



DOCKWEILER DRIVE EXTENSION TRAFFIC IMPACT STUDY



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Contents

1. INTRODUCTION	1
1.1 Background	1
1.2 Design Alternatives	1
Alternative 1	1
Alternative 2	1
Alternative 3	2
1.3 Capacity Analysis Methodologies	8
2. EXISTING YEAR CONDITIONS (2019)	9
2.1 Existing Roadways	9
2.2 Intersections.....	9
2.3 Existing Conditions Traffic Analysis	12
3. OPENING YEAR CONDITIONS 2025	13
3.1 No Build Condition	13
3.1.1 No Build Traffic Analysis.....	13
3.2 Build Condition.....	14
3.2.1 Alternative 1 Traffic Analysis	14
3.2.2 Alternative 2 Traffic Analysis	15
3.2.3 Alternative 3 Traffic Analysis	16
4. HORIZON YEAR CONDITIONS 2035	23
4.1 No Build Condition	23
4.1.1 No Build Traffic Analysis.....	23
4.2 Build Condition.....	24
4.2.1 Alternative 1 Traffic Analysis	24
4.2.2 Alternative 2 Traffic Analysis	25
4.2.3 Alternative 3 Traffic Analysis	26
5. SUMMARY	33
5.1 Intersection Analysis	33
6. CONCLUSION	36

FIGURES

Figure 1.1: VICINITY MAP	2
Figure 1.2: EXISTING INTERSECTION CONFIGURATION RAILROAD AVENUE AT 13 TH STREET	3
Figure 1.3: EXISTING INTERSECTION CONFIGURATION 12 TH STREET AT PLACERITA CANYON ROAD.....	4
Figure 1.4: ALTERNATIVE 1	5
Figure 1.5: ALTERNATIVE 2	6
Figure 1.6: ALTERNATIVE 3	7
Figure 2.1: EXISTING TRAFFIC VOLUMES RAILROAD AVENUE AT 13 TH STREET.....	10
Figure 2.2: EXISTING TRAFFIC VOLUMES 12 TH STREET AT PLACERITA CANYON ROAD.....	11
Figure 3.1: RAILROAD AVENUE AT 13 TH STREET NO-BUILD OPENING YEAR 2025 TRAFFIC VOLUMES....	17
Figure 3.2: 12 TH STREET AT PLACERITA CANYON ROAD NO-BUILD OPENING YEAR 2025 TRAFFIC VOLUMES	18
Figure 3.3: RAILROAD AVENUE AT 13 TH STREET OPENING YEAR 2025 TRAFFIC VOLUMES.....	19
Figure 3.4: ALTERNATIVE 1 OPENING YEAR 2025 TRAFFIC VOLUMES.....	20
Figure 3.5: ALTERNATIVE 2 OPENING YEAR 2025 TRAFFIC VOLUMES.....	21
Figure 3.6: ALTERNATIVE 3 OPENING YEAR 2025 TRAFFIC VOLUMES.....	22
Figure 4.1: RAILROAD AVENUE AT 13 TH STREET NO-BUILD HORIZON YEAR 2035 TRAFFIC VOLUMES....	27
Figure 4.2: 12 TH STREET AT PLACERITA CANYON ROAD NO-BUILD HORIZON YEAR 2035 TRAFFIC VOLUMES	28
Figure 4.3: RAILROAD AVENUE AT 13 TH STREET HORIZON YEAR 2035 TRAFFIC VOLUMES.....	29
Figure 4.4: ALTERNATIVE 1 HORIZON YEAR 2035 TRAFFIC VOLUMES.....	30
Figure 4.5: ALTERNATIVE 2 HORIZON YEAR 2035 TRAFFIC VOLUMES.....	31
Figure 4.6: ALTERNATIVE 3 HORIZON YEAR 2035 TRAFFIC VOLUMES.....	32

TABLES

Table 2.1: Vehicle Queue Length Analysis – Existing Year Without Project (2019).....	12
Table 2.2: Vehicle Delay Analysis – Existing Year Without Project (2019).....	12
Table 3.1: Vehicle Queue Length Analysis – Opening Year 2025 No Build	13
Table 3.2: Vehicle Delay Analysis – Opening Year 2025 No Build.....	13
Table 3.3: Vehicle Queue Length Analysis – Opening Year 2025 Alternative 1.....	14
Table 3.4: Vehicle Delay Analysis – Opening Year 2025 Alternative 1.....	14
Table 3.5: Vehicle Queue Length Analysis – Opening Year 2025 Alternative 2.....	15
Table 3.6: Vehicle Delay Analysis – Opening Year 2025 Alternative 2.....	15
Table 3.7: Vehicle Queue Length Analysis – Opening Year 2025 Alternative 3.....	16
Table 3.8: Vehicle Delay Analysis – Opening Year 2025 Alternative 3.....	16
Table 4.1: Vehicle Queue Length Analysis – Horizon Year 2035 No Build	23
Table 4.2: Vehicle Delay Analysis – Horizon Year 2035 No Build.....	23
Table 4.3: Vehicle Queue Length Analysis – Horizon Year 2035 Alternative 1.....	24
Table 4.4: Vehicle Delay Analysis – Horizon Year 2035 Alternative 1.....	24
Table 4.5: Vehicle Queue Length Analysis – Horizon Year 2035 Alternative 2.....	25
Table 4.6: Vehicle Delay Analysis – Horizon Year 2035 Alternative 2.....	25
Table 4.7: Vehicle Queue Length Analysis – Horizon Year 2035 Alternative 3.....	26
Table 4.8: Vehicle Delay Analysis – Horizon Year 2035 Alternative 3.....	26
Table 5.1: Vehicle Queue Length Analysis Summary (AM).....	33
Table 5.2: Vehicle Queue Length Analysis Summary (PM).....	34
Table 5.3: Vehicle Delay Analysis Summary.....	35

1. INTRODUCTION

1.1 Background

ADVANTEC Consulting Engineers (ADVANTEC) prepared this report to document the traffic study findings for the proposed extension of Dockweiler Drive from the existing terminus of Dockweiler Drive to the intersection of 12th Street and Placerita Canyon Road. The City of Santa Clarita is proposing to designate Dockweiler Drive as a Secondary Highway consisting of four (4) travel lanes. **Figure 1.1** presents a vicinity map of the project and **Figures 1.2** and **1.3** present the existing intersection configurations for Railroad Avenue at 13th Street and 12th Street at Placerita Canyon Road, respectively.

The following sections will evaluate three (3) intersection design alternatives for the Dockweiler Drive extension project at the Dockweiler Drive/12th Street/Placerita Canyon Road intersection for the following conditions:

- Existing (2019)
- Opening Year without Project Alternatives (2025)
- Opening Year + Project Alternatives (2025)
- Horizon Year without Project Alternatives (2035)
- Horizon Year + Project Alternatives (2035)

Level of Service analysis was performed for AM and PM peak hours. The scope and methodologies used in this traffic impact study were developed in consultation with the City of Santa Clarita.

1.2 Design Alternatives

This report examines the traffic impact for the following three (3) intersection alternatives:

Alternative 1

Alternative 1 proposes to extend Dockweiler Drive from its existing terminus, westward to intersect with Arch Street, 12th Street, and Placerita Canyon Road, providing a 5-legged roundabout intersection as illustrated in **Figure 1.4**. The roundabout will have one (1) main lane in the circle, with one (1) lane approach from Arch Street, Dockweiler Drive, 12th Street, and Placerita Canyon Road with a right turn bypass from Dockweiler Drive to Placerita Canyon Road.

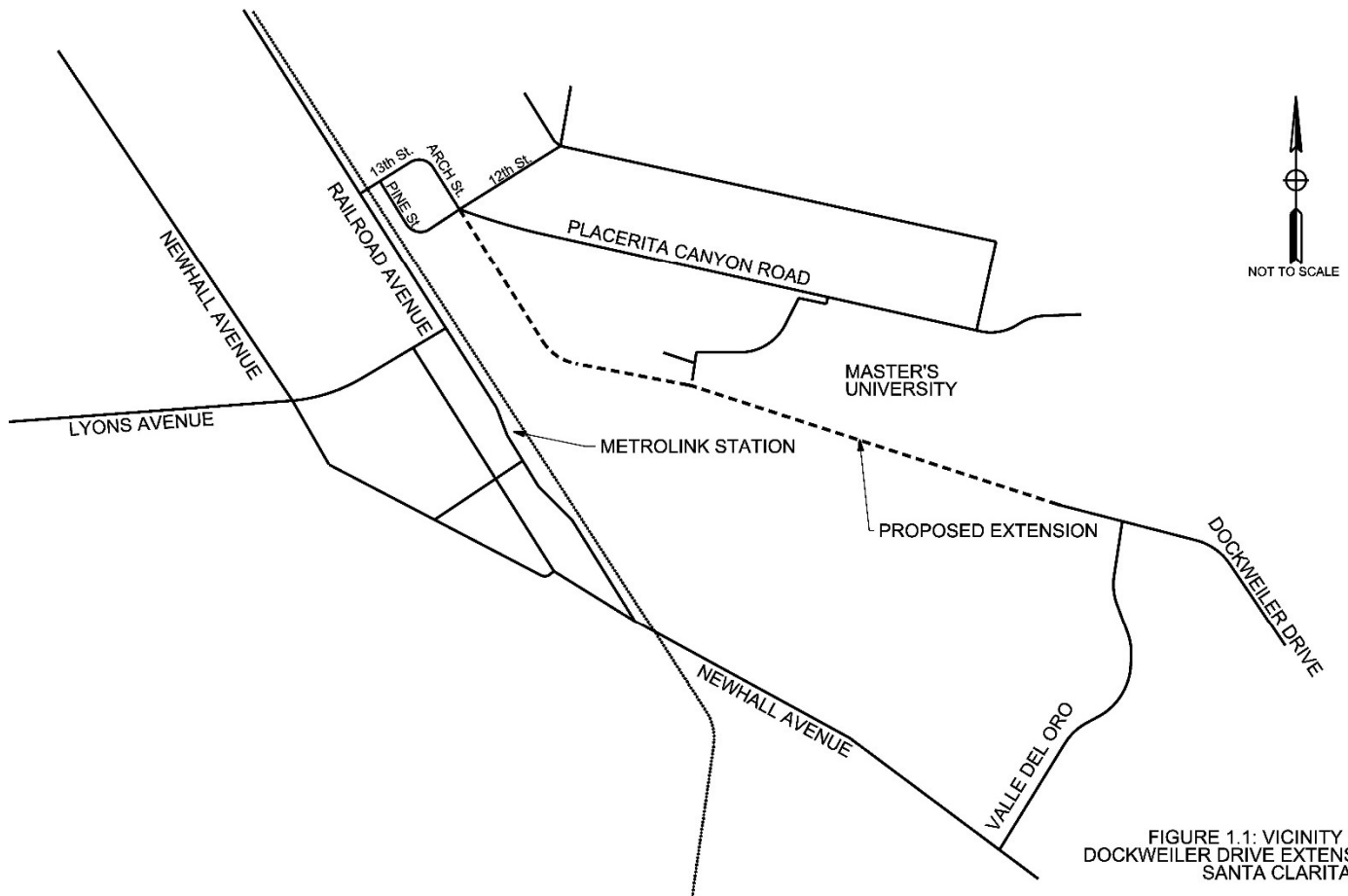
Alternative 2

Alternative 2 proposes to extend Dockweiler Drive from its existing terminus, westward to intersect with Arch Street, and 12th Street providing a 4-legged roundabout with a signalized offset T-intersection with Placerita Canyon Road as illustrated in **Figure 1.5**. The

roundabout will have one (1) main lane in the circle, with one (1) lane approach from Arch Street, Dockweiler Drive, and 12th Street.

Alternative 3

Alternative 3 proposes to extend Dockweiler Drive from its existing terminus, westward to intersect with Arch Street, and 12th Street providing a standard 4-leg signalized intersection and a continuous green T-intersection with Placerita Canyon Road as illustrated in **Figure 1.6**.



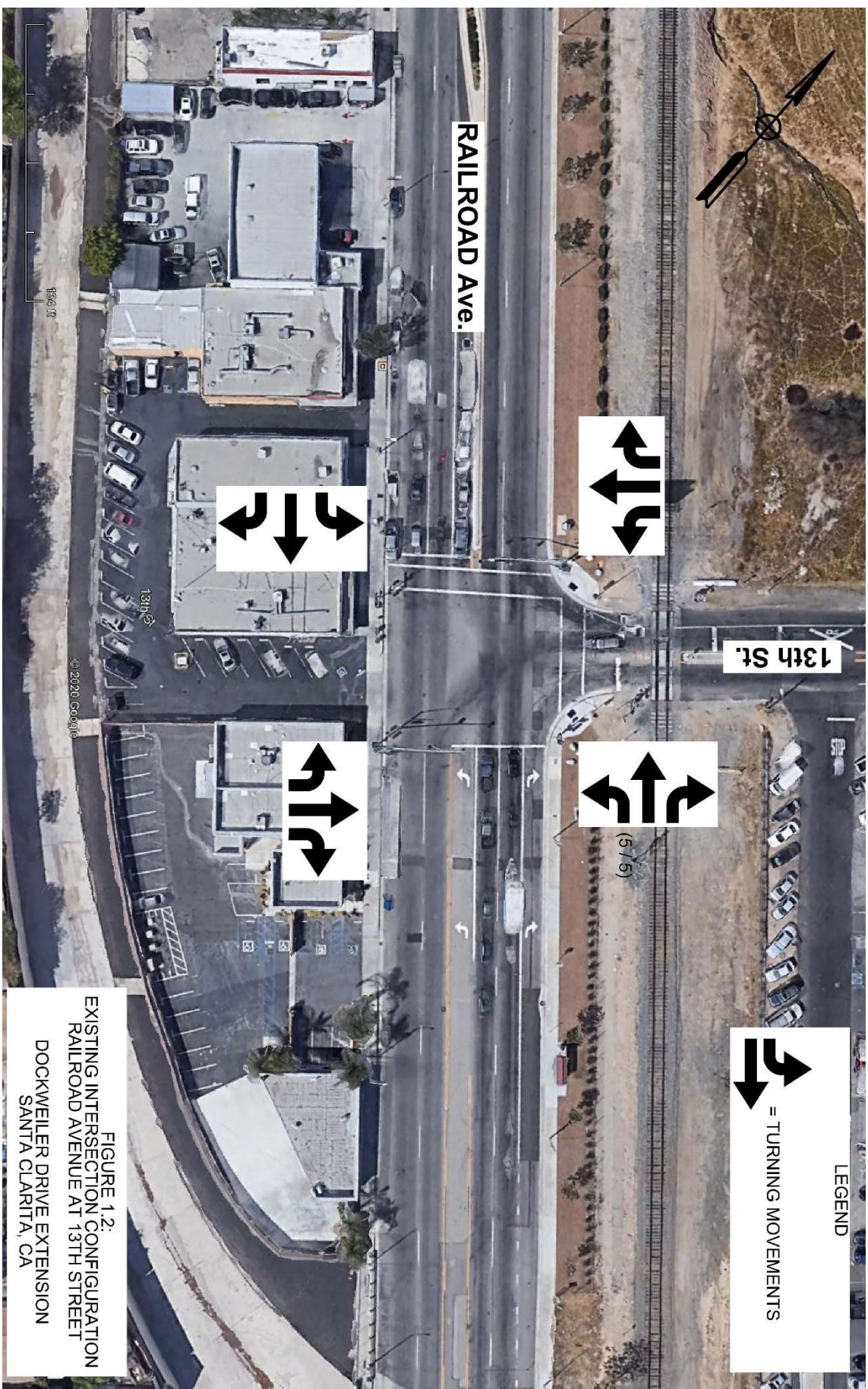


FIGURE 1.2:
EXISTING INTERSECTION CONFIGURATION
RAILROAD AVENUE AT 13TH STREET
DOCKWEILER DRIVE EXTENSION
SANTA CLARITA, CA

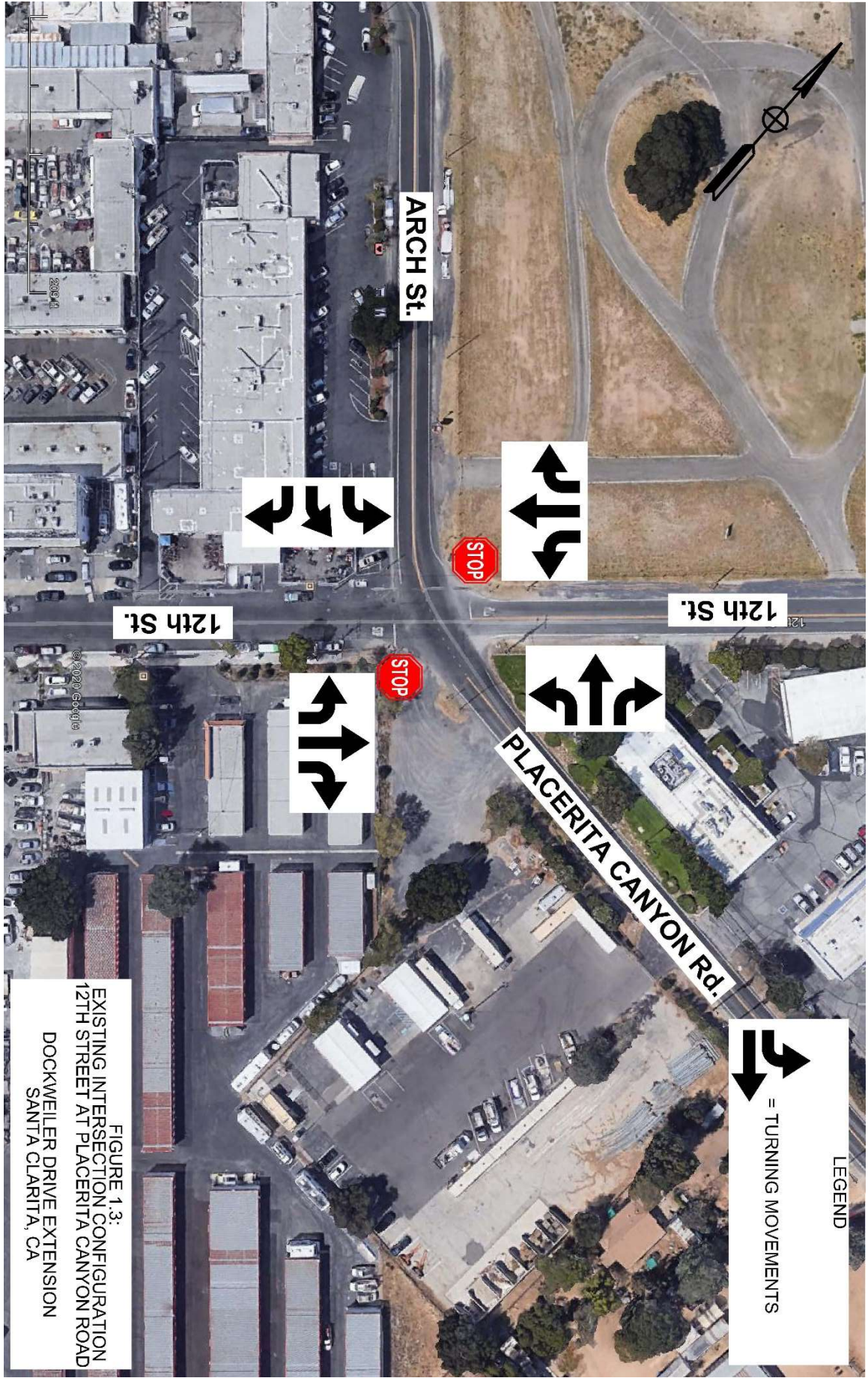


FIGURE 1.3:
EXISTING INTERSECTION CONFIGURATION
12TH STREET AT PLACERITA CANYON ROAD
DOCKWEILER DRIVE EXTENSION
SANTA CLARITA, CA



FIGURE 1.4: ALTERNATIVE 1
DOCKWEILER DRIVE EXTENSION
SANTA CLARITA, CA

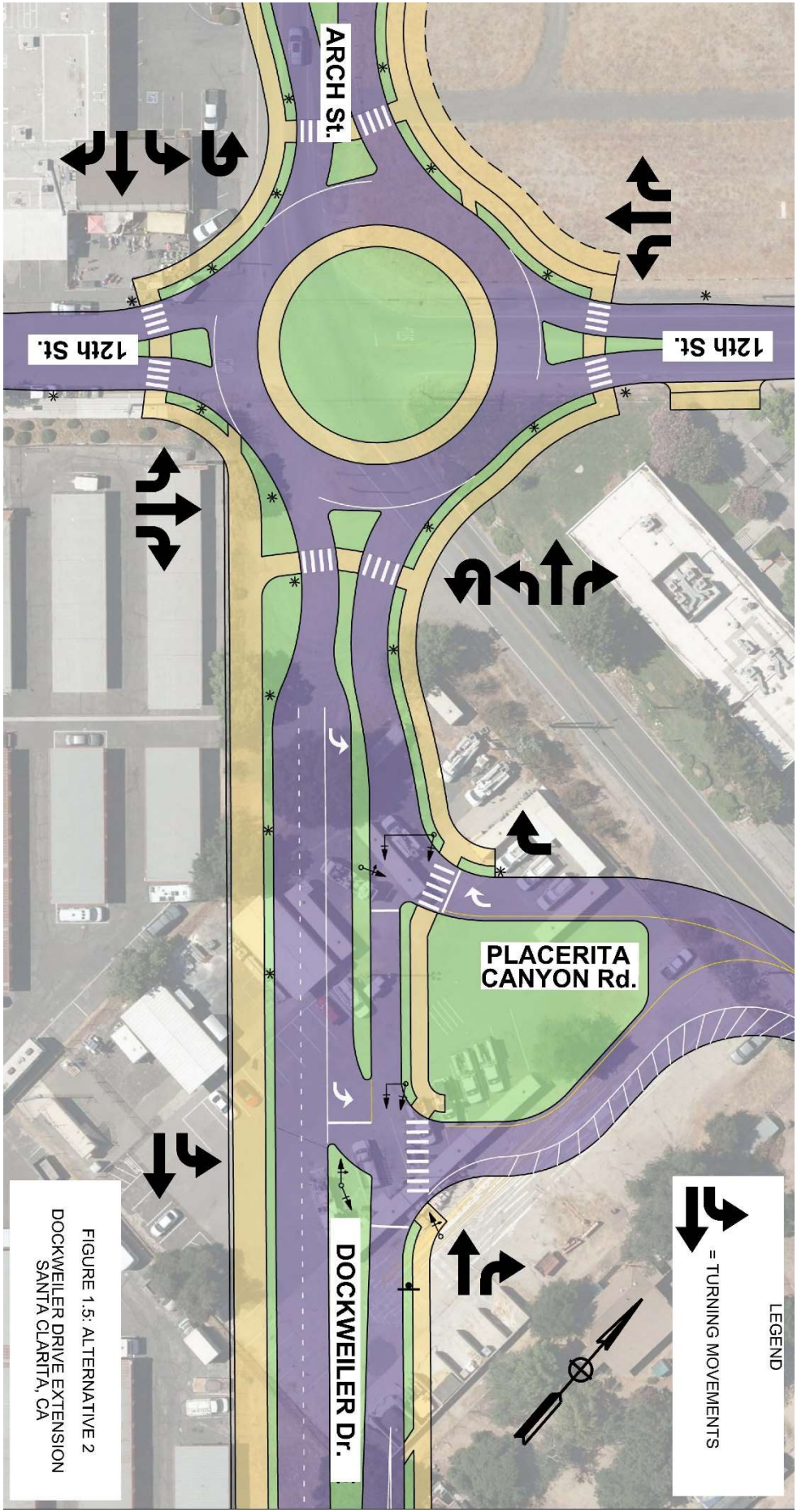


FIGURE 1.5: ALTERNATIVE 2
DOCKWEILER DRIVE EXTENSION
SANTA CLARITA, CA



1.3 Capacity Analysis Methodologies

Based upon the proposed intersection alternatives and discussion with the City of Santa Clarita, it was determined that comparing Level of Service (LOS) would not be appropriate, as roundabouts and standard intersections operate differently, and the LOS obtained would not truly show how one alternative operates better than the other. Therefore, it was concurred that Vehicle Queue Lengths and Vehicle Delay at the approaches of the Dockweiler Drive/12th Street/Placerita Canyon Road study intersection would be estimated to determine how each alternative performs.

Synchro/Simtraffic simulation was used to estimate vehicle queue lengths and vehicle delay for all scenarios. A 30-minute simulation was run for each alternative and scenario using the peak hour volumes (AM and PM) for 2025 and 2035. A 2019 No-Build simulation was also created using existing traffic volumes. All vehicle and driver parameters, such as aggressiveness and reaction time factors, were constant in each of the models. The simulations were then used to record the maximum queue (feet) and total delay (seconds per vehicle) experienced. The maximum queue was reported per lane group (i.e., exclusive lefts, through/shared, or exclusive rights). The total delay was reported per intersection approach.

Traffic volumes for year 2019 and 2035 were obtained from the Traffic Impact Study for the Lyons Avenue/Dockweiler Drive Extension Project Final Environmental Impact Report. The EIR's Year 2035 scenarios (Alternative 2 and No Build) traffic volumes were then adjusted to remove the traffic volumes corresponding to the Traffic Analysis Zone that represents the currently undeveloped area north of 13th Street/Arch Street. The removed traffic volumes were then replaced with the projected volumes for the Placerita Meadows development, with access points at 13th Street and at 12th Street. The Placerita Meadows development was assumed to be fully built by Year 2025.

A project year of 2025 was identified as the opening year for the Dockweiler Drive Extension project. Traffic volumes for year 2025 were calculated by interpolation between the EIR Alternative-2 Year 2019 and Year 2035 traffic volumes.

2. EXISTING YEAR CONDITIONS (2019)

2.1 Existing Roadways

The project study area is bound by Valle Del Oro to the east, Railroad Avenue to the south, 13th Street to the west, and Placerita Canyon Road to the north. The following is a description of the streets within the project study limits:

Railroad Avenue – Railroad Avenue is a designated major north-south 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 limits.

Dockweiler Drive – Dockweiler Drive is an east-west two-lane road with a 14-foot-wide raised landscaped median, which provides access to residential neighborhoods.

13th Street/Arch Street – 13th Street is an east-west two-lane local roadway. This roadway provides access to 12th Street and Placerita Canyon Road via its intersection with Railroad Avenue.

12th Street/Pine Street – 12th Street is a north-south two-lane local roadway. This roadway provides access to The Master’s College and the Placerita Canyon neighborhood.

Placerita Canyon Road – Placerita Canyon Road is an east-west local roadway. This roadway has a gated entrance towards the west. The gate provides restrictive access to residents of Placerita Canyon neighborhood.

Valle Del Oro – Valle Del Oro is a two-lane road with limited parking and provides access to residences.

2.2 Intersections

Based on potential impacts of the Dockweiler Drive extension to the area roadways, two (2) intersections have been identified for analysis:

1. 13th Street/Railroad Avenue Intersection
2. Dockweiler Drive/12th Street/Placerita Canyon Road Intersection

Figures 2.1 and **2.2** below present study intersections 1 and 2 respectively with existing traffic volumes.

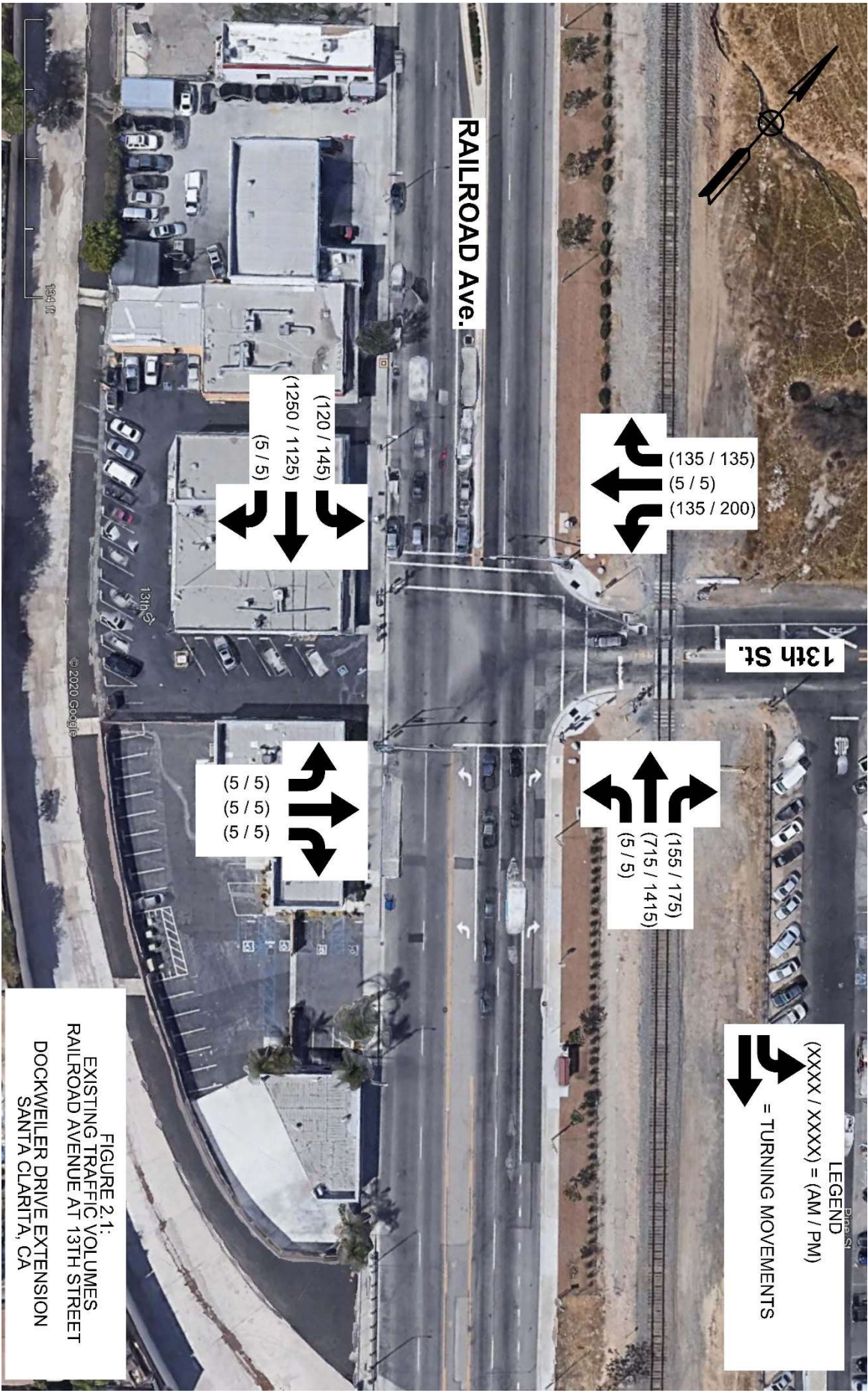


FIGURE 2.1:
 EXISTING TRAFFIC VOLUMES
 RAILROAD AVENUE AT 13TH STREET
 DOCKWEILER DRIVE EXTENSION
 SANTA CLARITA, CA

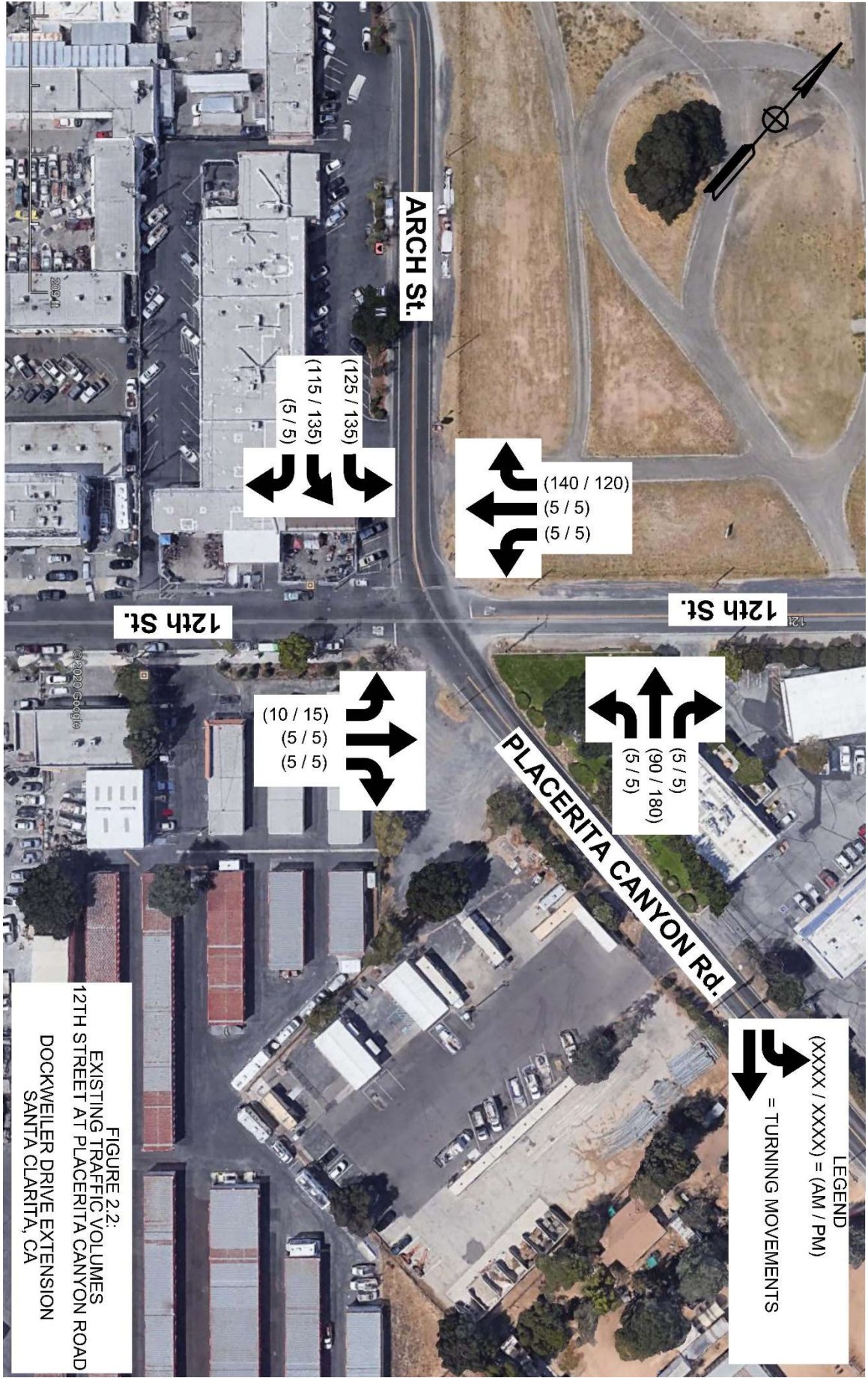


FIGURE 2.2:
 EXISTING TRAFFIC VOLUMES
 12TH STREET AT PLACERITA CANYON ROAD
 DOCKWEILER DRIVE EXTENSION
 SANTA CLARITA, CA

2.3 Existing Conditions Traffic Analysis

To determine the impacts of the project on the study intersections, existing traffic intersection capacity analysis was conducted. The results are summarized in **Table 2.1** and **Table 2.2** below.

Table 2.1: Vehicle Queue Length Analysis – Existing Year Without Project (2019)

Intersection / Maximum Queue Length			AM			PM		
			Lane-Group Queue ¹			Lane-Group Queue ¹		
			Left	Through	Right	Left	Through	Right
1	13 th Street/Railroad Avenue	NB	30	340	53	49	518	92
		EB	-	70	-	-	53	-
		SB	124	260	-	239	291	-
		WB	-	342	135	-	358	135
2	12 th Street/ Placerita Canyon Road ²	NB	-	0	-	-	0	-
		EB	-	50	-	-	26	-
		SB	-	74	-	-	99	-
		WB	-	38	-	-	80	-

¹ Maximum Queue Observed – Feet

² Unsignalized Intersection

Table 2.2: Vehicle Delay Analysis – Existing Year Without Project (2019)

Intersection / Delay per Vehicle			AM	PM
			Delay ¹	Delay ¹
1	13 th Street/Railroad Avenue	NB	17.8	24.3
		EB	63.0	32.6
		SB	12.9	16.4
		WB	52.5	50.8
2	12 th Street/ Placerita Canyon Road ²	NB	1.0	1.3
		EB	8.4	8.1
		SB	2.1	3.0
		WB	4.4	4.7

¹ Delay per Vehicle – Seconds

² Unsignalized Intersection

3. OPENING YEAR CONDITIONS 2025

A project year of 2025 has been identified as the opening year for the Dockweiler Drive Extension project. Utilizing interpolation between the EIR Alternative 2 2019 and 2035 traffic volumes, traffic volumes were calculated for the Year 2025. Three intersection alternatives were analyzed: 5-leg roundabout, 4-leg roundabout with offset T, and 4-leg signalized intersection with offset T.

3.1 No Build Condition

Figure 3.1 provides the No Build Opening Year 2025 traffic volume with the planned improvements of the Railroad Avenue and 13th Street intersection. **Figures 3.2** provides the No Build Opening Year 2025 traffic volumes for 12th Street and Placerita Canyon Road intersection.

3.1.1 No Build Traffic Analysis

Tables 3.1 and **Table 3.2** summarize the No Build opening year 2025 maximum queue length and delay per vehicle for the study intersections.

Table 3.1: Vehicle Queue Length Analysis – Opening Year 2025 No Build

Intersection / Maximum Queue Length			AM			PM		
			Lane-Group Queue ¹			Lane-Group Queue ¹		
			Left	Through	Right	Left	Through	Right
1	13 th Street/Railroad Avenue	NB	22	300	52	149	339	165
		EB	-	51	-	-	53	-
		SB	143	187	-	234	220	-
		WB	134	281 ³	135	134	405 ³	135
2	Dockweiler Drive/12 th Street/Placerita Canyon Road ²	NB	-	89	-	-	129	-
		EB	-	41	-	-	85	-
		SB	187	56	-	214	75	-
		WB	-	65	-	-	79	-

¹ Maximum Queue Observed – Feet

² Unsignalized Intersection

³ Through/left turn lane

Table 3.2: Vehicle Delay Analysis – Opening Year 2025 No Build

Intersection / Delay per Vehicle			AM	PM
			Delay ¹	Delay ¹
1	13 th Street/Railroad Avenue	NB	16.2	20.2
		EB	73.6	72.1
		SB	14.4	15.4
		WB	31.2	40.3
2	Dockweiler Drive/12 th Street/Placerita Canyon Road ²	NB	8.8	12.8
		EB	4.7	8.1
		SB	7.2	8.8
		WB	4.2	6.0

¹ Delay per Vehicle – Seconds - ² Unsignalized Intersection

3.2 Build Condition

Figure 3.3 provides the Opening Year 2025 traffic volumes for Railroad Avenue and 13th Street intersection for all Alternatives.

3.2.1 Alternative 1 Traffic Analysis

Figure 3.4 provides the Alternative 1 Opening Year 2025 traffic volumes. **Tables 3.3** and **3.4** below summarize the Opening Year 2025 Alternative 1 maximum queue length and delay per vehicle for the study intersections.

Table 3.3: Vehicle Queue Length Analysis – Opening Year 2025 Alternative 1

Intersection / Maximum Queue Length			AM			PM		
			Lane-Group Queue ¹			Lane-Group Queue ¹		
			Left	Through	Right	Left	Through	Right
1	13 th Street/Railroad Avenue	NB	18	227	53	149	330	97
		EB	-	92	-	-	94	-
		SB	125	166	-	162	206	-
		WB	134	138 ³	184	134	245 ³	201
2	12 th Street/ Placerita Canyon Road ²	NB	-	74	-	-	95	-
		NW	-	183	-	-	96	-
		EB	-	32	-	-	32	-
		SB	-	150	-	-	208	-
		WB	-	79	-	-	77	-

¹ Maximum Queue Observed – Feet

² Unsignalized Intersection

³ Through/left turn lane

Table 3.4: Vehicle Delay Analysis – Opening Year 2025 Alternative 1

Intersection / Delay per Vehicle			AM	PM
			Delay ¹	Delay ¹
1	13 th Street/Railroad Avenue	NB	13.4	19.6
		EB	55.0	43.2
		SB	10.9	15.2
		WB	30.6	36.7
2	12 th Street/Placerita Canyon Road ²	NB	4.6	4.4
		NW	5.8	4.0
		EB	2.5	3.4
		SB	4.6	5.5
		WB	2.8	3.6

¹ Total Delay/Vehicle – Seconds

² Unsignalized Intersection

3.2.2 Alternative 2 Traffic Analysis

Figure 3.5 provides the Alternative 2 Opening Year 2025 traffic volumes. **Tables 3.5** and **3.6** below summarize the Opening Year 2025 Alternative 2 maximum queue length and delay per vehicle for the study intersections.

Table 3.5: Vehicle Queue Length Analysis – Opening Year 2025 Alternative 2

Intersection / Maximum Queue Length			AM			PM		
			Lane-Group Queue ¹			Lane-Group Queue ¹		
			Left	Through	Right	Left	Through	Right
1	13 th Street/Railroad Avenue	NB	149	276	153	22	362	108
		EB		74		-	74	-
		SB	126	165		166	232	-
		WB	134	180 ³	226	134	204 ³	315
2	Dockweiler Drive/12 th Street ²	NB	-	174	-	-	81	-
		EB	-	32	-	-	32	-
		SB	-	134	-	-	202	-
		WB	-	76	-	-	80	-
3	Dockweiler Drive/Placerita Canyon Road	NB		99		-	92	-
		EB	-	-	-	-	-	-
		SB	97	-		72	-	-
		WB	-	-	124	-	-	76

¹ Maximum Queue Observed – Feet

² Unsignalized Intersection

³ Through/left turn lane

Table 3.6: Vehicle Delay Analysis – Opening Year 2025 Alternative 2

Intersection / Delay per Vehicle			AM	PM
			Delay ¹	Delay ¹
1	13 th Street/Railroad Avenue	NB	17.4	21.4
		EB	57.4	36.2
		SB	13.2	15.0
		WB	44.0	30.7
2	Dockweiler Drive/12 th Street ²	NB	4.4	4.3
		EB	3.2	2.3
		SB	5.0	4.6
		WB	3.5	3.6
3	Dockweiler Drive/Placerita Canyon Road	NB	7.3	6.4
		EB	-	-
		SB	2.5	3.0
		WB	5.5	5.2

¹ Total Delay/Vehicle – Seconds

² Unsignalized Intersection

3.2.3 Alternative 3 Traffic Analysis

Figure 3.6 provides the Alternative 3 Opening Year 2025 traffic volumes. **Tables 3.7** and **3.8** below summarize the Opening Year 2025 Alternative 3 maximum queue length and delay per vehicle and for the study intersections.

Table 3.7: Vehicle Queue Length Analysis – Opening Year 2025 Alternative 3

Intersection / Maximum Queue Length			AM			PM		
			Lane-Group Queue ¹			Lane-Group Queue ¹		
			Left	Through	Right	Left	Through	Right
1	13 th Street/Railroad Avenue	NB	148	289	93	149	352	90
		EB	-	53	-	-	75	-
		SB	122	192	-	181	212	-
		WB	134	160 ²	328	134	276 ²	164
2	Dockweiler Drive/12 th Street	NB	29	67	-	29	72	-
		EB	-	52	-	-	52	-
		SB	131	94	-	187	267	-
		WB	-	213	-	-	96	-
3	Dockweiler Drive/Placerita Canyon Road	NB		98		-	140	-
		EB	-	-	-	-	-	-
		SB	119	-		95	-	-
		WB	51	-	101	30	-	74

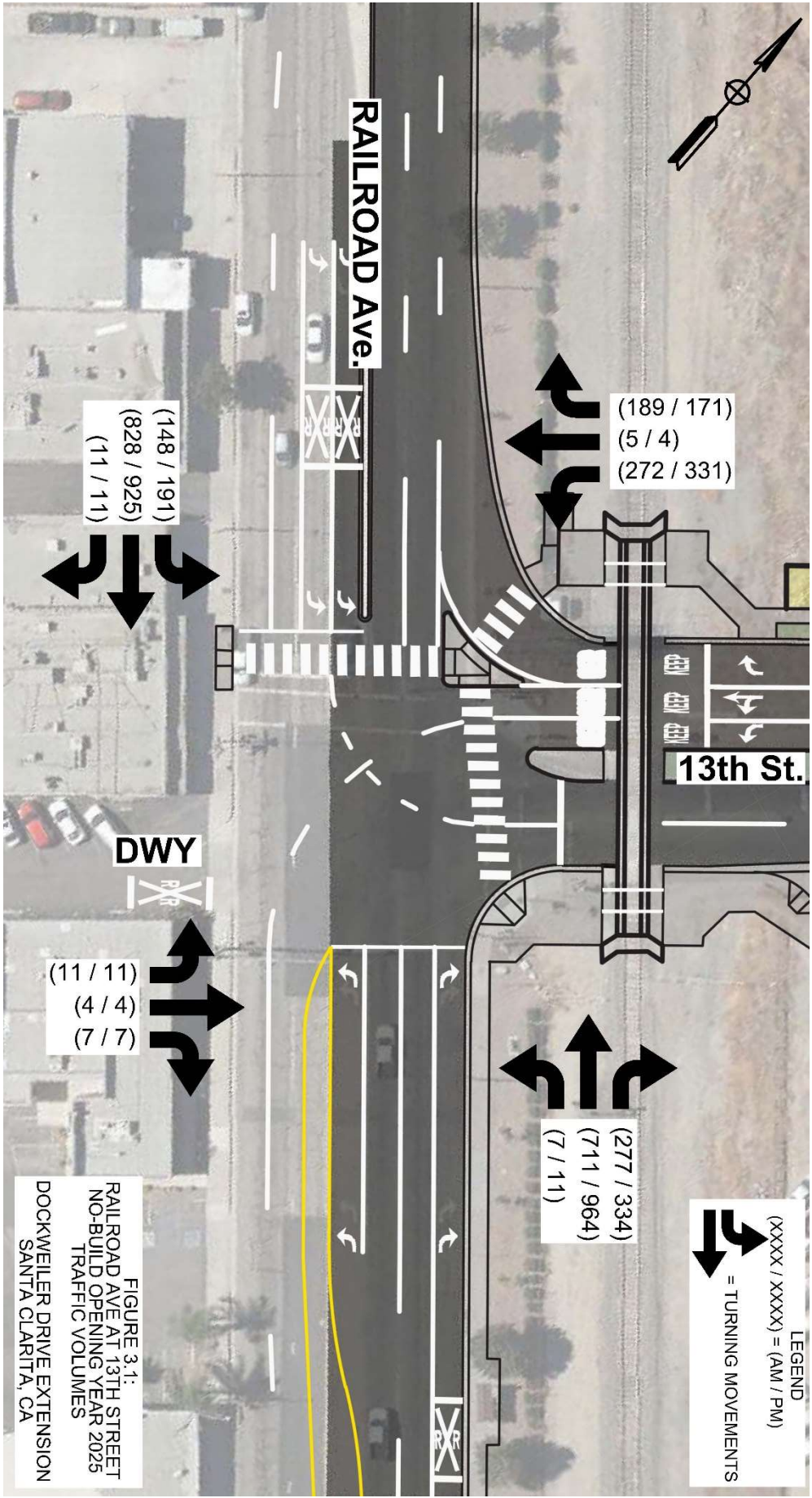
¹ Maximum Queue Observed – Feet

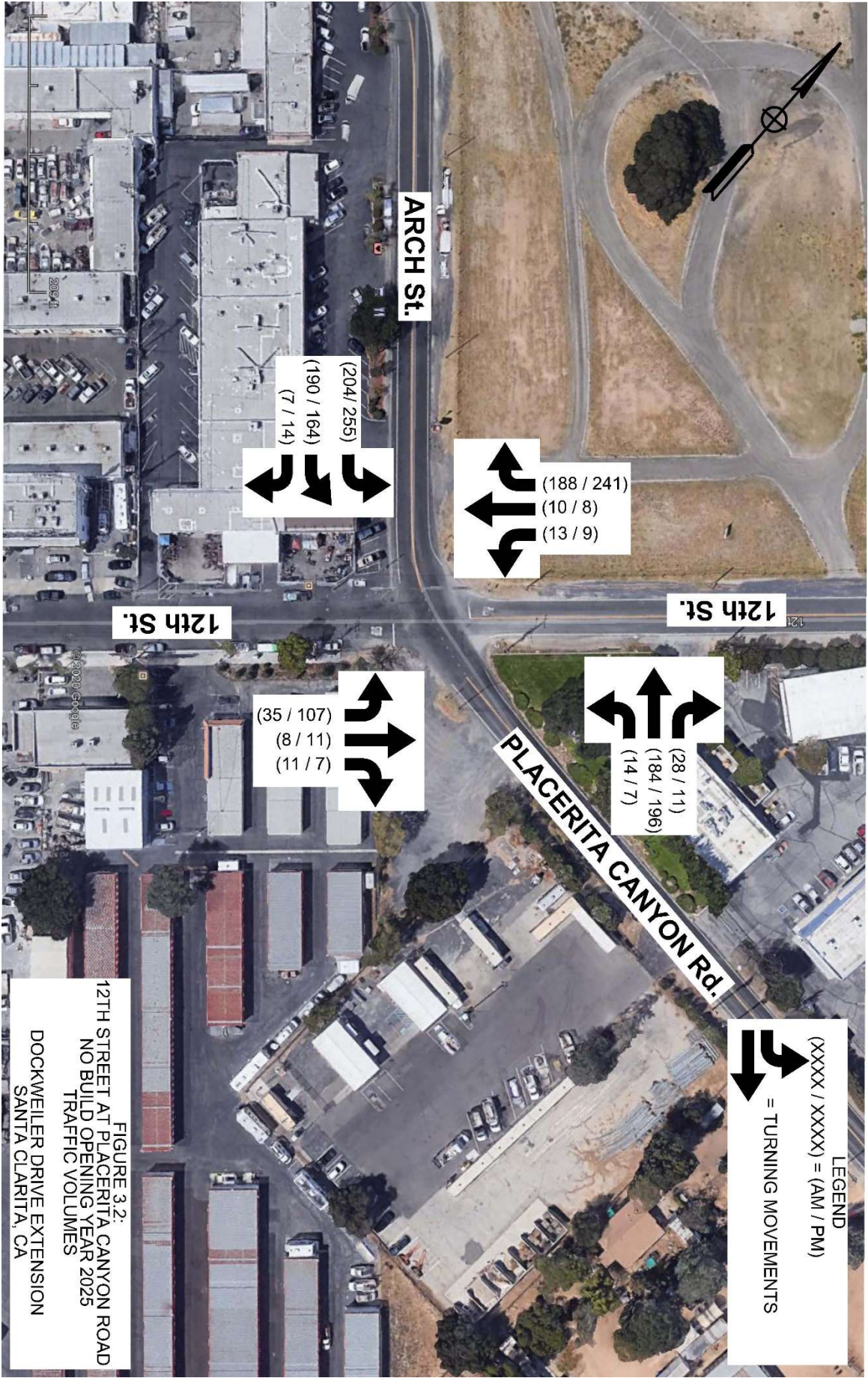
² Through/left turn lane

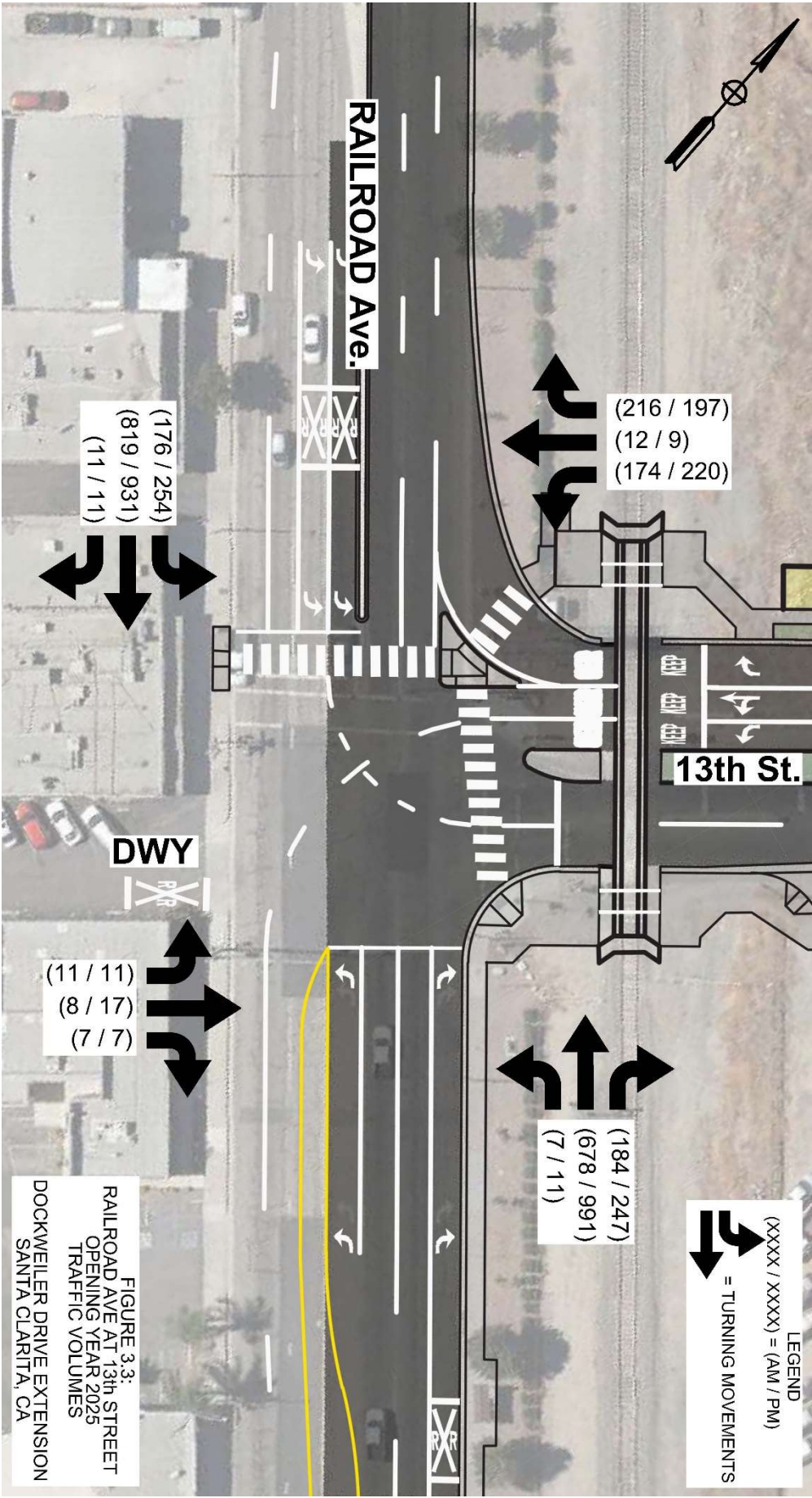
Table 3.8: Vehicle Delay Analysis – Opening Year 2025 Alternative 3

Intersection / Delay per Vehicle			AM	PM
			Delay ¹	Delay ¹
1	13 th Street/Railroad Avenue	NB	14.1	21.8
		EB	40.5	52.9
		SB	13.0	16.4
		WB	43.2	31.2
2	Dockweiler Drive/12 th Street	NB	10.3	11.0
		EB	20.0	16.0
		SB	13.8	14.9
		WB	15.2	12.6
3	Dockweiler Drive/Placerita Canyon Road	NB	15.7	13.9
		EB	-	-
		SB	8.2	5.6
		WB	6.9	7.0

¹ Total Delay/Vehicle – Seconds







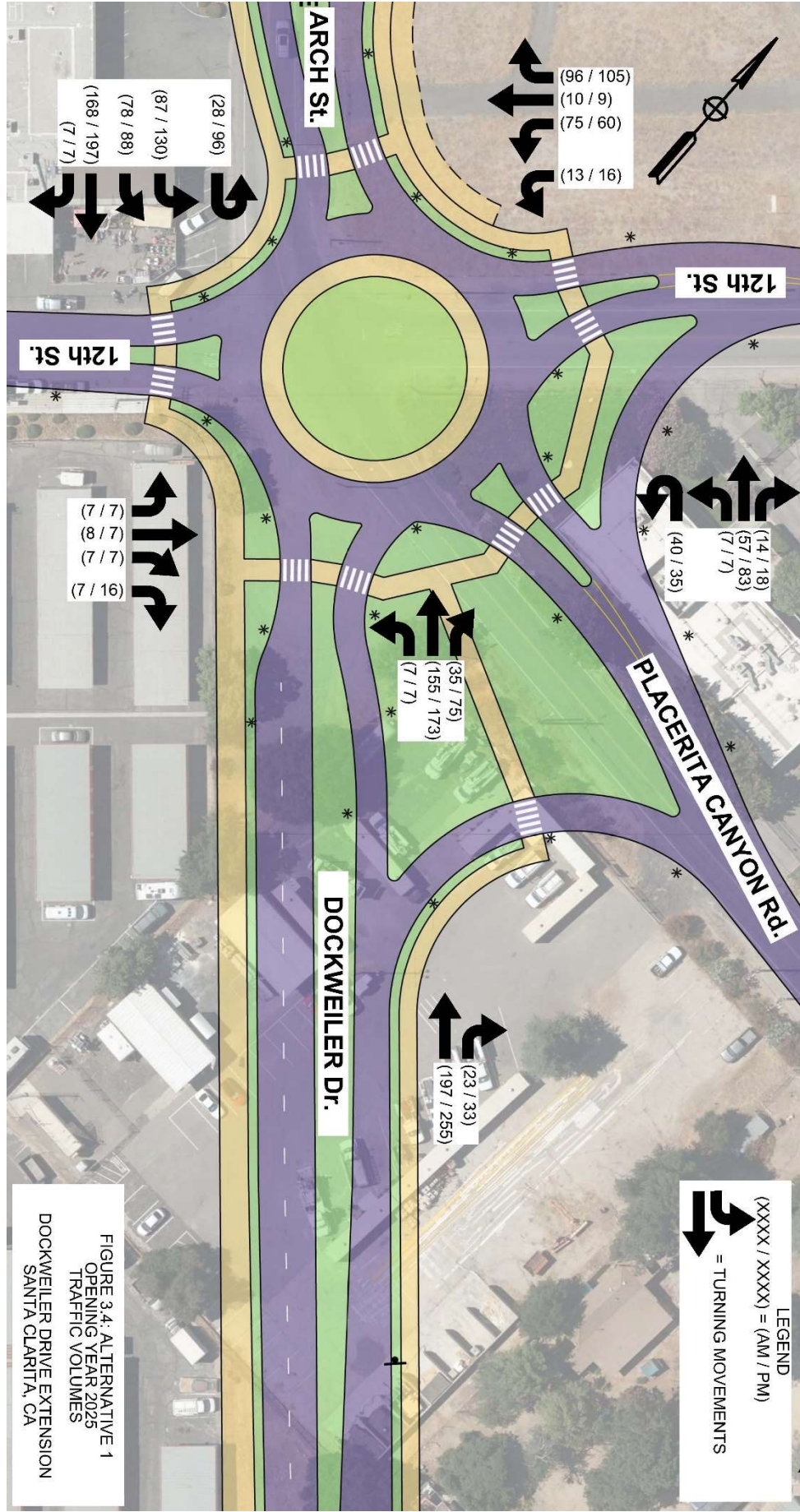


FIGURE 3.4: ALTERNATIVE 1
 OPENING YEAR 2025
 TRAFFIC VOLUMES
 DOCKWEILER DRIVE EXTENSION
 SANTA CLARITA, CA

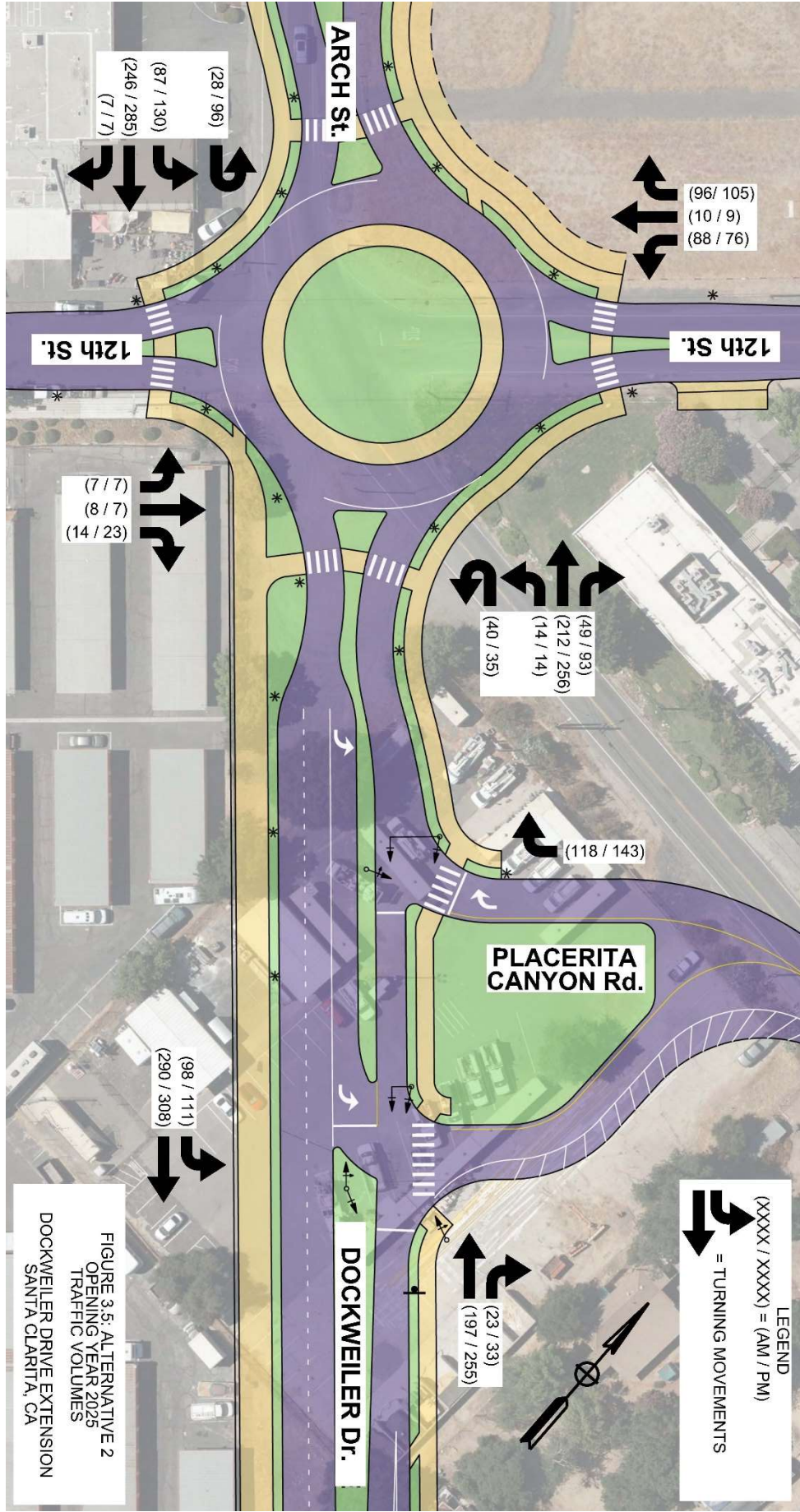
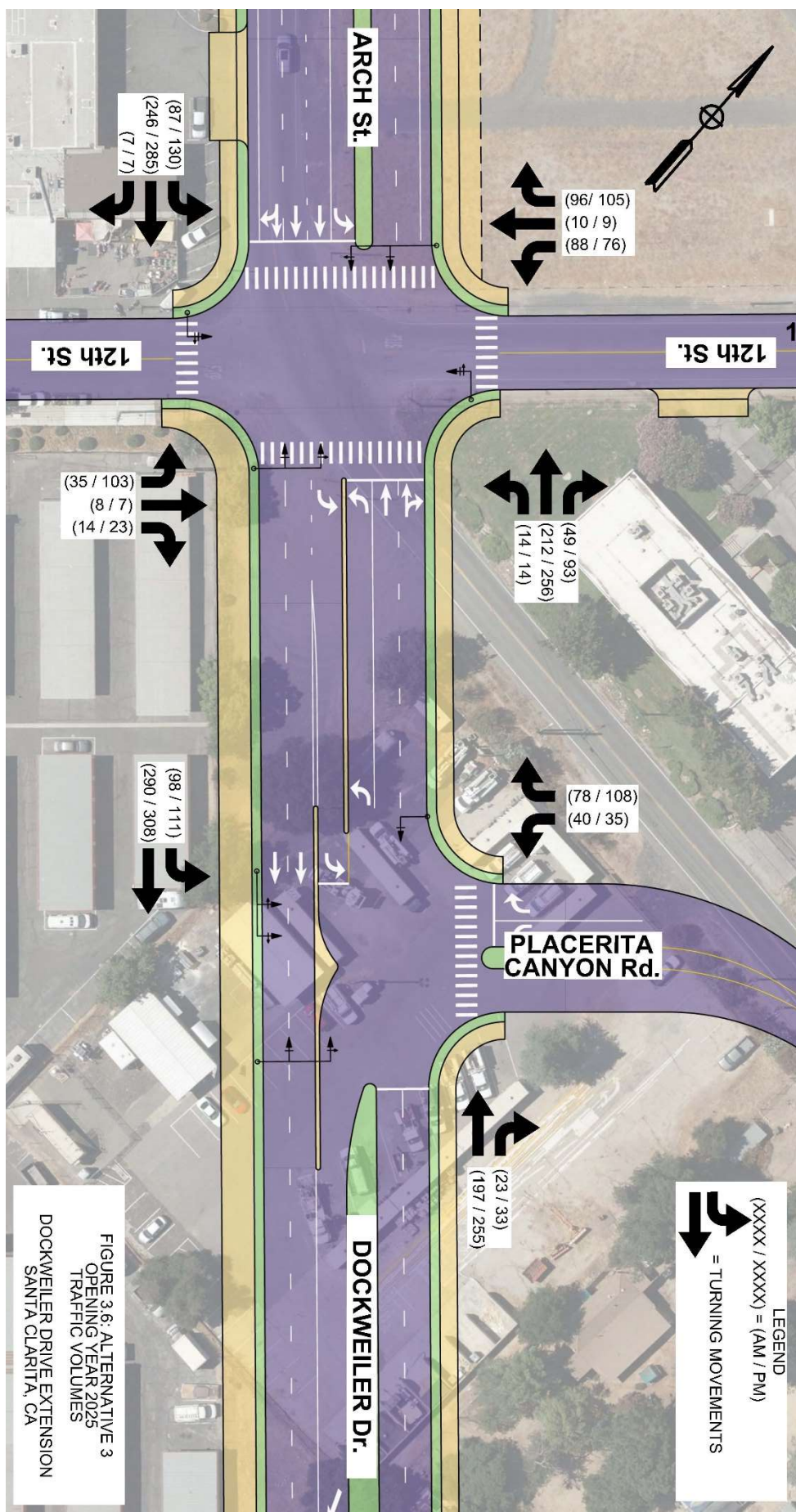


FIGURE 3.5. ALTERNATIVE 2
 OPENING YEAR 2025
 TRAFFIC VOLUMES
 DOCKWEILER DRIVE EXTENSION
 SANTA CLARITA, CA



4. HORIZON YEAR CONDITIONS 2035

A project year of 2035 has been identified as the Horizon year for the Dockweiler Drive Extension project. Traffic volumes were identified from the Environmental Impact Report Traffic Study. Three intersection alternatives were analyzed: 5-leg roundabout, 4-leg roundabout with off-set T, and 4-leg signalized intersection with offset T.

4.1 No Build Condition

Figure 4.1 provides the No Build Horizon Year 2035 traffic volumes with the planned improvements of the Railroad Avenue and 13th Street intersection. **Figure 4.2** provides the No Build Horizon Year 2035 traffic volume for 12th Street and Placerita Canyon Road intersection.

4.1.1 No Build Traffic Analysis

Tables 4.1 and **4.2** summarize the Opening Year 2035 delay per vehicle and maximum queue length for the study intersections without Project.

Table 4.1: Vehicle Queue Length Analysis – Horizon Year 2035 No Build

Intersection / Maximum Queue Length			AM			PM		
			Lane-Group Queue ¹			Lane-Group Queue ¹		
			Left	Through	Right	Left	Through	Right
1	13 th Street/Railroad Avenue	NB	22	294	52	148	484	420
		EB	-	51	-	-	52	-
		SB	95	217	-	145	202	-
		WB	134	429 ³	135	134	304 ³	135
2	12 th Street/ Placerita Canyon Road ²	NB	-	69	-	-	47	-
		EB	-	46	-	-	71	-
		SB	57	55	-	91	76	-
		WB	-	41	-	-	62	-

¹ Maximum Queue Observed – Feet

² Unsignalized Intersection

³ Through/left turn lane

Table 4.2: Vehicle Delay Analysis – Horizon Year 2035 No Build

Intersection / Delay per Vehicle			AM	PM
			Delay ¹	Delay ¹
1	13 th Street/Railroad Avenue	NB	15.3	18.9
		EB	46.8	35.5
		SB	9.5	15.0
		WB	47.3	33.2
2	12 th Street/Placerita Canyon Road ²	NB	7.3	7.7
		EB	3.9	5.9
		SB	4.8	6.2
		WB	3.4	5.0

¹ Total Delay/Vehicle – Seconds - ² Unsignalized Intersection

4.2 Build Condition

Figure 4.3 provides the Horizon Year 2035 traffic volumes for Railroad Avenue and 13th Street intersection for all alternatives.

4.2.1 Alternative 1 Traffic Analysis

Figure 4.2 provides the Alternative 1 Horizon Year 2035 traffic volumes. **Tables 4.3** and **4.4** below summarize the Horizon Year 2035 Alternative maximum queue length and delay per vehicle and for the study intersections.

Table 4.3: Vehicle Queue Length Analysis – Horizon Year 2035 Alternative 1

Intersection / Maximum Queue Length			AM			PM		
			Lane-Group Queue ¹			Lane-Group Queue ¹		
			Left	Through	Right	Left	Through	Right
1	13 th Street/Railroad Avenue	NB	22	222	90	149	412	136
		EB	-	76	-	-	96	-
		SB	232	200	-	240	330	-
		WB	134	140 ³	314	134	238 ³	264
2	Dockweiler Drive/12 th Street/Placerita Canyon Road ²	NB	-	97	-	-	159	-
		NW	-	51	-	-	68	-
		EB	-	32	-	-	32	-
		SB	-	227	-	-	244	-
		WB	-	100	-	-	78	-

¹ Maximum Queue Observed – Feet

² Unsignalized Intersection

³ Through/left turn lane

Table 4.4: Vehicle Delay Analysis – Horizon Year 2035 Alternative 1

Intersection / Delay per Vehicle			AM	PM
			Delay ¹	Delay ¹
1	13 th Street/Railroad Avenue	NB	17.8	25.7
		EB	41.7	46.5
		SB	17.5	26.1
		WB	26.7	33.2
2	Dockweiler Drive/12 th Street/ Placerita Canyon Road ²	NB	5.9	9.2
		NW	2.7	5.2
		EB	6.0	6.1
		SB	7.1	16.4
		WB	4.0	4.0

¹ Total Delay/Vehicle – Seconds

² Unsignalized Intersection

4.2.2 Alternative 2 Traffic Analysis

Figure 4.5 provides the Alternative 2 Horizon Year 2035 traffic volumes. **Tables 4.5** and **4.6** below summarize the Horizon Year 2035 Alternative 2 maximum queue length and delay per vehicle and for the study intersections.

Table 4.5: Vehicle Queue Length Analysis – Horizon Year 2035 Alternative 2

Intersection / Maximum Queue Length			AM			PM		
			Lane-Group Queue ¹			Lane-Group Queue ¹		
			Left	Through	Right	Left	Through	Right
1	13 th Street/Railroad Avenue	NB	148	298	71	149	397	113
		EB	-	96	-	-	96	-
		SB	167	222	-	239	330	-
		WB	134	204 ³	175	134	206 ³	249
2	Dockweiler Drive/12 th Street ²	NB	-	100	-	-	156	-
		EB	-	53	-	-	53	-
		SB	-	153	-	-	228	-
		WB	-	74	-	-	78	-
3	Dockweiler Drive/Placerita Canyon Road	NB	-	117	-	-	190	-
		EB	-	-	-	-	-	-
		SB	74	-	-	116	-	-
		WB	-	-	91	-	-	96

¹ Maximum Queue Observed – Feet

² Unsignalized Intersection

³ Through/left turn lane

Table 4.6: Vehicle Delay Analysis – Horizon Year 2035 Alternative 2

Intersection / Delay per Vehicle			AM	PM
			Delay ¹	Delay ¹
1	13 th Street/Railroad Avenue	NB	19.5	21.9
		EB	62.7	55.9
		SB	18.0	23.5
		WB	22.7	26.8
2	Dockweiler Drive/12 th Street ²	NB	5.1	7.4
		EB	4.6	7.6
		SB	6.2	17.2
		WB	4.0	5.4
3	Dockweiler Drive/Placerita Canyon Road	NB	8.6	10.1
		EB	-	-
		SB	2.3	3.2
		WB	5.5	8.6

¹ Total Delay/Vehicle – Seconds

² Unsignalized Intersection

4.2.3 Alternative 3 Traffic Analysis

Figure 4.6 provides the Alternative 3 Horizon Year 2035 traffic volumes. **Tables 4.7** and **4.8** below summarize the Horizon Year 2035 Alternative 3 maximum queue length and delay per vehicle and for the study intersections.

Table 4.7: Vehicle Queue Length Analysis – Horizon Year 2035 Alternative 3

Intersection / Maximum Queue Length			AM			PM		
			Lane-Group Queue ¹			Lane-Group Queue ¹		
			Left	Through h	Right	Left	Through	Right
1	13 th Street/Railroad Avenue	NB	41	306	96	65	425	115
		EB		94		-	119	-
		SB	232	257		181	209	-
		WB	135	206 ²	370	134	350 ²	410
2	Dockweiler Drive/12 th Street	NB	49	53	-	29	139	-
		EB	-	116	-	-	69	-
		SB	116	158	-	159	121	-
		WB	-	136	-	-	137	-
3	Dockweiler Drive/ Placerita Canyon Road	NB		116		-	171	-
		EB	-	-	-	-	-	-
		SB	99	-		119	-	-
		WB	72	-	52	93	-	94

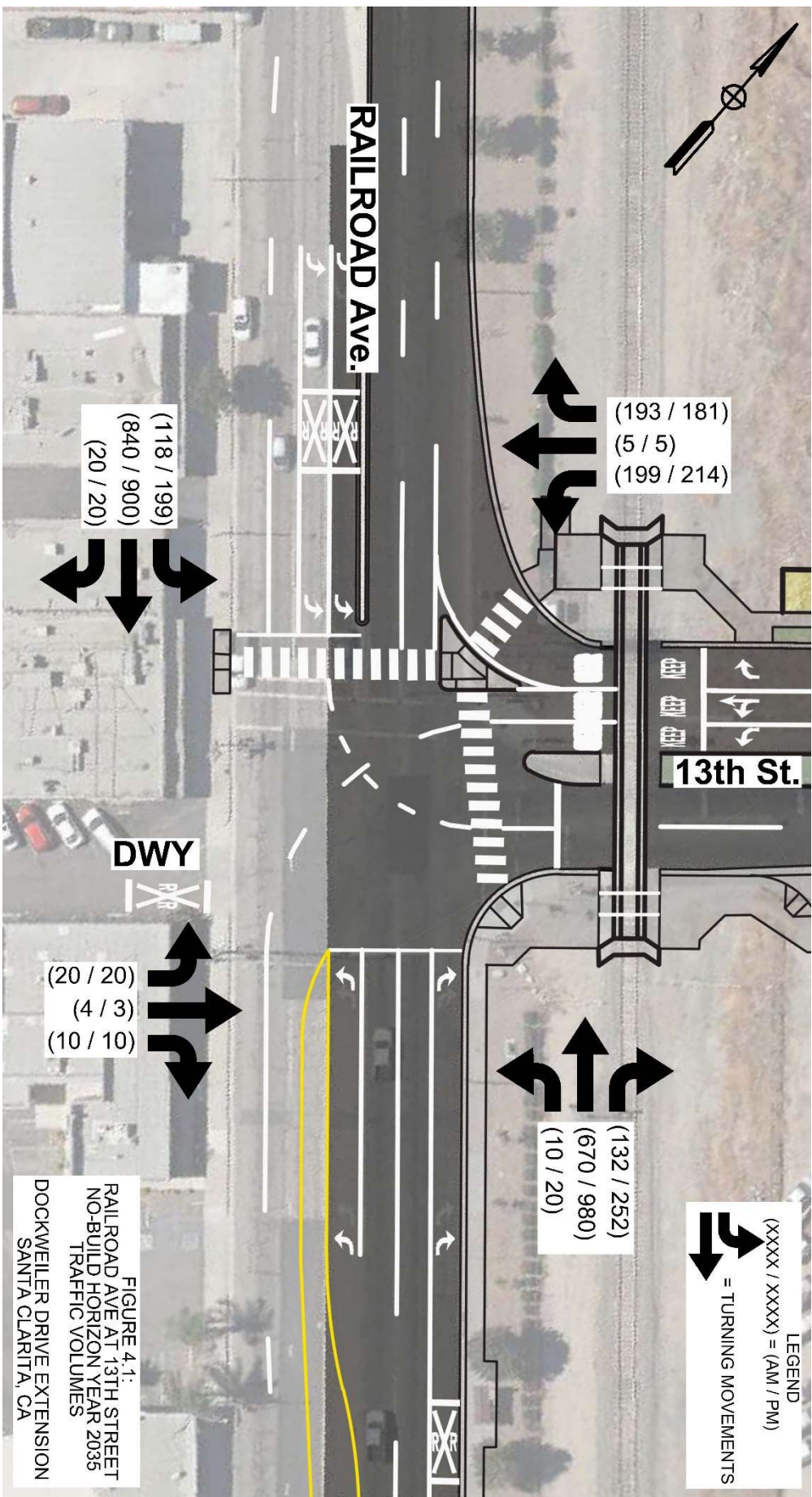
¹ Maximum Queue Observed – Feet

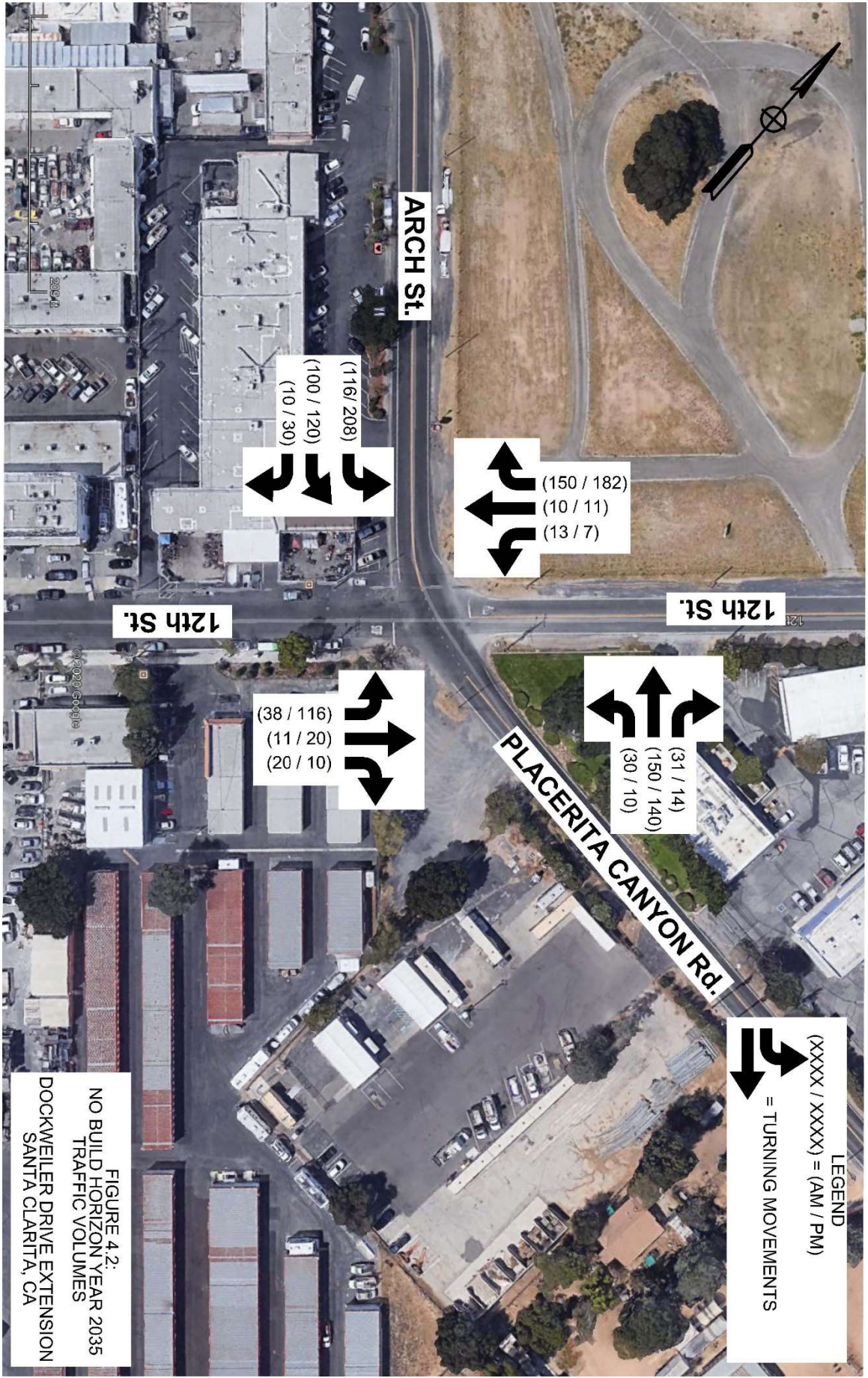
² Through/left turn lane

Table 4.8: Vehicle Delay Analysis – Horizon Year 2035 Alternative 3

Intersection / Delay per Vehicle			AM	PM
			Delay ¹	Delay ¹
1	13 th Street/Railroad Avenue	NB	20.1	24.2
		EB	55.3	50.6
		SB	19.9	21.2
		WB	31.7	43.3
2	Dockweiler Drive/12 th Street	NB	7.8	16.5
		EB	22.1	23.4
		SB	12.0	18.1
		WB	15.6	22.1
3	Dockweiler Drive/Placerita Canyon Road	NB	11.5	21.1
		EB	-	-
		SB	7.4	9.3
		WB	9.0	8.9

¹ Total Delay/Vehicle – Seconds





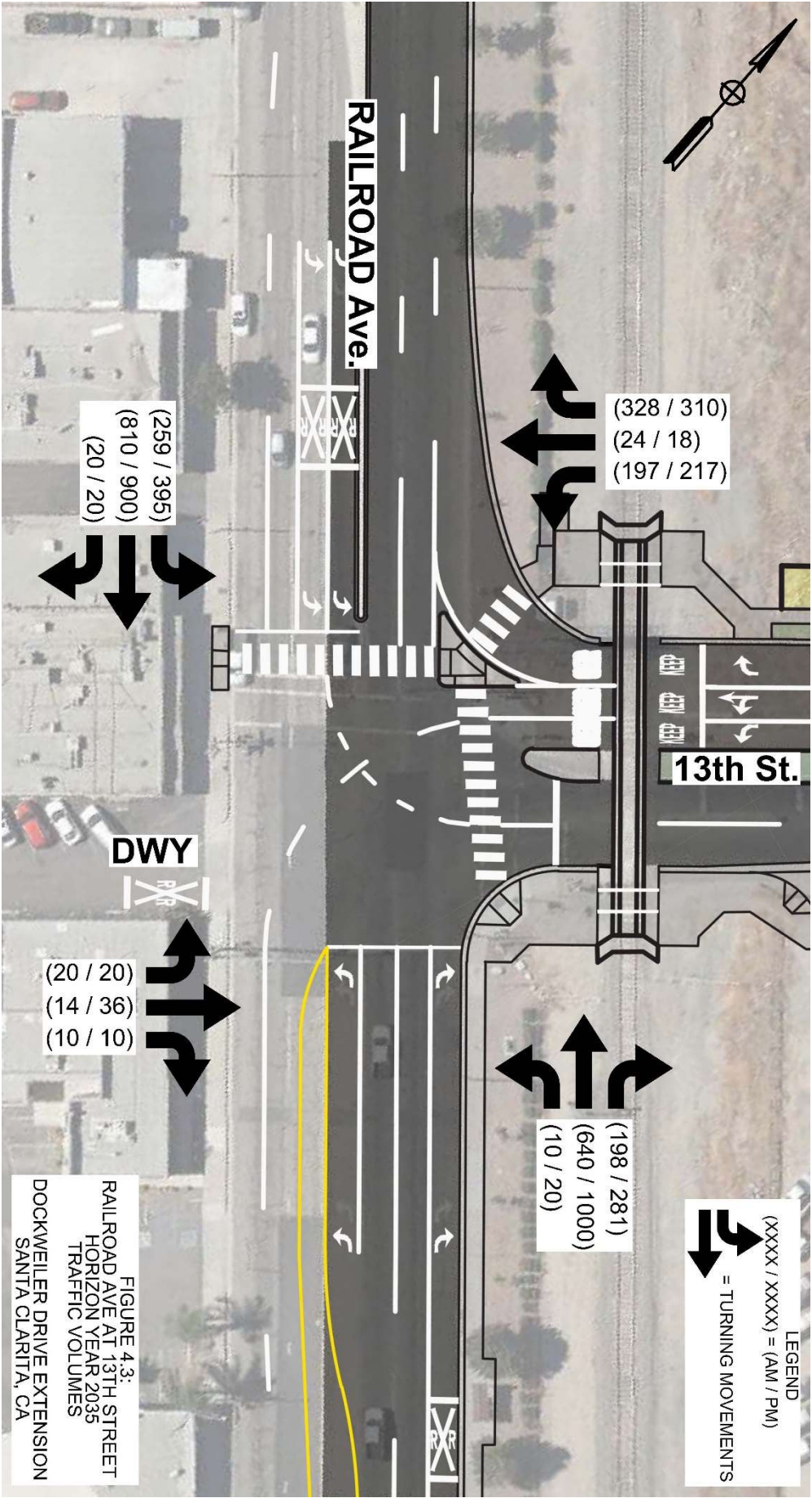
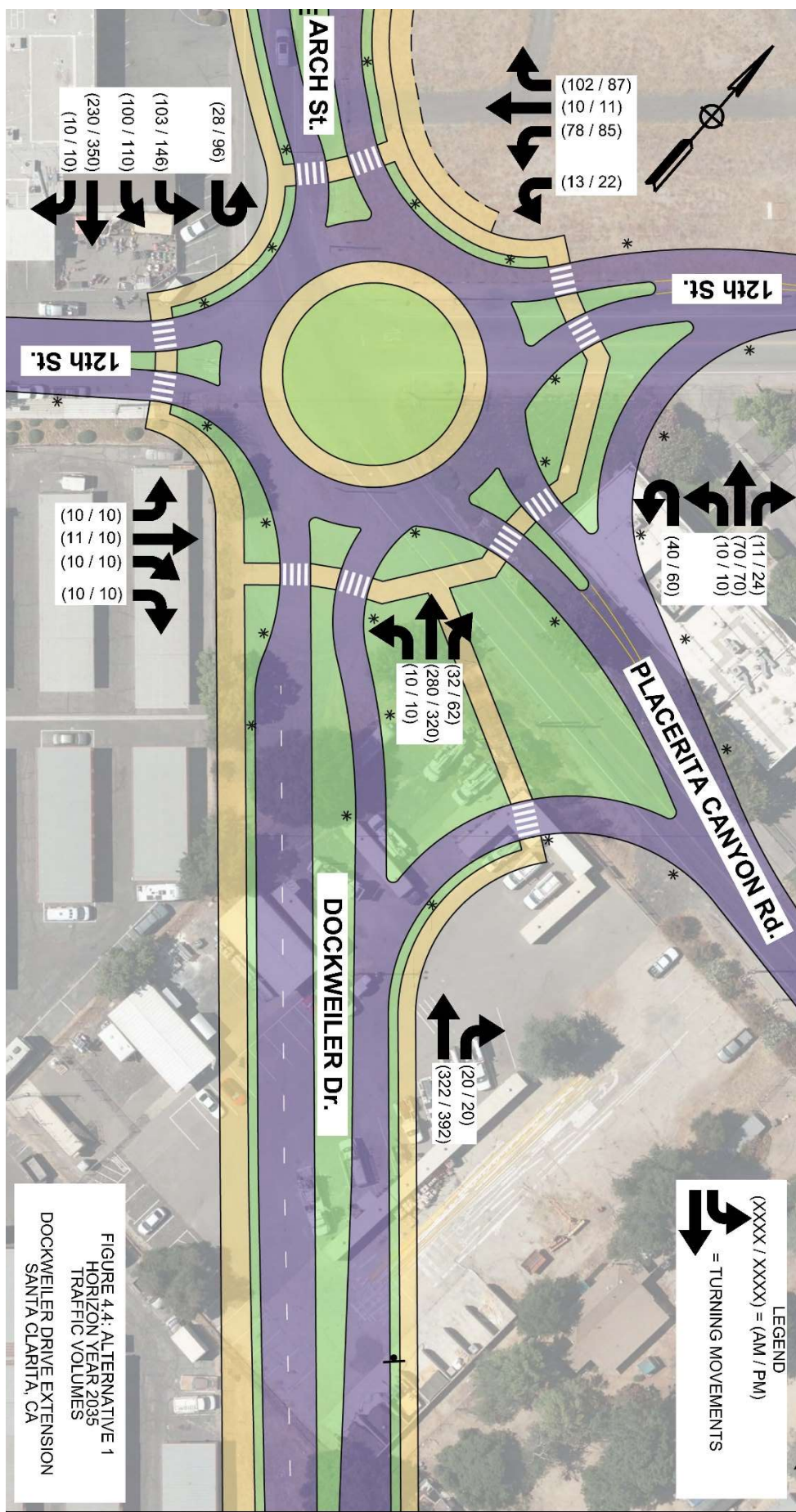
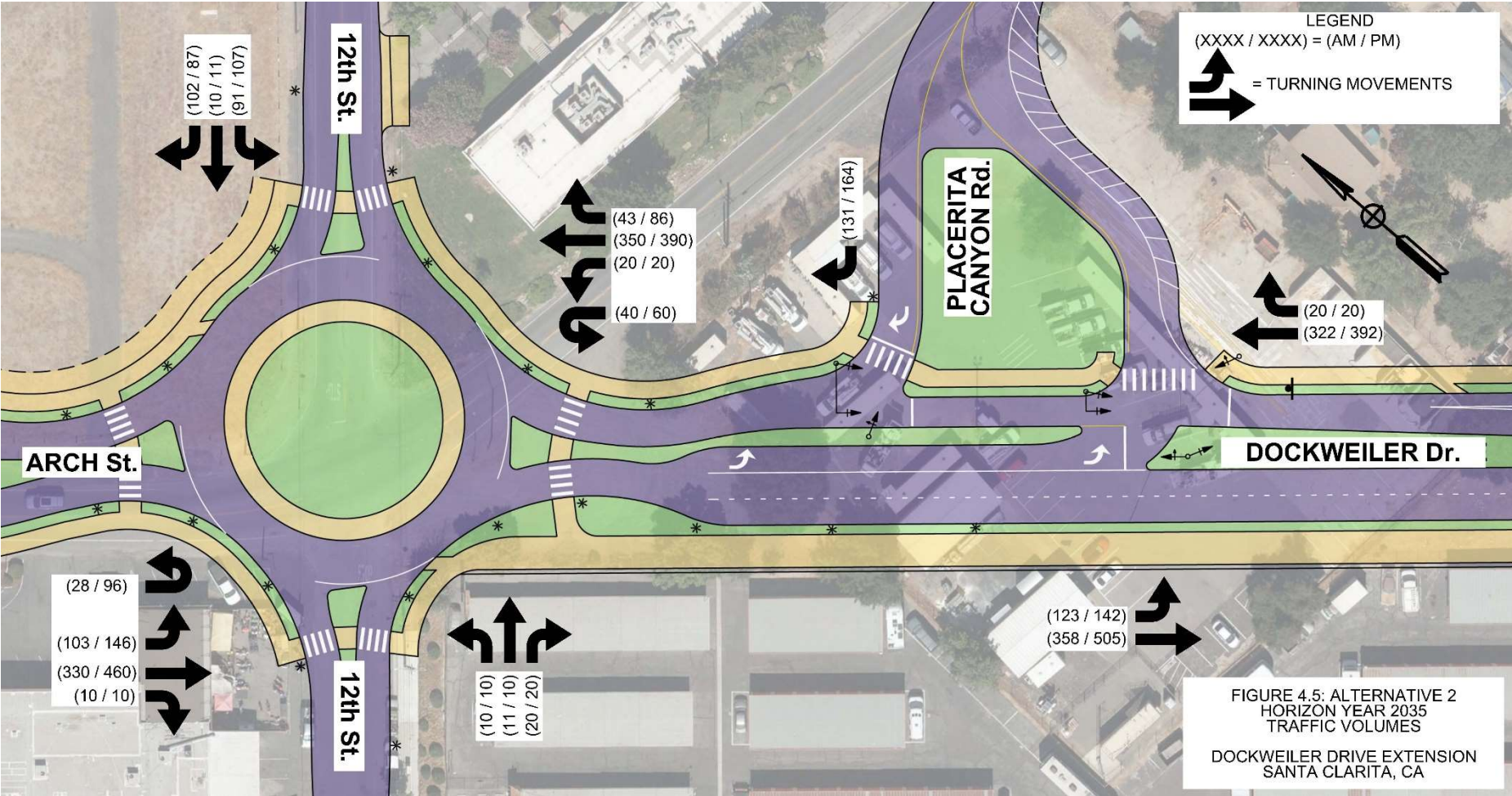


FIGURE 4.3:
 RAILROAD AVE AT 13TH STREET
 HORIZON YEAR 2035
 TRAFFIC VOLUMES
 DOCKWEILER DRIVE EXTENSION
 SANTA CLARITA, CA





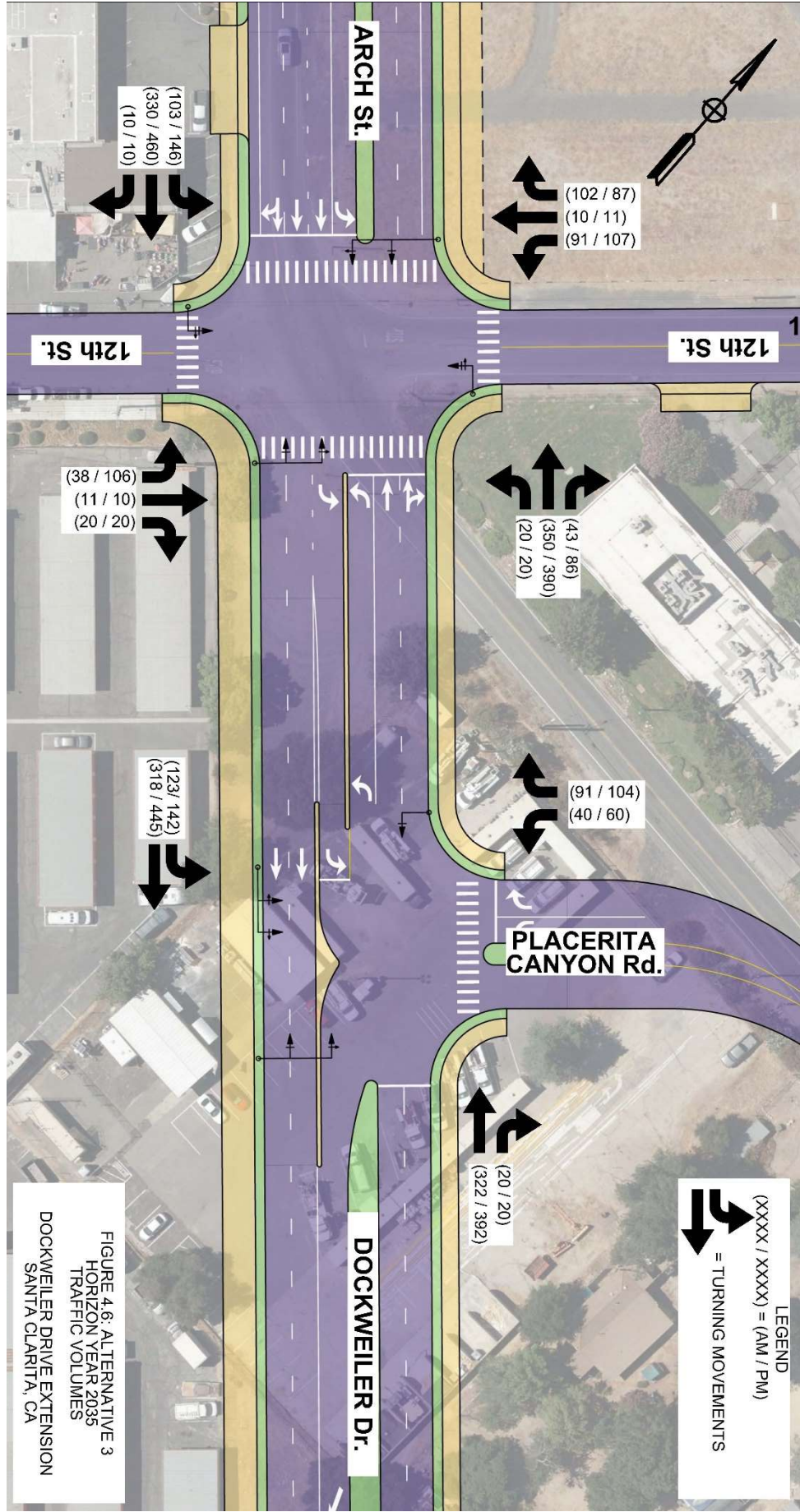


FIGURE 4.6: ALTERNATIVE 3
 HORIZON YEAR 2035
 TRAFFIC VOLUMES
 DOCKWEILER DRIVE EXTENSION
 SANTA CLARITA, CA

5. SUMMARY

5.1 Intersection Analysis

Table 5.1: Vehicle Queue Length Analysis Summary (AM)

Maximum Queue Length (feet) AM Period			13 th Street / Railroad Avenue			Dockweiler Drive / 12 th Street			Dockweiler Drive/ Placerita Canyon Road			
Year	Alt.	Dir.	Lane-Group Queue ¹			Lane-Group Queue ¹			Lane-Group Queue ¹			
			Left	Through	Right	Left	Through	Right	Left	Through	Right	
2019	NO BUILD	NB	30	340	53	-	0	-	-	-	-	
		EB	-	70	-	-	50	-	-	-	-	
		SB	124	260	-	-	74	-	-	-	-	
		WB	-	342	135	-	38	-	-	-	-	
2025	NO BUILD	NB	22	300	52	-	89	-	-	-	-	
		EB	-	51	-	-	41	-	-	-	-	
		SB	143	187	-	187	56	-	-	-	-	
		WB	134	281 ²	135	-	65	-	-	-	-	
	ALT 1	NB	18	227	53	-	74	-	-	-	-	
		NW	-	-	-	-	183	-	-	-	-	
		EB	-	92	-	-	32	-	-	-	-	
		SB	125	166	-	-	150	-	-	-	-	
	ALT 2	WB	134	138 ²	184	-	79	-	-	-	-	
		NB	149	276	153	-	174	-	-	99	-	
		EB	-	74	-	-	32	-	-	-	-	
		SB	126	165	-	-	134	-	97	-	-	
	ALT 3	WB	134	180 ²	226	-	76	-	-	-	124	
		NB	148	289	93	29	67	-	-	98	-	
		EB	-	53	-	-	52	-	-	-	-	
		SB	122	192	-	131	94	-	119	-	-	
	2035	NO BUILD	WB	134	160 ²	328	-	213	-	51	-	101
			NB	22	294	52	-	69	-	-	-	-
			EB	-	51	-	-	46	-	-	-	-
			SB	95	217	-	57	55	-	-	-	-
ALT 1		WB	134	429 ²	135	-	41	-	-	-	-	
		NB	22	222	90	-	97	-	-	-	-	
		NW	-	-	-	-	51	-	-	-	-	
		EB	-	76	-	-	32	-	-	-	-	
ALT 2		SB	232	200	-	-	227	-	-	-	-	
		WB	134	140 ²	314	-	100	-	-	-	-	
		NB	148	298	71	-	100	-	-	117	-	
		EB	-	96	-	-	53	-	-	-	-	
ALT 3		SB	167	222	-	-	153	-	74	-	-	
		WB	134	204 ²	175	-	74	-	-	-	91	
		NB	41	306	96	49	53	-	-	116	-	
		EB	-	94	-	-	116	-	-	-	-	
			SB	232	257	-	116	158	-	99	-	-
			WB	135	206 ²	370	-	136	-	72	-	52

¹ Maximum Queue Observed – Feet - ² Through/left turn lane

Table 5.2: Vehicle Queue Length Analysis Summary (PM)

Maximum Queue Length (feet) PM Period			13 th Street / Railroad Avenue			Dockweiler Drive / 12 th Street			Dockweiler Drive/ Placerita Canyon Road			
Year	Alt.	Dir.	Lane-Group Queue ¹			Lane-Group Queue ¹			Lane-Group Queue ¹			
			Left	Through	Right	Left	Through	Right	Left	Through	Right	
2019	NO BUILD	NB	49	518	92	-	0	-	-	-	-	
		EB	-	53	-	-	26	-	-	-	-	
		SB	239	291	-	-	99	-	-	-	-	
		WB	-	358	135	-	80	-	-	-	-	
2025	NO BUILD	NB	149	339	165	-	129	-	-	-	-	
		EB	-	53	-	-	85	-	-	-	-	
		SB	234	220	-	214	75	-	-	-	-	
		WB	134	405 ²	135	-	79	-	-	-	-	
	ALT 1	NB	149	330	97	-	95	-	-	-	-	
		NW	-	-	-	-	96	-	-	-	-	
		EB	-	94	-	-	32	-	-	-	-	
		SB	162	206	-	-	208	-	-	-	-	
	ALT 2	WB	134	245 ²	201	-	77	-	-	-	-	
		NB	22	362	108	-	81	-	-	92	-	
		EB	-	74	-	-	32	-	-	-	-	
		SB	166	232	-	-	202	-	72	-	-	
	ALT 3	WB	134	204 ²	315	-	80	-	-	-	76	
		NB	149	352	90	29	72	-	-	140	-	
		EB	-	75	-	-	52	-	-	-	-	
		SB	181	212	-	187	267	-	95	-	-	
	2035	NO BUILD	WB	134	276 ²	164	-	96	-	30	-	74
			NB	148	484	420	-	47	-	-	-	-
			EB	-	52	-	-	71	-	-	-	-
			SB	145	202	-	91	76	-	-	-	-
ALT 1		WB	134	304 ²	135	-	62	-	-	-	-	
		NB	149	412	136	-	159	-	-	-	-	
		NW	-	-	-	-	68	-	-	-	-	
		EB	-	96	-	-	32	-	-	-	-	
ALT 2		SB	240	330	-	-	244	-	-	-	-	
		WB	134	238 ²	264	-	78	-	-	-	-	
		NB	149	397	113	-	156	-	-	190	-	
		EB	-	96	-	-	53	-	-	-	-	
ALT 3		SB	239	330	-	-	228	-	116	-	-	
		WB	134	206 ²	249	-	78	-	-	-	96	
		NB	65	425	115	29	139	-	-	171	-	
		EB	-	119	-	-	69	-	-	-	-	
			SB	181	209	-	159	121	-	119	-	-
			WB	134	350 ²	410	-	137	-	93	-	94

¹ Maximum Queue Observed – Feet - ² Through/left turn lane

Table 5.3: Vehicle Delay Analysis Summary

Vehicle Delay (seconds/vehicle)			13th Street / Railroad Avenue				Dockweiler Drive / 12th Street				Dockweiler Drive/ Placerita Canyon Rd				
Year	Alt.	Dir.	AM		PM		AM		PM		AM		PM		
			appr.	total	appr.	total	appr.	total	appr.	total	appr.	total			
2019	NO BUILD	NB	17.8	18.9	24.3	24.3	1.0	2.8	1.3	3.0	-	-	-	-	
		EB	63.0		32.6		8.4		8.1		-		-		
		SB	12.9		16.4		2.1		3.0		-		-		
		WB	52.5		50.8		4.4		4.7		-		-		
2025	NO BUILD	NB	16.2	18.8	20.2	22.4	8.8	6.6	12.8	8.9	-	-	-	-	
		EB	73.6		72.1		4.7		8.1		-		-		
		SB	14.4		15.4		7.2		8.8		-		-		
		WB	31.2		40.3		4.2		6.0		-		-		
	ALT 1	NB	13.4	16.0	19.6	20.6	4.6	4.3	4.4	4.7	-	-	-	-	
		NW	-		-		5.8		4.0		-		-		
		EB	55.0		43.2		2.5		3.4		-		-		
		SB	10.9		15.2		4.6		5.5		-		-		
	WB	30.6	36.7	2.8	3.6	-	-								
		ALT 2	NB	17.4	20.7	21.4	20.5	4.4	4.4	4.3	4.3	7.3	4.2	6.4	4.5
			EB	57.4		36.2		3.2		2.3		-		-	
			SB	13.2		15.0		5.0		4.6		2.5		3.0	
	WB		44.0	30.7		3.5		3.6		5.5		5.2			
	ALT 3	NB	14.1	19.6	21.8	21.2	10.3	13.2	11.0	13.3	15.7	10.4	13.9	9.0	
		EB	40.5		52.9		20.0		16.0		-		-		
		SB	13.0		16.4		13.8		14.9		8.2		5.6		
WB		43.2	31.2		15.2		12.6		6.9		7.0				
2035	NO BUILD	NB	15.3	18.5	18.9	19.6	7.3	5.1	7.7	6.1	-	-	-	-	
		EB	46.8		35.5		3.9		5.9		-		-		
		SB	9.5		15.0		4.8		6.2		-		-		
		WB	47.3		33.2		3.4		5.0		-		-		
	ALT 1	NB	17.8	20.0	25.7	27.6	5.9	5.8	9.2	11.5	-	-	-	-	
		NW	-		-		2.7		5.2		-		-		
		EB	41.7		46.5		6.0		6.1		-		-		
		SB	17.5		26.1		7.1		16.4		-		-		
	WB	26.7	33.2	4.0	4.0	-	-								
		ALT 2	NB	19.5	20.4	21.9	24.0	5.1	5.3	7.4	11.7	8.6	5.0	10.1	5.8
			EB	62.7		55.9		4.6		7.6		-		-	
			SB	18.0		23.5		6.2		17.2		2.3		3.2	
	WB		22.7	26.8		4.0		5.4		5.5		8.6			
	ALT 3	NB	20.1	23.3	24.2	27.1	7.8	11.4	16.5	18.2	11.5	9.3	21.1	13.6	
		EB	55.3		50.6		22.1		23.4		-		-		
		SB	19.9		21.2		12.0		18.1		7.4		9.3		
WB		31.7	43.3		15.6		22.1		9.0		8.9				

6. CONCLUSION

The results of the Vehicle Queue Length analysis for Dockweiler Drive/12th Street intersection show that all design alternatives produced maximum queue lengths between 32 feet and 227 feet during AM period and between 32 feet and 267 feet during PM period, for both, 2025 and 2035 scenarios. Similarly, the maximum queue lengths at Dockweiler Drive/Placerita Canyon Road intersection, varied between 52 feet and 124 feet during AM period, and between 72 feet and 190 feet during PM period. These results represent low maximum queue lengths and indicate that the average queues expected to be experienced by drivers at the various scenarios, should be substantially lower, and should not cause blockage of turn pockets or through lanes.

The maximum queue lengths for each approach of 13th Street / Railroad Avenue are expected to be similar for all three alternatives within 2025 and 2035, since traffic volumes and lane geometry do not change between alternatives. The different queue lengths shown in Tables 5.1 and 5.2 between Alternatives 1,2 and 3, for a given year scenario, reflect the randomness of the simulation process used to estimate the queue lengths. The queue length values shown should be interpreted as a range of possible outcomes and suggest that an average of the three Alternatives would better reflect expected queue lengths at 13th Street / Railroad Avenue intersection. Overall, maximum queue lengths for turning movements are expected to vary between 70 feet and 290 feet during AM period, and between 90 feet and 310 feet during PM period, for both 2025 and 2035 scenarios. Through movement queue lengths are expected to vary between 70 feet and 275 feet during AM, and between 80 feet and 410 feet during PM period. These results represent low maximum queue lengths and indicate that the average queues expected to be experienced by drivers at the various scenarios, should be substantially lower, and should not cause blockage of turn pockets or through lanes.

Traffic volumes for this study were based on results of the City of Santa Clarita Traffic Impact Study for the Lyons Avenue/Dockweiler Drive Extension Project Final Environmental Impact Report and its assumptions for traffic forecast modeling. According to the Model Plots supplied in Appendix A of the Traffic Study, the No Build 2035 model assumes that there will be an additional roadway link extending from the existing Dockweiler Drive terminus to Master's University. This assumption in the No Build 2035 model alters the traffic distribution in the area and reduces the volumes at the intersection of 13th Street / Railroad Avenue intersection. The model plot for No Build 2019 does not assume the additional link. For this reason, traffic volumes at 13th Street /Railroad show a decrease from 2019 to 2035, which in turn causes a decrease in delay in future year (2035) when compared to existing (2019) and opening year (2025).

Traffic volumes for 2035 horizon year were updated with more recent information on the Placerita Meadows development and the Traffic Analysis Zone it lies in. This caused volumes to decrease substantially on the segment between Railroad Ave & 13th Street and 12th Street & Dockweiler. The decrease in volumes caused delays to also decrease. The Vehicle Delay analysis results show that the intersection of Dockweiler Drive/12th Street under Alternative 2 produced the lowest total intersection delays per vehicle (sum of all approaches) on Year 2025 and 2035 for both AM and PM periods, followed by Alternative 1 and Alternative 3.

While both Alternative 1 and 2 have adequate queueing and delay per vehicle, Alternative 2 has been chosen by the City of Santa Clarita and by the Placerita Canyon Property Owners Association (PCPOA) due to its minimal project footprint and right of way takes as compared to Alternative 1, and more suitable aesthetics as compared to Alternative 3. Based on analysis results, no adverse effects are anticipated to traffic operations under Alternative 2 as compared to “No Build” conditions.