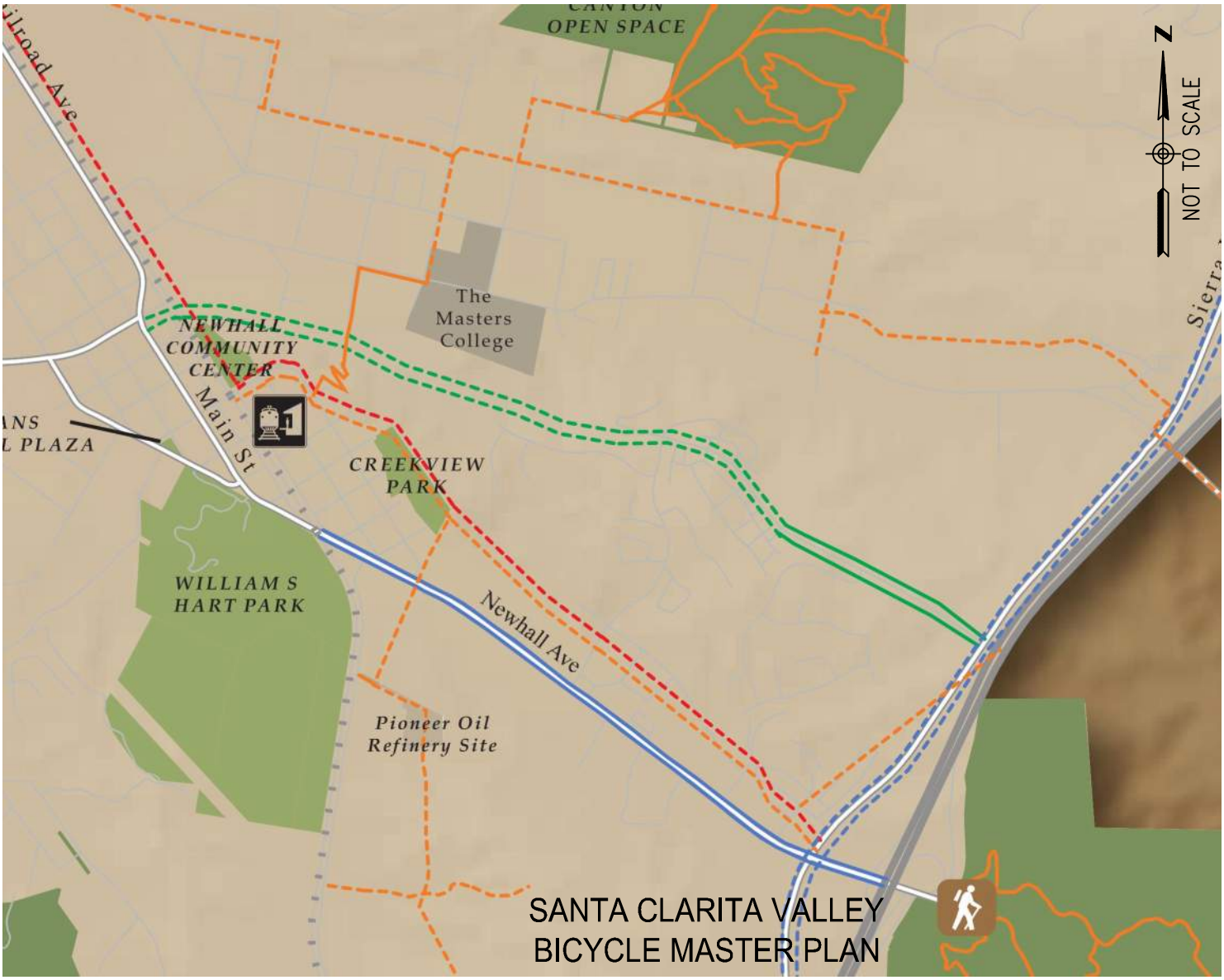

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FIGURE 1-3: SANTA CLARITA BICYCLE MASTER PLAN
ADDENDUM REPORT FOR THE PROPOSED EXPANSION OF DOCKWEILER DRIVE
SANTA CLARITA, CALIFORNIA

1.2 Design Alternatives

This report examines the traffic impacts specifically for the Alternative 3: Market Street.

Alternative 3

Alternative 3 extends the Dockweiler Drive alignment to intersect with Market Street and Race Street. The Alternative 3 would extend Dockweiler Drive from its existing terminus, westward to Market Street to provide a T-intersection with Race Street. Alternative 3 is illustrated in *Figure 1-4.*

The Dockweiler Drive Alignment Project Traffic Impact Analysis reviewed the following No Build Condition, the Proposed Project, and the two (2) Alternatives. The Proposed Project and Alternatives consider combinations of constructing a new railroad crossing at Lyons Avenue and removing or improving the at-grade crossing at 13th Street. The alternatives are outlined as follows;

Proposed Project

The Proposed Project utilizes the City of Santa Clarita's General Plan proposed alignment for Dockweiler Drive, which identifies the connection of Dockweiler Drive to extend to Lyons Avenue. The Proposed Project would extend Lyons Avenue from its existing terminus at Railroad Avenue, eastward to Dockweiler Drive to provide a T-intersection. Included in the Proposed Project is reprofiling the intersection of Lyons Avenue and Railroad Avenue to allow the construction of a new SCRA/UP railroad grade crossing east of Railroad Avenue. The new Lyons Avenue railroad grade crossing will improve traffic movements and safety at the railroad crossing. The new crossing will allow the removal of the existing 13th Street and Railroad grade crossing, which will avoid direct impact to the Placerita Canyon neighborhood. The Proposed Project is illustrated in *Figure 1-5.*

Alternative 1

Alternative 1 utilizes the City of Santa Clarita's General Plan proposed alignment for Dockweiler Drive, which identifies the connection of Dockweiler Drive to extend to Arch Street. The project would extend Lyons Avenue from its existing terminus at Railroad Avenue, eastward to Dockweiler Drive to provide a T-intersection. Included in the Alternative 1 is reprofiling the intersection of Lyons Avenue and Railroad Avenue to allow the construction of a new SCRA/UP railroad grade crossing east of Railroad Avenue and construct improvements to the 13th Street rail crossing. Alternative 1 is illustrated in *Figure 1-6.*

Alternative 2

Alternative 2 utilizes the City of Santa Clarita's General Plan proposed alignment for Dockweiler Drive, which identifies the connection of Dockweiler Drive to extend to Arch Street. The route will continue along Arch Street to 13th Street to link to Railroad Avenue. Alternative 2 proposes improvements to the 13th Street rail crossing. Alternative 2 is illustrated in *Figure 1-7.*

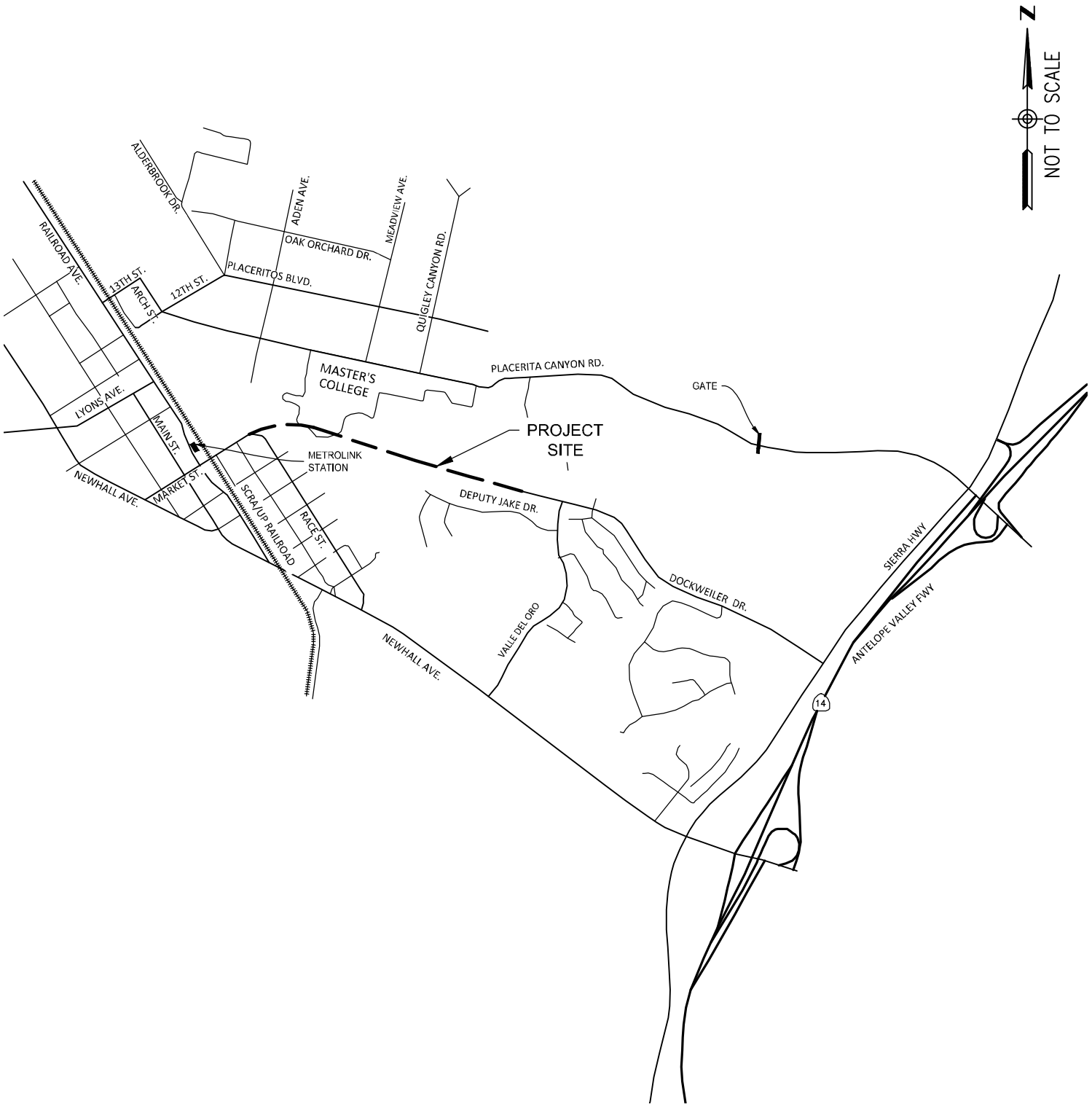

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FIGURE 1-4: ALTERNATIVE 3
ADDENDUM REPORT FOR THE PROPOSED
EXPANSION OF DOCKWEILER DRIVE
SANTA CLARITA, CALIFORNIA

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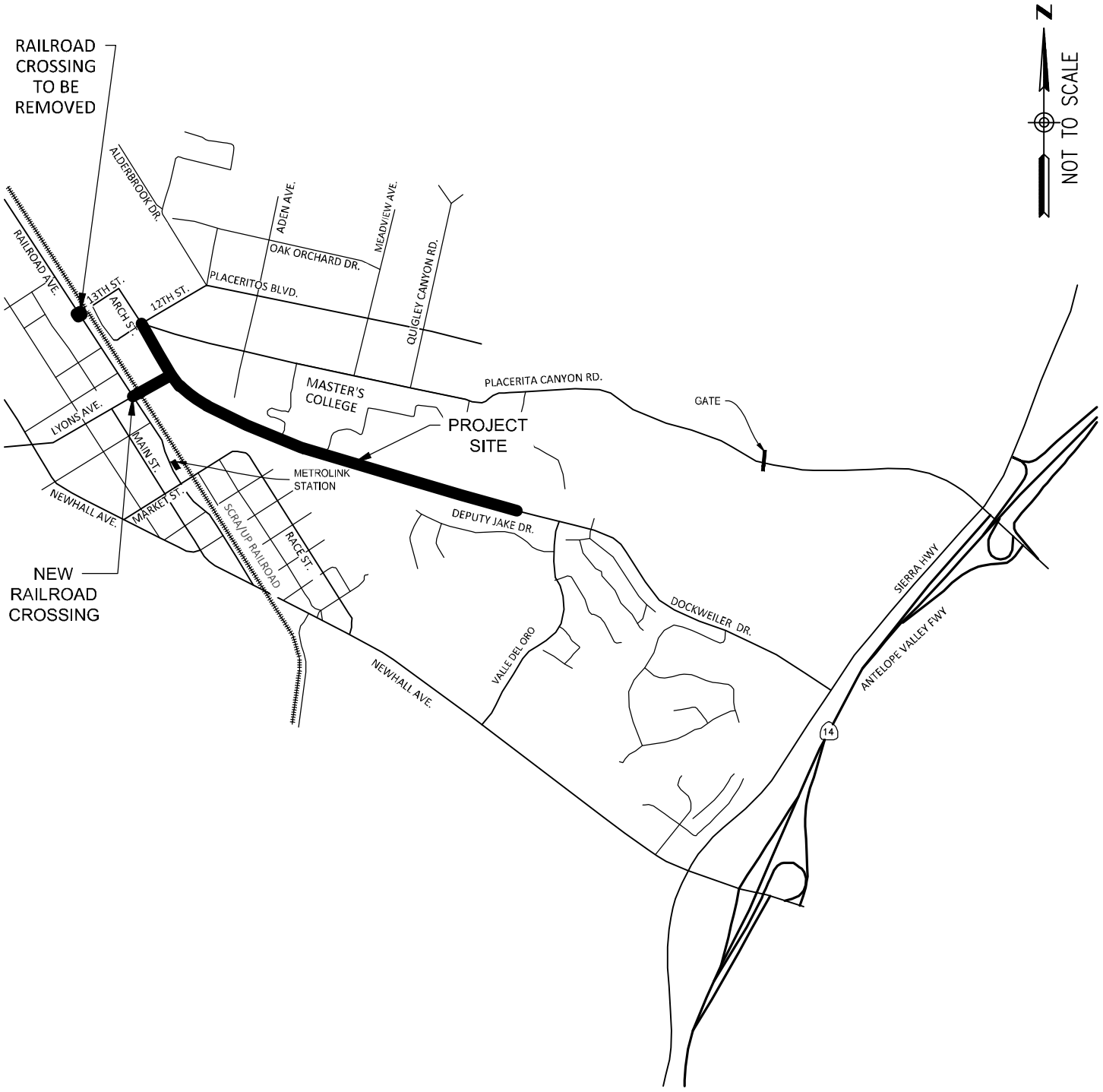

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FIGURE 1-5: PROPOSED PROJECT
ADDENDUM REPORT FOR THE PROPOSED
EXPANSION OF DOCKWEILER DRIVE
SANTA CLARITA, CALIFORNIA

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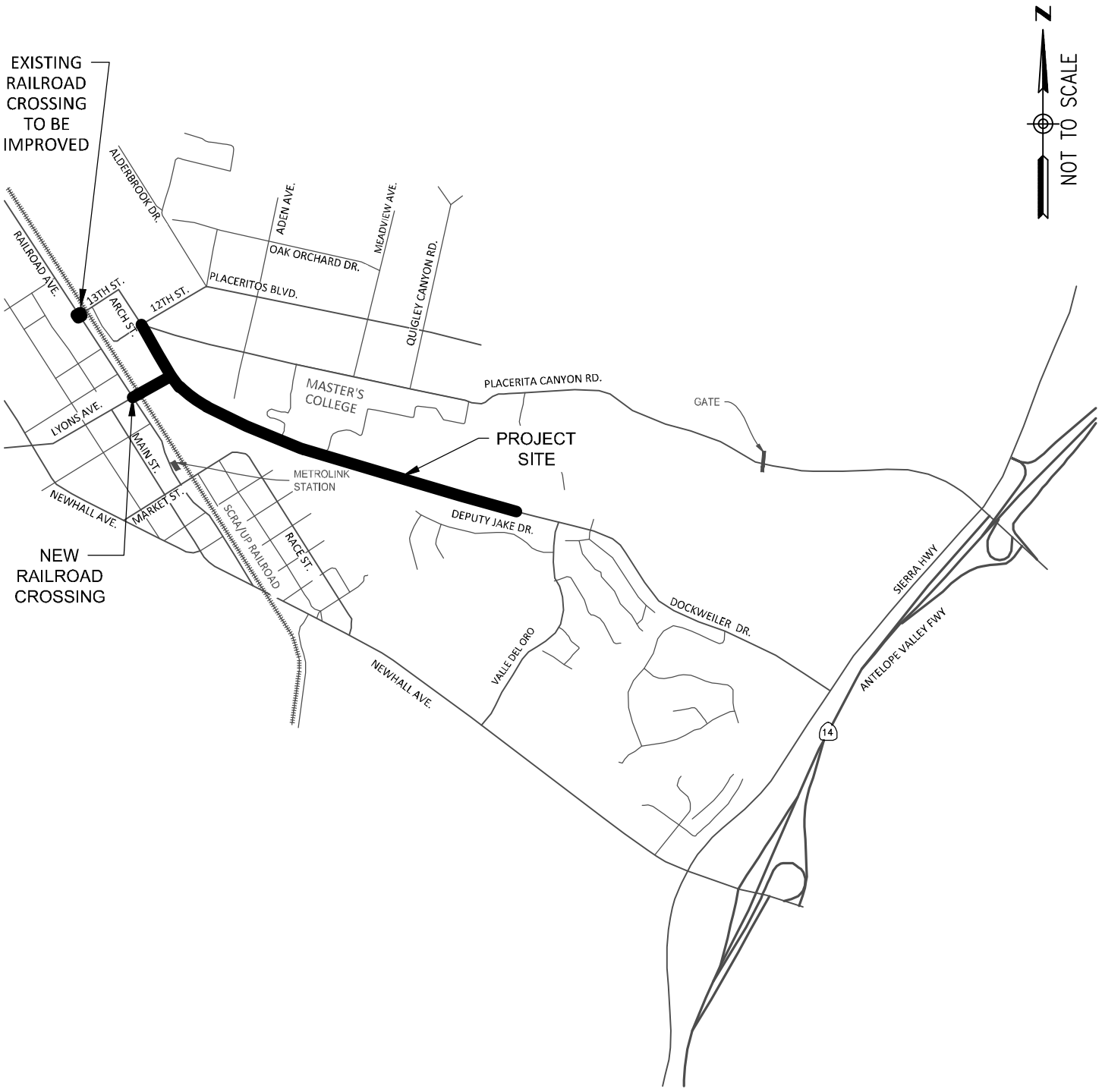

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FIGURE 1-6: ALTERNATIVE 1
ADDENDUM REPORT FOR THE PROPOSED
EXPANSION OF DOCKWEILER DRIVE
SANTA CLARITA, CALIFORNIA

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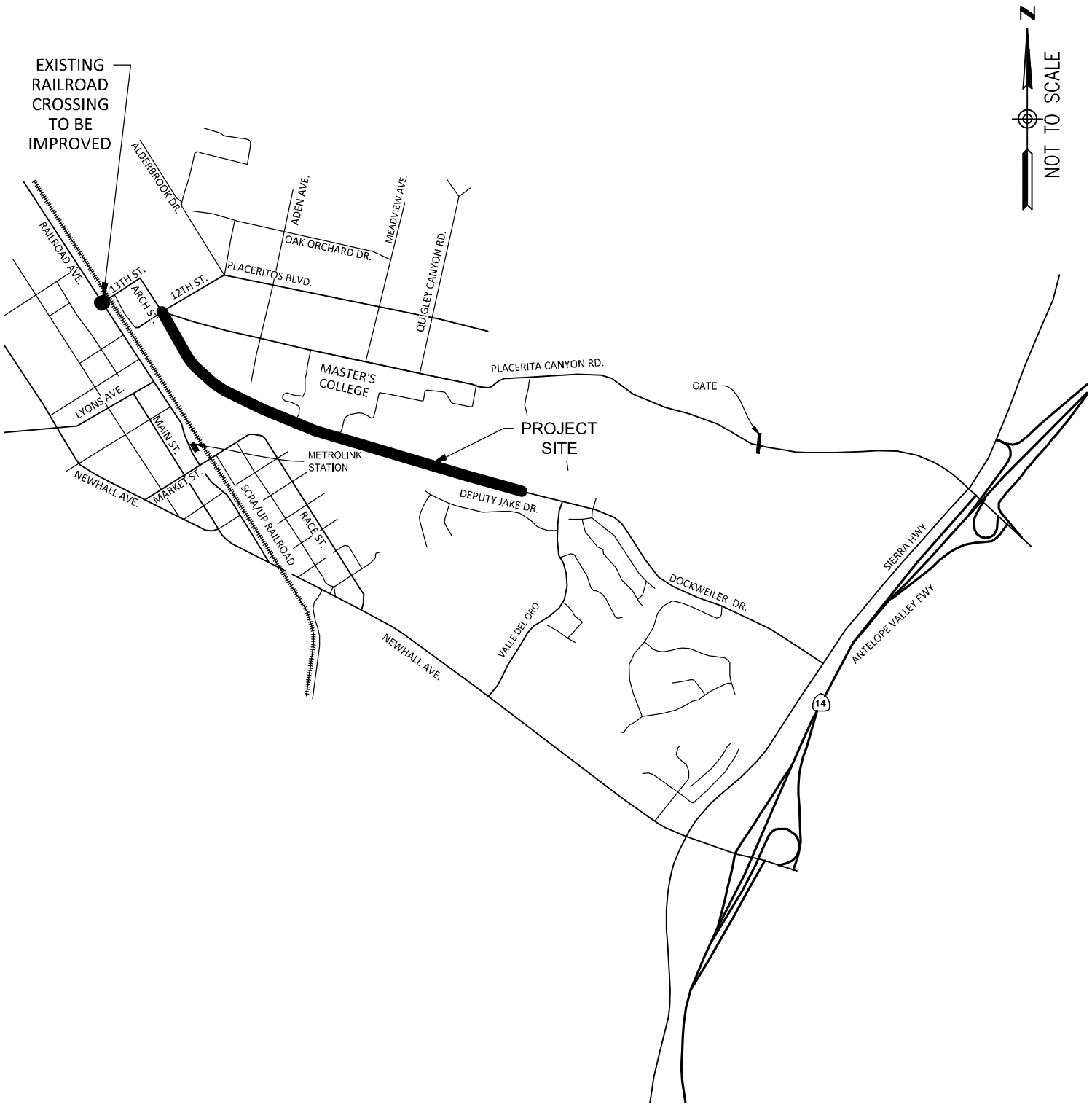

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FIGURE 1-7: ALTERNATIVE 2
ADDENDUM REPORT FOR THE PROPOSED
EXPANSION OF DOCKWEILER DRIVE
SANTA CLARITA, CALIFORNIA

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2 EXISTING CONDITION

Existing Street System

The following roadways provide access to and within the study area;

Dockweiler Drive is designated as an east-west Secondary Highway from Sierra Highway to Railroad Avenue on the City of Santa Clarita Circulation Map Joint Highway Plan. The Existing portion of Dockweiler Drive consists of one lane in each direction with a landscaped median and limited parking throughout the study area. Dockweiler Drive is used as the primary access to single- and multi-family residences.

State Route 14 Freeway (SR 14) provides regional access within the study area. The freeway is a four-lane (two in each direction) facility with interchange access at Placerita Canyon Road and Newhall Avenue.

Lyons Avenue is designated as an east-west major highway east of Railroad Avenue and Secondary Highway west of Railroad Avenue on the City of Santa Clarita Circulation Map Joint Highway Plan. Three lanes in each direction are provided with traffic signals and left turn channelization at major intersections.

Newhall Avenue is designated as a north-south secondary highway from Lyons Avenue to Railroad Avenue with one lane in each direction. From Railroad Avenue to SR-14, Newhall Avenue is designated as a major highway with three northbound lanes and three southbound lanes south of Railroad Avenue. Newhall Avenue roadway designation is identified on the City of Santa Clarita Circulation Map Joint Highway Plan.

Railroad Avenue (formerly San Fernando Road) is a north-south major highway from Magic Mountain Parkway to Lyons Avenue and a secondary highway from Lyons Avenue to Newhall Avenue. This roadway provides two lanes in each direction and limited parking throughout the study area. Railroad Avenue roadway designation is identified on the City of Santa Clarita Circulation Map Joint Highway Plan.

Sierra Highway is an old alignment of SR-14 from Los Angeles to Mojave. It is designated as a north-south major highway on the City of Santa Clarita Map Joint Highway Plan. It is a four lane (two in each direction) with traffic signals and left turn channelization at major intersections.

Placerita Canyon Road is an east-west local roadway. This roadway provides a gate at the western entrance. The gate provides restrictive access to residents of the Placenta Canyon neighborhood.

13th Street is an east-west unimproved local roadway. This roadway provides access to The Master's College and the Placenta Canyon neighborhood via its intersection with Railroad Avenue. One lane is provided in each direction.

Market Street is an east-west local roadway. This roadway provides a rail crossing and access to a residential community. The roadway is primarily two lanes (one in each direction) with a turn lane at key intersections.

As presented, in *Figure 2-1*, the project begins at the terminus of Dockweiler Drive 500 feet west of Valle Del Oro. Based on potential traffic impacts to the area roadways, twenty (20) intersections have been identified for analysis;

1. Sierra Highway and SR-14 SB Ramps
2. Sierra Highway and Placerita Canyon Rd
3. SR-14 NB Ramps and Placerita Canyon Rd
4. Sierra Highway and Dockweiler Dr
5. SR-14 SB Ramps and Newhall Ave
6. Sierra Highway and Newhall Ave
7. Valle Del Oro and Newhall Ave
8. Valle Del Oro and Dockweiler Dr
9. Railroad Ave and Newhall Ave
10. Railroad Ave and Market St
11. Newhall Ave and Lyons Ave
12. Railroad Ave and Lyons Ave
13. Railroad Ave and 13th St
14. Main St and Lyons Ave
15. Main St and Newhall Ave
16. Arch St and 12th Street/Placerita Canyon Rd
21. Market St and Main St
22. Market St (East) and Newhall Ave
23. Market St (West) and Newhall Ave

Existing Traffic Volumes

As referenced from the City of Santa Clarita Circulation Element, Average Daily Traffic (ADT) is a measurement of the average number of vehicles that travel a segment of roadway during a 24-hour period. The ADT is a useful benchmark for determining roadway capacities. *Figure 2-1* illustrates the existing street system ADT and the study intersection locations. The existing 2013 ADT map for the Santa Clarita Valley is referenced from the city website.

Figure 2-2 illustrates the existing peak hour traffic volumes in the study area. As referenced from the City of Santa Clarita Circulation Element, Peak hour information, which is the highest volume of traffic to pass over a road in a one-hour period, allows for a more detailed method of evaluating traffic conditions along roadways and intersections, and is used whenever operational analysis is required. The traffic volume data used in the intersection capacity analysis were based on traffic counts conducted by Newport Traffic Studies, an independent traffic data collection company. Turn movement counts were collected during the AM (7-9 AM) and PM (4-6 PM) peak periods at the above-mentioned existing intersections identified for detailed analysis. The counts taken at intersections 1-16 were conducted in December 2012. The counts taken at intersections 21-23 were conducted in December 2017. The resulting turning movement volumes are presented in the Intersection Capacity Analysis Appendix of this report.

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FIGURE 2-1: EXISTING STUDY INTERSECTIONS
ADDENDUM REPORT FOR THE PROPOSED EXPANSION OF DOCKWEILER DRIVE
SANTA CLARITA, CALIFORNIA

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LEGEND

- ▽ - ROUNDABOUT CONTROLLED INTERSECTION
- STOP CONTROLLED INTERSECTION
- SIGNAL CONTROLLED INTERSECTION
- XX/XX - AM/PM PEAK HOUR VOLUMES
- (#) - STUDY INTERSECTIONS

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FIGURE 2-2: EXISTING TRAFFIC VOLUMES ADDENDUM REPORT FOR THE PROPOSED EXPANSION OF DOCKWEILER DRIVE SANTA CLARITA, CALIFORNIA

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Capacity Analysis Methodologies

Based on the existing intersection geometrics and traffic volumes during the AM and PM Peak Hour, the intersection capacity analyses were conducted for the signalized and un-signalized intersections using the Synchro Software. Synchro is released by Trafficware Ltd, version 8. Synchro implements the methods of the 2010 Highway Capacity Manual, chapter 15, 16 and 17; Urban Streets and Signalized intersections. The analysis determines a level-of-service (LOS) which quantitatively describes the operating characteristics of signalized intersections and the maximum delay. The LOS ranges from "A" (the best) through "F" (system breakdown). The level-of-service is based on the average delay of vehicles at the intersections. *Table 2-1* provides the LOS thresholds for signalized intersections per the HCM 2010 methodology.

Table 2-1: HCM 2010 - LOS Criteria for Signalized Intersections

LOS	Control Delay per Vehicle (s/veh)
A	≤ 10
B	> 10 and ≤20
C	> 20 and ≤35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Source: **HCM 2010**

For un-signalized intersections the HCM measures the LOS based on the computed or measured control delay for Two Way Stop Controlled intersections (TWSC) and control delay for All Way Stop Controlled (AWSC) intersections. For a TWSC the LOS is computed for each movement and the most critical LOS is the one that describes the effectiveness of that intersection, which is typically the stop controlled left turn movement from the minor street. For an AWSC intersection the LOS defines the whole intersection. *Table 2-2* provides the LOS thresholds for TWSC and AWSC intersections per the HCM 2010 methodology.

Table 2-2: HCM 2010 - LOS Criteria for TWSC, AWSC, and Roundabout Intersections

LOS	Control Delay per Vehicle (s/veh)
A	≤ 10
B	> 10 and ≤15
C	> 15 and ≤25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Source: **HCM 2010**

The intersection capacity analyses were conducted for the roundabout intersections using the Sidra Intersection Software. Sidra is released by Akcelik & Associated Pty Ltd, version 6.0. Sidra Intersection 6.0 implements the methods of the 2010 Highway Capacity Manual, Chapter 21. For the roundabout intersections the HCM measures the LOS based on the control delay and the LOS defines the whole intersection. The level-of-service is based on the average delay of vehicles at the intersections. *Table 2-2* provides the LOS thresholds for roundabout intersections per the HCM 2010 methodology.

The City of Santa Clarita preferred maximum acceptable level of service on arterial roads is LOS E. The City of Santa Clarita desired maximum acceptable level of service on residential neighborhood roads is LOS C or better.

2.1 Existing Traffic Analysis

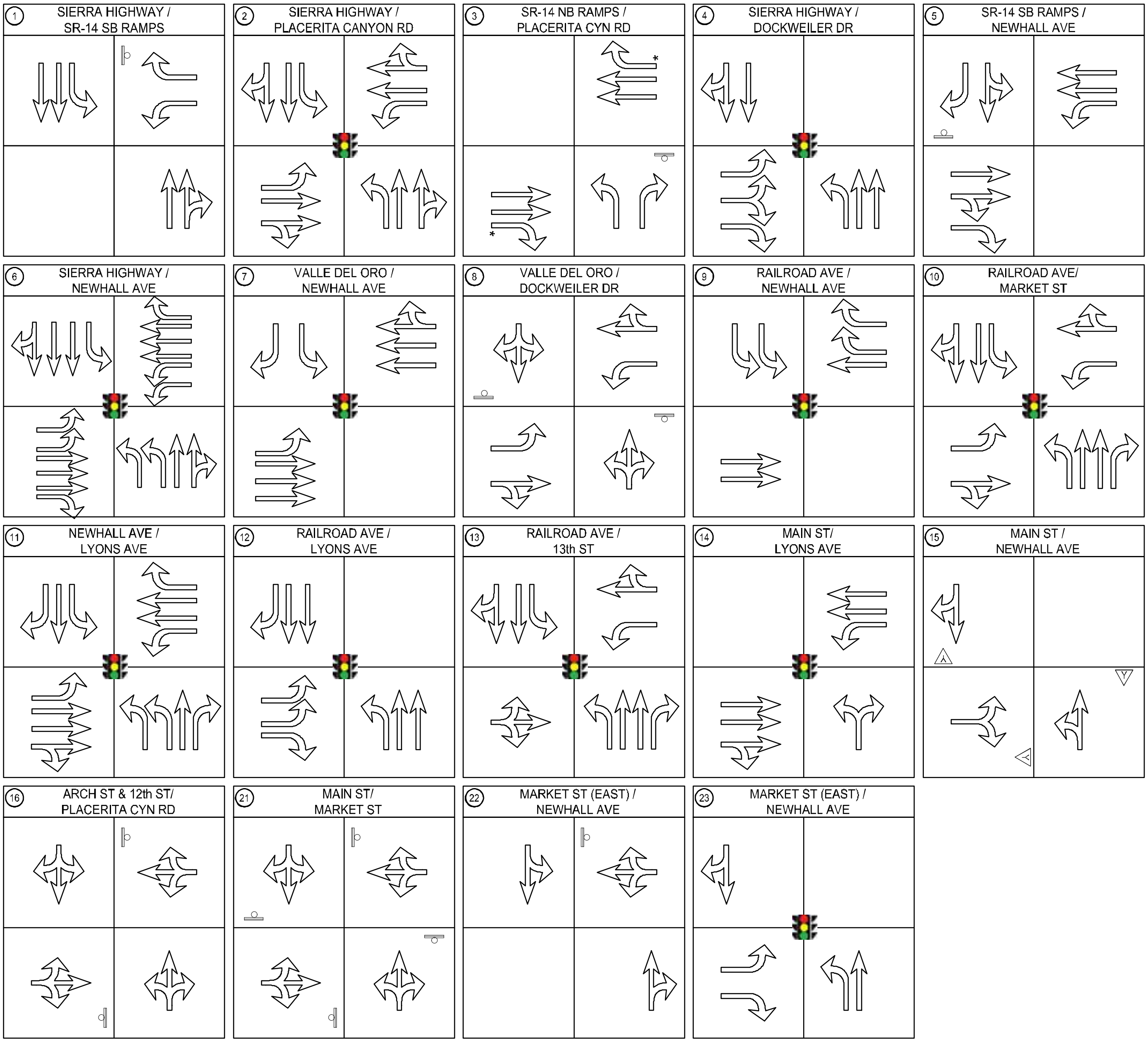
To determine the impacts of the project to the study intersections, existing traffic intersection capacity analysis was conducted. The analysis was conducted with the existing intersection geometrics as illustrated in *Figure 2-3*.

Table 2-3: Intersection Capacity Analysis – Existing Condition
Traffic Impact Analysis – Addendum Report for the Proposed Expansion of Dockweiler Drive

Intersection		AM		PM	
		Delay (1)	LOS(2)	Delay (1)	LOS(2)
1	Sierra Highway and SR-14 Southbound Ramps (3)	99.99	F	99.99	F
2	Sierra Highway and Placerita Canyon Road	46.8	D	24.1	C
3	SR-14 Northbound Ramps and Placerita Canyon Road (3)	10.7	B	10.7	B
4	Sierra Highway and Dockweiler Drive	12.6	B	7.0	A
5	SR-14 Southbound Ramps and Newhall Avenue (3)	20.3	A	69.1	F
6	Sierra Highway and Newhall Avenue	35.0	D	34.2	C
7	Valle Del Oro and Newhall Avenue	17.8	B	15.8	B
8	Valle Del Oro and Dockweiler Drive (3)	14.8	B	11.5	B
9	Railroad Avenue and Newhall Avenue	23.6	C	30.1	C
10	Railroad Avenue and Market Street	14.3	B	17.4	B
11	Newhall Avenue and Lyons Avenue	32.6	C	45.5	D
12	Railroad Avenue and Lyons Avenue	22.5	C	20.8	C
13	Railroad Avenue and 13th Street	19.8	B	23.1	C
14	Main Street and Lyons Avenue	10.8	B	8.2	A
15	Main Street and Newhall Avenue (4)	12.0	B	42.5	E
16	Arch Street and 12th Street/Placerita Canyon Road (3)	13.8	B	18.6	C
21	Market Street and Main Street(3)	9.5	A	11.7	B
22	Market Street (East) and Newhall Avenue(3)	99.99*	F	99.99*	F
23	Market Street (West) and Newhall Avenue	8.9	A	17.7	B

(1) Delay – In Seconds
(2) LOS – Level of Service
(3) Un-Signalized Intersection
(4) Roundabout Intersection
99.99* - Intersection Delay Exceeds Level of Service Standard
Source: **David Evans and Associates, Inc.**

As presented in *Table 2-3* under existing condition, most intersections are operating at LOS “E” or better. There are three (3) intersections that are currently operating at LOS “F.”



LEGEND

- * - FREE RIGHT TURN
- ROUNDABOUT CONTROLLED INTERSECTION
- STOP CONTROLLED INTERSECTION
- SIGNAL CONTROLLED INTERSECTION
- EXISTING GEOMETRICS
- (#) - STUDY INTERSECTIONS

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FIGURE 2-3: EXISTING INTERSECTION GEOMETRICS
ADDENDUM REPORT FOR THE PROPOSED EXPANSION OF DOCKWEILER DRIVE SANTA CLARITA, CALIFORNIA

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3 PROJECT CONDITION – YEAR 2019

The proposed Dockweiler Drive Alignment project is located in the City of Santa Clarita, approximately 35 miles northwest of the City of Los Angeles. The proposed Dockweiler Drive Alignment project is enclosed by a residential community near The Master's College. Sierra Highway provides a boundary for the study area along the eastern side. Through traffic access on Placerita Canyon Road is restricted with a gate entrance west of Sierra Highway. Placerita Canyon Road currently is the primary connection to The Master's College and residents to the north. Newhall Avenue on the southern boundary of the study area provides a direct connection for cross valley traffic and connects Sierra Highway and Railroad Avenue. The UP/Metrolink Railroad line restricts access to the west with three (3) existing at-grade railroad crossings located at 13th Street, Market Street, and Newhall Avenue. The study area is determined based on the North Newhall Specific Plan Stage II.

The Dockweiler Drive Alignment project is intended to serve as a major east-west corridor link in the area to facilitate access to existing and planned development. The project is proposed to aid the future traffic consistent with the Santa Clarita Valley Consolidated Traffic Model (SCVCTM). Construction of this link is anticipated to reduce "cross valley" trip lengths and travel times, provide an alternate travel route, support a multi-modal transportation network by reducing bus travel times in the City and by providing the opportunity for increased bike and pedestrian traffic.

Project Year 2019 Traffic Analysis

A project year of 2019 has been identified as the opening year for the Dockweiler Drive Alignment project. As presented, Alternative 3 extends the Dockweiler Drive alignment to intersect with Market Street and Race Street. The Alternative 3 would extend Dockweiler Drive from its existing terminus, westward to Market Street to provide a T-intersection with Race Street.

A major factor in distribution of traffic is the anticipated growth within the study area due to development. The Year 2019 traffic volumes were provided by the City of Santa Clarita using the Santa Clarita Valley Consolidated Traffic Model (SCVCTM) for the Interim Year. The Alternative 3 was modeled to account for the differing distribution of traffic dependent on the other alternatives. It is to be noted that Other Area Projects anticipated to be constructed by Year 2019, have been incorporated into the SCVCTM, and account for expected growth.

The Year 2019 intersection turn movements were primarily taken directly from the Interim Year SCVCTM specific to each alternative. A few intersection turn movements were determined using existing counts and the link volumes from the Year SCVCTM specific to the alternative. These values were then used in a 'Future Directional Link Volume (NCHRP 255)' calculator to determine Year 2019 Turn Movement Volumes. The intersections included were Valle Del Oro and Dockweiler Drive, Railroad Avenue and Market Street, Main Street and Lyons Avenue, Main Street and Newhall Avenue, Arch Street and 12th Street/Placerita Canyon Road, Lyons Avenue and Dockweiler Drive, Aden Avenue and Dockweiler Drive, Aden Avenue and Placeritos Boulevard, Aden Avenue and Placerita Canyon Road.

3.1 Alternative 3 Condition

The SCVCTM Interim Year model plots provided traffic volumes for the Alternative 3 Project Year 2019 Condition. *Figure 3-1* provides the study intersections. *Figure 3-2* provides the volumes.

LEGEND

X,XXX - AVERAGE DAILY TRAFFIC

(#) - STUDY INTERSECTIONS

DAVID EVANS AND ASSOCIATES INC.

FIGURE 3-1: PROJECT YEAR 2019 ALTERNATIVE 3 STUDY INTERSECTIONS ADDENDUM REPORT FOR THE PROPOSED EXPANSION OF DOCKWEILER DRIVE SANTA CLARITA, CALIFORNIA

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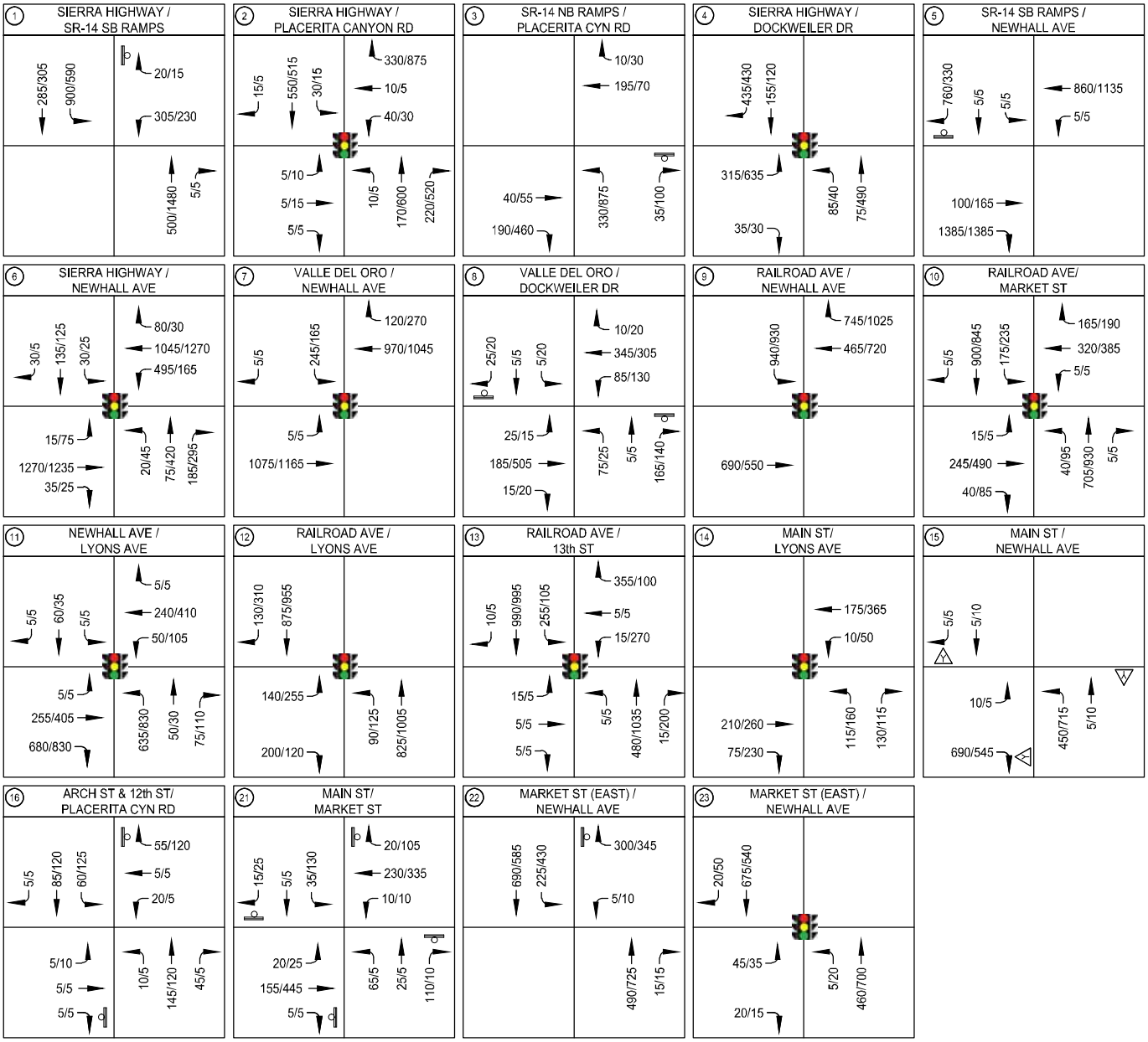

LEGEND

- ▽ - ROUNDABOUT CONTROLLED INTERSECTION
- STOP CONTROLLED INTERSECTION
- SIGNAL CONTROLLED INTERSECTION
- XX/XX - AM/PM PEAK HOUR VOLUMES
- (#) - STUDY INTERSECTIONS

DAVID EVANS AND ASSOCIATES INC.

FIGURE 3-2: PROJECT YEAR 2019 ALTERNATIVE 3 TRAFFIC VOLUMES ADDENDUM REPORT FOR THE PROPOSED EXPANSION OF DOCKWEILER DRIVE SANTA CLARITA, CALIFORNIA

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Last Opened: Jan 04, 2018 - 2:15pm by: Tim

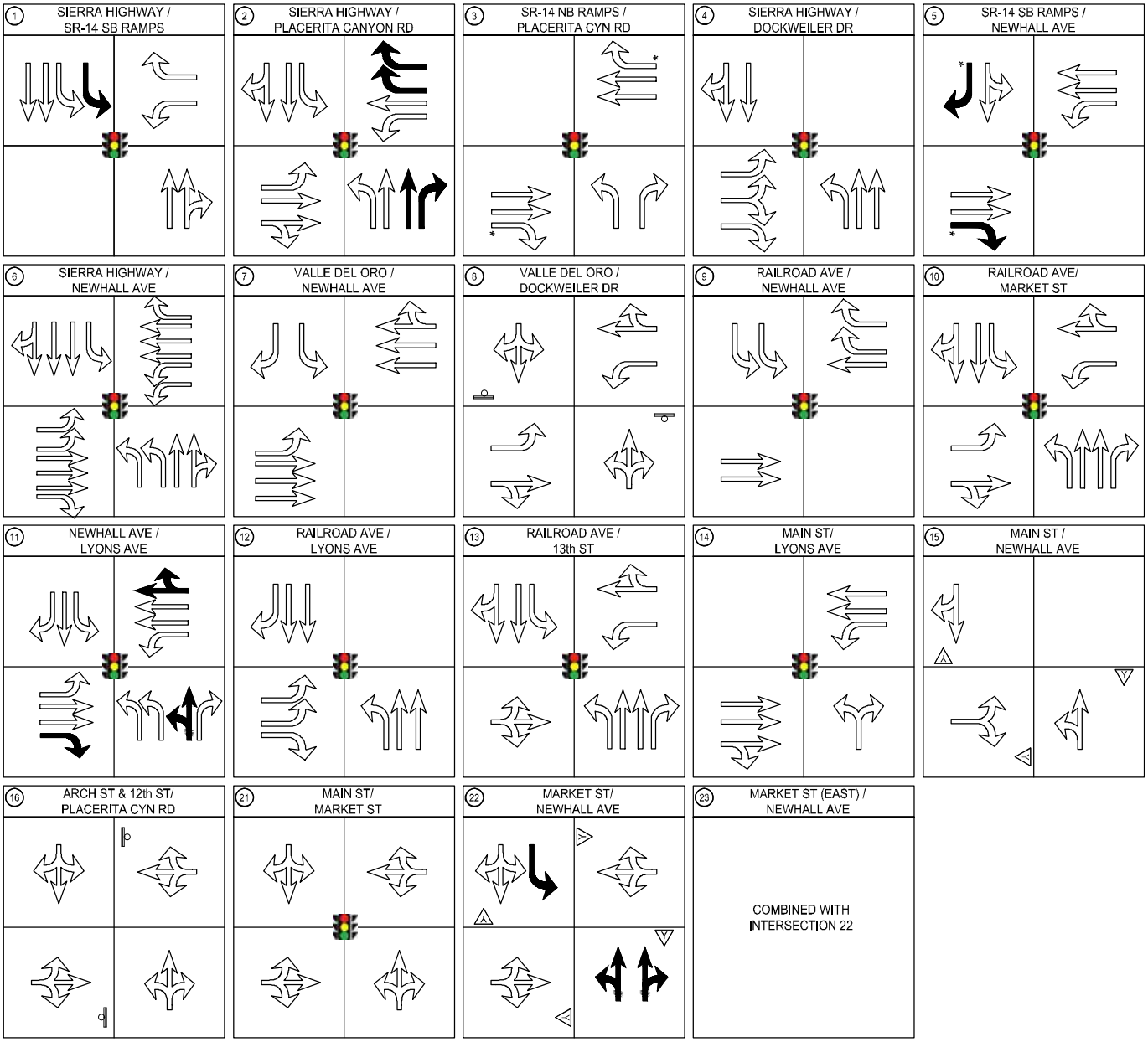
The intersections were analyzed using the capacity analysis methodology described in *Chapter 2*. The analysis was conducted with the existing intersection geometrics illustrated in *Figure 3-3.* The LOS for the study intersections presented in *Table 3-1* represents the LOS for the critical movement. This is typically the stop controlled left turn from the minor street.

Table 3-1: Intersection Capacity Analysis – Year 2019 Alternative 3 Condition
Traffic Impact Analysis – Addendum Report for the Proposed Expansion of Dockweiler Drive

	Intersection	AM		PM	
		Delay (1)	LOS(2)	Delay (1)	LOS(2)
1	Sierra Highway and SR-14 Freeway Southbound Ramps (3)	99.99*	F	99.99*	F
	Mitigation (Traffic Signal and Lane Modification)	22.0	C	37.1	D
2	Sierra Highway and Placerita Canyon Road	36.5	D	99.99*	F
	Mitigation (Lane Modification)	12.8	B	28.9	C
3	SR-14 Freeway Northbound Ramps and Placerita Canyon Road (3)	12.8	B	99.99*	F
	Mitigation (Traffic Signal)	5.6	A	6.9	A
4	Sierra Highway and Dockweiler Drive	26.7	C	29.5	C
5	SR-14 Freeway Southbound Ramps and Newhall Avenue (3)	99.99*	F	35.3	E
	Mitigation (Traffic Signal and Lane Modification)	4.2	A	4.6	A
6	Sierra Highway and Newhall Avenue	27.6	C	21.7	C
7	Valle Del Oro and Newhall Avenue	15.9	B	15.2	B
8	Valle Del Oro and Dockweiler Drive (3)	18.5	C	37.4	E
9	Railroad Avenue and Newhall Avenue	20.5	C	42.9	D
10	Railroad Avenue and Market Street	21.6	C	25.7	C
11	Newhall Avenue and Lyons Avenue	99.99*	F	51.9	D
	Mitigation (Lane Modification)	21.3	C	25.3	C
12	Railroad Avenue and Lyons Avenue	17.2	B	16.7	B
13	Railroad Avenue and 13th Street	20.0	B	16.8	B
14	Main Street and Lyons Avenue	18.0	B	18.9	B
15	Main Street and Newhall Avenue (5)	14.4	B	13.5	B
16	Arch Street and 12th Street/Placerita Canyon Road (3)	11.5	B	15.3	C
21	Market Street and Main Street(3)	10.3	B	26.1	D
	Mitigation (Traffic Signal)	5.6	A	6.3	A
22	Market Street (East) and Newhall Avenue(3)	25.5	D	99.99*	F
	Mitigation (Roundabout Market St at Newhall Ave Intersections)	10.8	B	14.3	B
23	Market Street (West) and Newhall Avenue	4.0	A	3.5	A

(1) Delay – In Seconds
(2) LOS – Level of Service
(3) Un-Signalized Intersection
(4) Roundabout Intersection
99.99* - Intersection Delay Exceeds Level of Service Standard
Source: **David Evans and Associates, Inc.**

As presented in *Table 3-1* under Year 2019 Alternative 3 Condition, most of the study intersections are anticipated to continue to operate at LOS “E” or better. There are six (6) intersections that are anticipated to operate at LOS “F.”



LEGEND

* - FREE RIGHT TURN

▽ - ROUNDABOUT CONTROLLED INTERSECTION

- STOP CONTROLLED INTERSECTION

- SIGNAL CONTROLLED INTERSECTION

- EXISTING GEOMETRICS

- PROPOSED GEOMETRICS

(#) - STUDY INTERSECTIONS

DAVID EVANS AND ASSOCIATES INC.

FIGURE 3-3: PROJECT YEAR 2019 ALTERNATIVE 3 INTERSECTION GEOMETRICS ADDENDUM REPORT FOR THE PROPOSED EXPANSION OF DOCKWEILER DRIVE SANTA CLARITA, CALIFORNIA

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4 FUTURE CONDITION – YEAR 2035

The extension of Dockweiler Drive will provide a valley crossing. This roadway is proposed to aid the future traffic growth consistent with the Santa Clarita Valley Consolidated Traffic Model (SCVCTM).

Future Year 2035 Traffic Analysis

Future Year 2035 traffic volumes were provided by the City of Santa Clarita using the Santa Clarita Valley Consolidated Traffic Model (SCVCTM) for the Buildout Year. Each alternative was modeled to account for the differing distribution of traffic dependent on the alternative. It is to be noted that Other Area Projects anticipated to be constructed by Year 2035, have been incorporated into the SCVCTM, and account for expected growth.

The buildout includes construction of future roadways Golden Valley Road between Newhall Ranch Road to Valley Center Drive, Magic Mountain Parkway from Railroad Avenue to Via Princessa, and Via Princessa between Claibourne Lane and Sheldon Avenue. This also includes the proposed conceptual development of the North Newhall Specific Plan area an 809 dwelling unit plus an approximate 11 acre commercial land use.

The Future Year 2035 intersection turn movements were primarily taken directly from the Buildout Year SCVCTM specific to the alternative. A few intersection turn movements were determined using existing counts and the link volumes from the Year SCVCTM specific to the alternative. These values were then used in a 'Future Directional Link Volume (NCHRP 255)' calculator to determine Future Year 2035 Turn Movement Volumes. The intersections included were Valle Del Oro and Dockweiler Drive, Railroad Avenue and Market Street, Main Street and Lyons Avenue, Main Street and Newhall Avenue, Arch Street and 12th Street/Placerita Canyon Road, Lyons Avenue and Dockweiler Drive, Aden Avenue and Dockweiler Drive, Aden Avenue and Placeritos Boulevard, Aden Avenue and Placerita Canyon Road.

4.1 Alternative 3 Condition

The Santa Clarita Valley Consolidated Traffic Model (SCVCTM) for Build-Out Year provided traffic volumes for the Future Year 2035 Condition. The model plots provided a No-Build Condition outlining the distribution of future traffic without the project. The analysis of No-Build Condition utilizes the traffic volume projections for the City of Santa Clarita's traffic model together with the existing traffic flow data. The traffic projections are based on the General Plan Buildout. The buildout includes construction of future roadways Dockweiler Drive between Railroad Avenue and Val Del Oro, Golden Valley Road between Newhall Ranch Road to Valley Center Drive, Magic Mountain Parkway from Railroad Avenue to Via Princessa, and Via Princessa between Claibourne Lane and Sheldon Avenue. This also includes the proposed conceptual development of the North Newhall Specific Plan area an 809 dwelling unit plus an approximate 11 acre commercial land use.

Figure 4-1 provides the study intersections for the Future Year 2035 Alternative 3. *Figure 4-2* provides the volumes.

FIGURE 4-1: FUTURE YEAR 2035
ALTERNATIVE 3 STUDY INTERSECTIONS
ADDENDUM REPORT FOR THE PROPOSED
EXPANSION OF DOCKWEILER DRIVE
SANTA CLARITA, CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.

Drawing Name: Q:\SSCL\A00000003\0400CAD\TTE\XHIBITS\Figure 4-1.dwg
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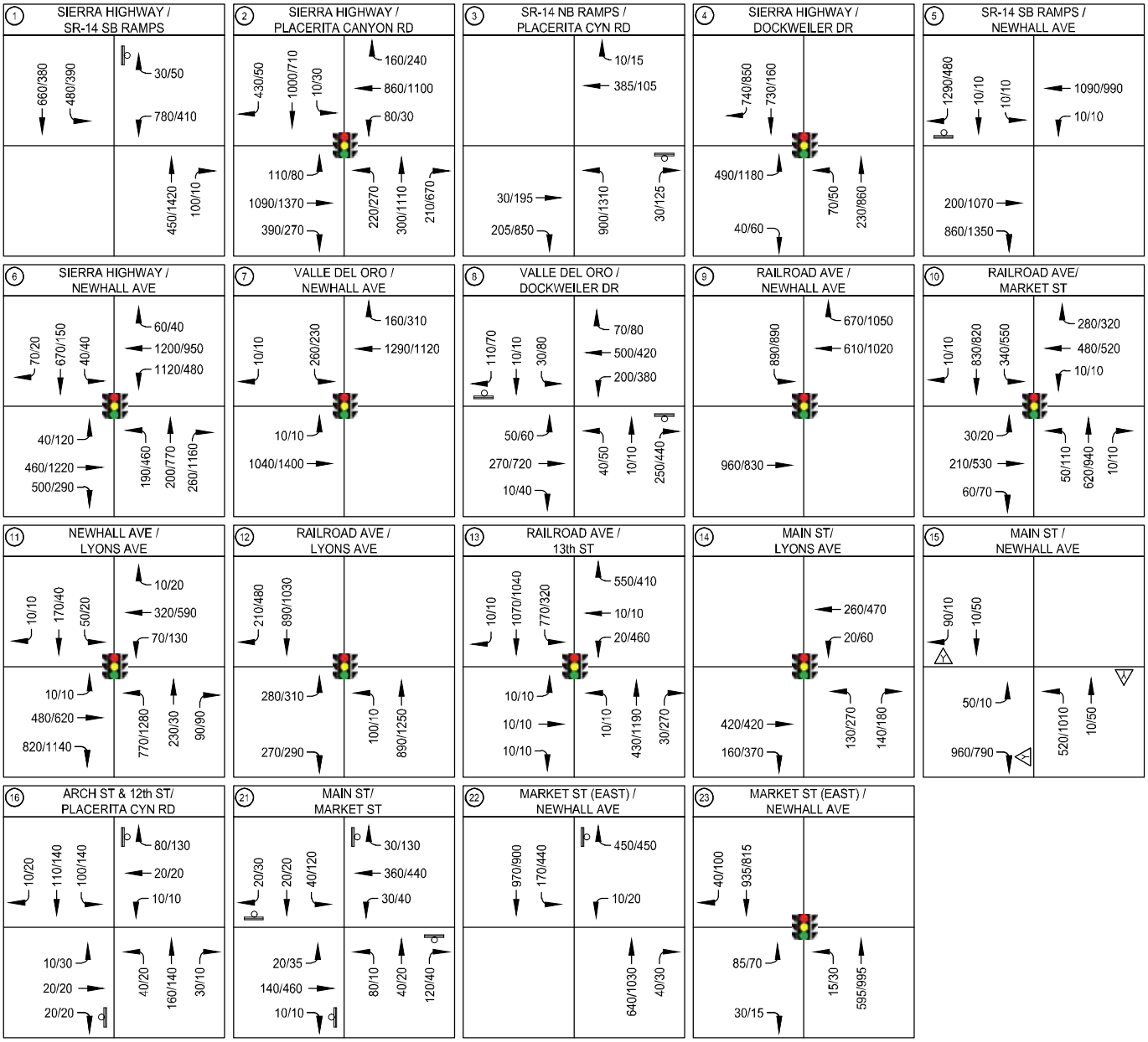

LEGEND

- ▽ - ROUNDABOUT CONTROLLED INTERSECTION
- STOP CONTROLLED INTERSECTION
- SIGNAL CONTROLLED INTERSECTION
- XX/XX - AM/PM PEAK HOUR VOLUMES
- (#) - STUDY INTERSECTIONS

DAVID EVANS AND ASSOCIATES INC.

FIGURE 4-2: FUTURE YEAR 2035 ALTERNATIVE 3 TRAFFIC VOLUMES ADDENDUM REPORT FOR THE PROPOSED EXPANSION OF DOCKWEILER DRIVE SANTA CLARITA, CALIFORNIA

Drawing Name: Q:\SCL\A00000003\04400CAD\TIE\XHIBIT\Figure 4-2.dwg
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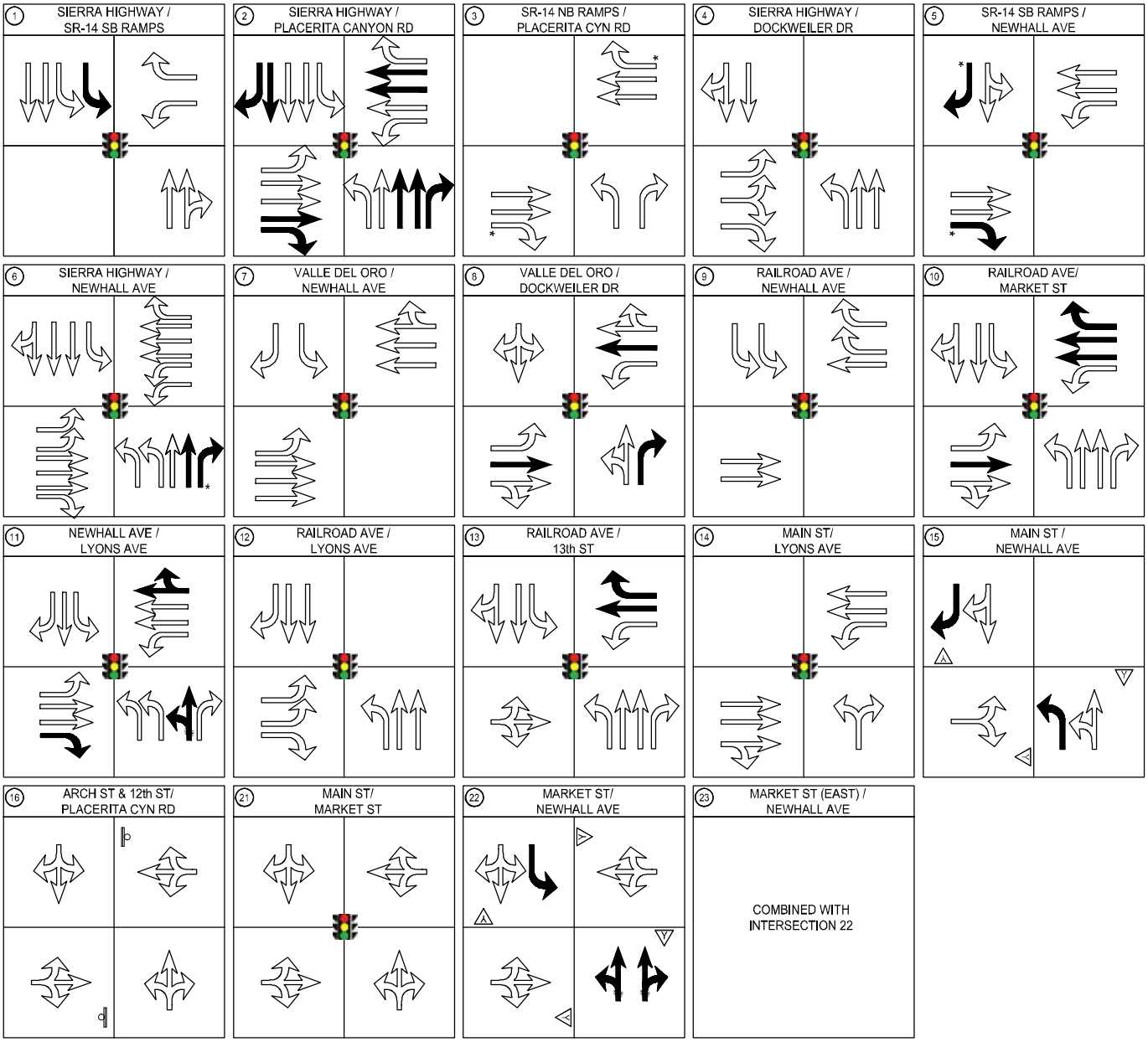
The intersections were analyzed using the capacity analysis methodology described in *Chapter 2*. The analysis was conducted with the Future Year 2035 Alternative 3 Condition existing and mitigated study intersection geometrics illustrated in *Figure 4-3.* The LOS for the study intersections presented in *Table 4-1* represents the LOS for the critical movement. This is typically the stop controlled left turn from the minor street

Table 4-1: Intersection Capacity Analysis – Year 2035 Alternative 3 Condition
Traffic Impact Analysis – Addendum Report for the Proposed Expansion of Dockweiler Drive

	Intersection	AM		PM	
		Delay (1)	LOS(2)	Delay (1)	LOS(2)
1	Sierra Highway and SR-14 Freeway Southbound Ramps (3)	99.99*	F	89.1	F
	Mitigation (Traffic Signal and Lane Modification)	43.3	D	44.5	D
2	Sierra Highway and Placerita Canyon Road	99.99*	F	99.99*	F
	Mitigation (Lane Modification)	42.6	D	32.4	C
3	SR-14 Freeway Northbound Ramps and Placerita Canyon Road (3)	99.99*	F	99.99*	F
	Mitigation (Traffic Signal)	14.3	B	42.5	D
4	Sierra Highway and Dockweiler Drive	18.3	B	67.4	E
5	SR-14 Freeway Southbound Ramps and Newhall Avenue (3)	99.99*	F	68.9	F
	Mitigation (Traffic Signal and Lane Modification)	4.2	A	4.6	A
6	Sierra Highway and Newhall Avenue	54.4	D	99.99*	F
	Mitigation (Lane Modification)	55.0	D	34.4	C
7	Valle Del Oro and Newhall Avenue	19.1	B	18.4	B
8	Valle Del Oro and Dockweiler Drive (3)	99.99*	F	99.99*	F
	Mitigation (Traffic Signal and Lane Modification)	11.8	B	54.4	D
9	Railroad Avenue and Newhall Avenue	19.5	B	34.7	C
10	Railroad Avenue and Market Street	48.0	D	84.7	F
	Mitigation (Lane Modification)	28.7	C	50.5	D
11	Newhall Avenue and Lyons Avenue	99.99*	F	269.6	F
	Mitigation (Lane Modification)	45.6	D	51.2	D
12	Railroad Avenue and Lyons Avenue	21.1	C	17.0	B
13	Railroad Avenue and 13th Street	99.99*	F	99.99*	F
	Mitigation (Lane Modification)	22.8	C	37.0	D
14	Main Street and Lyons Avenue	19.1	B	20.0	C
15	Main Street and Newhall Avenue (5)	60.5	F	53.6	F
	Mitigation (Lane Modification)	8.9	A	9.2	A
16	Arch Street and 12th Street/Placerita Canyon Road (3)	13.9	B	21.1	C
21	Market Street and Main Street(3)	14.4	B	80.4	F
	Mitigation (Traffic Signal)	6.4	A	6.7	A
22	Market Street (East) and Newhall Avenue(3)	99.99*	F	99.99*	F
	Mitigation (Connect Newhall Ave and Market St Intersections to a Roundabout)	29.0	D	47.3	E
23	Market Street (West) and Newhall Avenue	6.7	A	6.7	A

(1) Delay – In Seconds
(2) LOS – Level of Service
(3) Un-Signalized Intersection
(4) Roundabout Intersection
99.99* - Intersection Delay Exceeds Level of Service Standard
Source: **David Evans and Associates, Inc.**

As presented in *Table 4-1* under Future Year 2035 Alternative 3 Condition, several intersections are anticipated to operate at LOS "F."



LEGEND

* - FREE RIGHT TURN

▽ - ROUNDABOUT CONTROLLED INTERSECTION

- STOP CONTROLLED INTERSECTION

- SIGNAL CONTROLLED INTERSECTION

- EXISTING GEOMETRICS

- PROPOSED GEOMETRICS

(#) - STUDY INTERSECTIONS

DAVID EVANS AND ASSOCIATES INC.

FIGURE 4-3: PROJECT YEAR 2035 ALTERNATIVE 3 INTERSECTION GEOMETRICS ADDENDUM REPORT FOR THE PROPOSED EXPANSION OF DOCKWEILER DRIVE SANTA CLARITA, CALIFORNIA

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Last Opened: Jan 04, 2018 - 2:36pm by: Tim

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5 RAILROAD CROSSING ANALYSIS

The existing Union Pacific/Metrolink rail line currently extends through the City of Santa Clarita, and is shared by both freight (Union Pacific) and passenger (Metrolink Antelope Valley line) trains. The nearest Metrolink train station to the proposed project is the Jan Heidt Newhall station located at Railroad Avenue and Market Street, approximately 0.25 mile south of Lyons Avenue. Currently the rail line serves approximately eight (8) freight trains per day with thirty (30) Metrolink commuter trains per weekday; twelve (12) on Saturday and six (6) trains Sunday. Passenger service from the Newhall station southbound to Los Angeles is provided by fourteen (14) trains per weekday starting at approximately 5:00 AM and ending at 7:30 PM. Passenger service northbound to Lancaster from the Newhall station is also provided by nine (9) trains starting at 7:00 AM until approximately 10:00 PM.

Traffic Counts were compiled for the existing railroad crossings at 13th Street, Market Street, and Newhall Avenue. AM and PM peak hour traffic counts included the existing vehicles, pedestrians, and bicycle volumes. *Table 5-1* presents the existing traffic counts.

For a comparison of the three Dockweiler Drive extension alternatives, Daily and AM and PM Peak hour traffic volumes were compiled for the Year 2019 and 2035 conditions as presented in *Table 5-2* and *Table 5-3* respectively.

Table 5-1: Railroad Crossing Analysis – Existing Condition
Traffic Impact Analysis – Dockweiler Drive Extension

Existing Condition	1	2	3	4	Total
	13th Street	Lyons Avenue	Market Street	Newhall Avenue	
ADT[1]	9,200	N / A[5]	4,000	43,350	**56,550**
AUTO[2] (AM)	555		320	3140	**4,015**
AUTO[2] (PM)	665		485	3925	**5,075**
PED[3] (AM)	6	N / A[5]	47	11	**64**
PED[3] (PM)	5		59	15	**79**
Bicycles[4] (AM)	3	N / A[5]	5	3	**11**
Bicycles[4] (PM)	8		15	4	**27**

(-) - Data not available
(1) ADT – Average Daily Traffic
(2) AUTO – Peak Hour Auto Traffic (Both Directions)
(3) PED – Peak Hour Pedestrian Traffic
(4) Bicycles – Peak Hour Bicycle Traffic
(5) N/A – Not Applicable Future Railroad Crossing
Source: **David Evans and Associates, Inc.**

Table 5-2: Railroad Crossing Analysis – Project Year 2019 Condition
Traffic Impact Analysis – Dockweiler Drive Extension

Year 2019		1 13th Street	2 Lyons Avenue	3 Market Street	4 Newhall Avenue	Total
No Build	ADT[1]	10,850	N / A[3]	4,410	47,550	**62,810**
	AM[2]	955		185	3,370	**4,510**
	PM[2]	1,050		375	3,860	**5,285**
Proposed Project	ADT[1]	N / A[3]	8,060	4,390	44,790	**57,240**
	AM[2]		620	185	3,115	**3,920**
	PM[2]		840	370	3,580	**4,790**
Alternative 1	ADT[1]	2,130	8,110	4,430	44,910	**59,580**
	AM[2]	105	625	190	3,130	**4,050**
	PM[2]	190	840	375	3,560	**4,965**
Alternative 2	ADT[1]	6,990	N / A[3]	4,420	45,010	**56,420**
	AM[2]	530		180	3085	**3,795**
	PM[2]	650		380	3615	**4,645**
Alternative 3	ADT[1]	7,490	N / A[3]	13,670	40,740	**61,900**
	AM[2]	480		900	2,840	**4,220**
	PM[2]	680		1,310	3,230	**5,220**

(1) ADT – Average Daily Traffic
(2) AUTO – Peak Hour Auto Traffic (Both Directions)
(3) N/A – Railroad Crossing Not Applicable to the Condition
Source: **David Evans and Associates, Inc.**

As presented in *Table 5-2* under Project Year 2019, the total average daily traffic is anticipated to be highest for the No Build Condition.

Table 5-3: Railroad Crossing Analysis – Future Year 2035 Condition
Traffic Impact Analysis – Dockweiler Drive Extension

Year 2035		1 13th Street	2 Lyons Avenue	3 Market Street	4 Newhall Avenue	Total
No Build	ADT[1]	16,940	N / A[3]	6,920	56,300	**80,160**
	AM[2]	1,170		325	3,735	**5,230**
	PM[2]	1,525		575	4,605	**6,705**
Proposed Project	ADT[1]	N / A[3]	28,870	7,050	47,100	**83,020**
	AM[2]		1880	330	3,015	**5,225**
	PM[2]		2495	590	3,695	**6,780**
Alternative 1	ADT[1]	10,150	21,270	7,060	47,050	**85,530**
	AM[2]	625	1435	320	3,025	**5,405**
	PM[2]	865	1885	600	3,680	**7,030**
Alternative 2	ADT[1]	17,670	N / A[3]	6,980	52,140	**76,790**
	AM[2]	1295		330	3370	**4,995**
	PM[2]	1585		580	4165	**6,330**
Alternative 3	ADT[1]	16,950	N / A[3]	20,820	47,630	**85,400**
	AM[2]	1,150		1,310	3,120	**5,580**
	PM[2]	1,530		1,920	3,780	**7,230**

(1) ADT – Average Daily Traffic
(2) AUTO – Peak Hour Auto Traffic (Both Directions)
(3) N/A – Railroad Crossing Not Applicable to the Condition
Source: **David Evans and Associates, Inc.**

As presented in *Table 5-3* under Future Year 2035, the total average daily traffic is anticipated to be highest for the Alternative 1 Condition.

6 BICYCLE AND PEDESTRIAN FACILITIES

The California State Government Code outlines that a city must develop a Circulation Plan included in its General Plan that shall include the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals and other local public utilities and facilities. Furthermore the City and County must coordinate with regional transportation plan. Consideration to said code the City of Santa Clarita utilized regional plans affecting the Santa Clarita Valley. Those regional plans included California Department of Transportation (Caltrans); the Regional Mobility Plan prepared by the Southern California Association of Governments (SCAG); the Los Angeles Metropolitan Transportation Authority's (MTA or Metro) Congestion Management Program and bicycle way strategic plan; Santa Clarita Transit's Transportation Development Plan (TDP); and Los Angeles County's Airport Land Use Plan.

The Santa Clarita Valley's circulation system provides vital connections linking neighborhoods, services, and employment centers throughout the community and the region. A comprehensive transportation network of roadways, multi-use trails and bicycle paths, bus transit, and commuter rail provides mobility options to Valley residents and businesses. Planning for the ultimate location and capacity of circulation improvements will also enhance economic strength and quality of life in the Valley.

Consideration to the Santa Clarita Valley's continued development of efficient, cost-effective and comprehensive transportation systems that are consistent with regional plans, and local needs. The Circulation Plan identifies and promotes a variety of techniques for improving mobility that go beyond planning for construction of new streets and highways. A major component in the development of the Santa Clarita Valley is the inclusion of alternative travel modes and support facilities. These facilities increase efficiency and capacity of existing systems, by promoting mixed-use development near transit facilities. Bicycle lanes and accessibility to bicycle paths are fundamental to a comprehensive transportation network. The Santa Clarita Valley's Bicycle and Pedestrian Facilities is provided in *Figure 6-1.*

As illustrated in *Figure 6-1,* Potential Bike Lane connectors are proposed from Dockweiler Drive to connect to the Proposed Class I Bike Path along Railroad Avenue and the Proposed Class I Bike Path along Railroad Avenue.

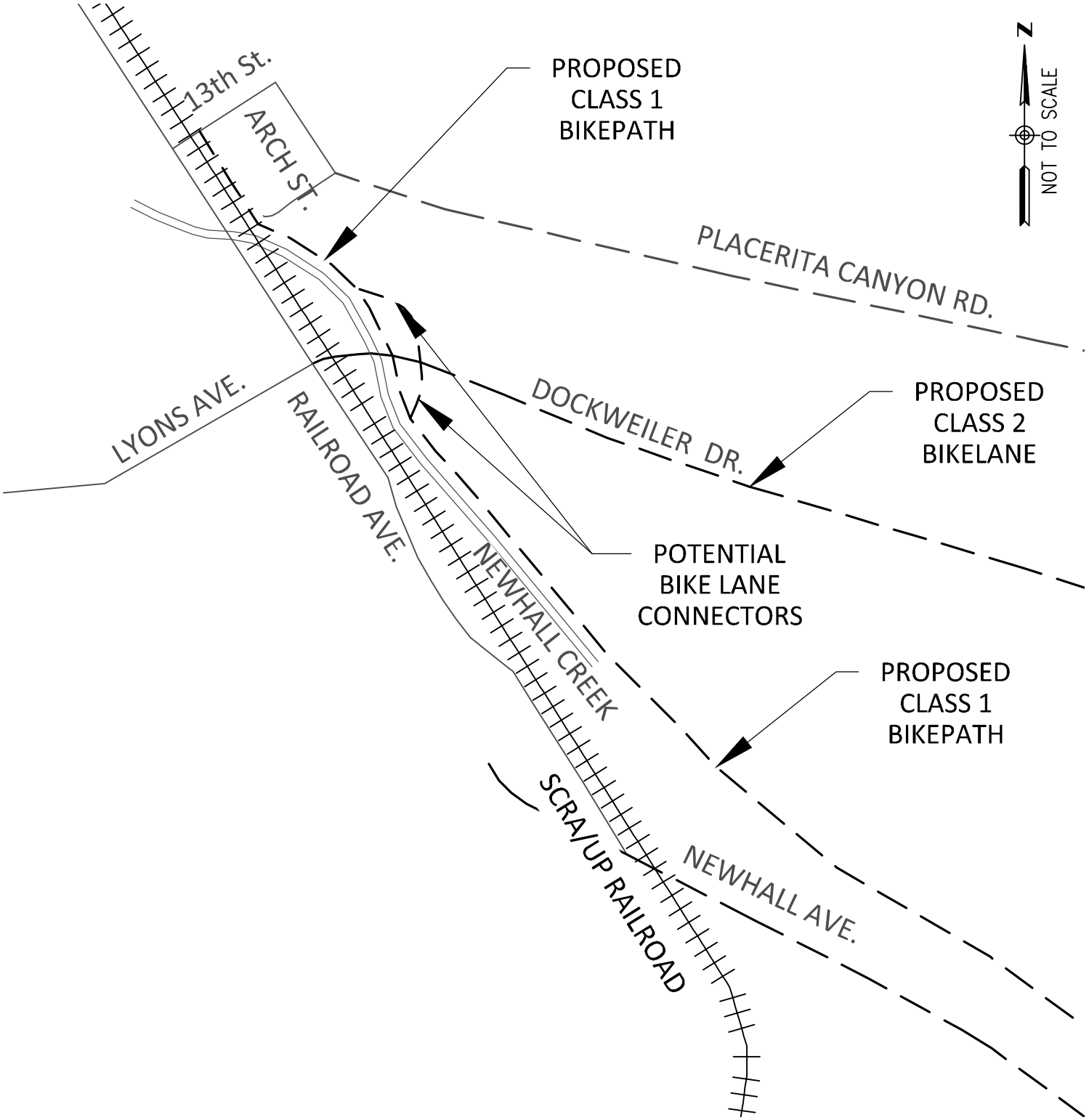

FIGURE 6-1: SANTA CLARITA VALLEY'S EXISTING BICYCLE & PEDESTRIAN FACILITIES

ADDENDUM REPORT FOR THE PROPOSED EXPANSION OF DOCKWEILER DRIVE SANTA CLARITA, CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.

Drawing Name: Q:\SSCL\A00000003\04400CAD\TTE\XHIBITS\Figure 6-1.dwg
Last Opened: Jan 04, 2018 - 2:41pm by: Tim

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7 PROJECT IMPACT, MITIGATION, AND SUMMARY

The following is an outline of the recommended traffic mitigation measures for the Alternative 3.

7.1 Alternative 3

Year 2019 Project Mitigations

1. Dockweiler Drive extension: Construct to full Secondary Highway Pavement width, from Race St to west of Valle Del Oro, providing two lanes eastbound (uphill) and one lane westbound (downhill), as necessary. May be striped for parking lane on both sides of roadway in interim condition. Class II Bike lanes and Pedestrian Sidewalks to be provided.

2. Newhall Avenue (North-South) and Lyons Avenue (East-West): The intersection modifications include lane modifications to provide additional westbound through traffic capacity and additional northbound left, additionally a conversion of the eastbound shared lane to an exclusive eastbound right turn lane. The northbound direction will include dual left turn lanes, a shared left-through lane, and a right turn lane. The south direction will include a left turn lane, a through lane, and a right turn lane. The eastbound direction will include a left turn lane, two through lanes, and a right turn lane. The westbound direction will include a left turn lane, two through lanes, and a shared through-right turn lane.

3. Main Street (North-South) and Market Street (East-West): The intersection modifications include installing a traffic signal. The north, south, east, and westbound directions will include a shared through-right turn lane.

4. Newhall Avenue (North-South) and Market Street (East-West): The intersection modifications removal of the traffic signal at the Newhall Avenue (North-South) and Market Street (West) intersection. The Newhall Avenue (North-South) and Market Street (East-West) intersections will be combined and converted to a multilane roundabout. The northbound direction will include a shared left-through lane and shared through-right lane. The southbound direction will include a left turn lane and a shared left-through-right lane. The eastbound and westbound directions will include a shared left-through-right lane.

Year 2019 Regional Mitigations

1. Sierra Highway (North-South) and SR-14 Freeway Southbound Ramps (East-West): The intersection modifications include installing a traffic signal and widening the southbound direction to provide an additional left turn lane. The northbound direction will include a through lane, and a shared through-right turn lane. The southbound direction will include two left turn lanes, and two through lanes. The eastbound direction will include a left turn lane and a right turn lane.

2. Sierra Highway (North-South) and Placerita Canyon Road (East-West): The intersection modifications include lane modifications to provide dual right turn westbound lanes and right turn northbound lane. The northbound direction will include a left turn lane, two through lanes, and a right turn lane. The south and eastbound directions will include a left turn lane, a through lane, and a shared through-right turn lane. The westbound direction will include a left turn lane, a through lane, and dual right turn lanes.

3. SR-14 Freeway Northbound Ramps (North-South) and Placerita Canyon Road (East-West): The intersection modifications include installing a traffic signal. The northbound direction will include a left turn lane and a right turn lane. The east and westbound directions will include two through lanes.

4. SR-14 Freeway Southbound Ramps (North-South) and Newhall Avenue (East-West): The intersection modifications include converting the east and southbound right turn lanes to free right turns and signalizing the intersection. The southbound direction will include a shared through-left turn lane and a free right turn lane. The eastbound direction will include two through lanes and a free right turn lane. The westbound direction will include a left turn lane and two through lanes.

Year 2035 Regional Mitigations

1. Sierra Highway (North-South) and Placerita Canyon Road (East-West): The Intersection modifications include widening to accommodate lane modifications to all approaches. Widen the northbound direction to accommodate an additional through lane. Widen the east and southbound directions to accommodate two additional through lanes and restripe the shared through-right lane to a right turn only lane. Widen the westbound direction to accommodate two additional through lanes. The north, east, south, and westbound direction will include a left turn lane, three through lanes, and a right turn lane.

2. Sierra Highway (North-South) and Newhall Avenue (East-West): Intersection modifications include converting the northbound through-right turn lane to a through lane and widening to accommodate a free right turn. The northbound direction will include two left turn lanes, two through lanes, and a free right turn. The southbound direction will include a left turn lane, two through lanes, and a shared through-right turn lane. The east and westbound directions will include two left turn lane, three through lanes, and a right turn lane.

3. Main Street (north leg) / Newhall Avenue (south leg) / Newhall Avenue (west leg): The intersection modifications include widening the northbound direction to accommodate a left turn lane and the eastbound direction to accommodate a right turn lane. Newhall Avenue (south leg) will include a left turn lane and a shared left-through lane. Main Street will include a shared right-through lane. Newhall Avenue (east leg) will include a shared left-right lane and a right turn lane.

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8 APPENDIX

Appendix A: Model Plots
Appendix B: Intersection Capacity Analysis Calculations