



KUNZMAN ASSOCIATES, INC.

TENTATIVE TRACT MAP NO. 19991

TRAFFIC IMPACT ANALYSIS

September 30, 2016



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June 30, 2016

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
A. Project Description	i
B. Traffic Conditions	i
C. Off-Site Mitigation Measures.....	ii
D. On-Site Recommendations	ii
I. INTRODUCTION	1
A. Project Description	1
B. Study Area.....	1
C. Analysis Scenarios	1
II. METHODOLOGY	4
A. Identification of Study Area	4
B. Intersection Analysis Methodology	4
C. Performance Standards	5
1. County of San Bernardino	5
2. California Department of Transportation (Caltrans).....	5
D. Thresholds of Significance	5
III. EXISTING CONDITIONS	6
A. Existing Roadway System.....	6
B. Existing Traffic Volumes.....	6
C. Existing Intersection Delay and Level of Service.....	6
D. County of San Bernardino General Plan Circulation Element.....	7
E. Existing Transit Service, Pedestrian, and Bicycle Facilities	7
IV. PROJECT TRIPS	17
A. Project Description	17
B. Trip Generation.....	17
C. Trip Distribution	17
D. Trip Assignment	17
E. Project Trip Contribution Test	17
V. FUTURE TRAFFIC VOLUMES.....	24
A. Method of Projection.....	24
1. Ambient Growth.....	24
2. Other Development	24
3. San Bernardino Transportation Analysis Model (SBTAM)	24
B. Future Traffic Volumes.....	25
1. Existing Plus Project	25
2. Opening Year Without Project	25
3. Opening Year With Project.....	25
4. Year 2040 Without Project.....	25
5. Year 2040 With Project	25

VI. FUTURE LEVELS OF SERVICE	41
A. Existing Plus Project Intersection Delay and Level of Service	41
B. Opening Year Without Project Intersection Delay and Level of Service.....	41
C. Opening Year With Project Intersection Delay and Level of Service	41
D. Year 2040 Without Project Intersection Delay and Level of Service	41
E. Year 2040 With Project Intersection Delay and Level of Service.....	41
VII. RECOMMENDATIONS.....	48
A. Off-Site Mitigation Measures.....	48
B. On-Site Recommendations	48

APPENDICES

- Appendix A – Glossary of Transportation Terms
- Appendix B – Approved Scoping Agreement
- Appendix C – Traffic Count Worksheets
- Appendix D – Existing Intersection Delay and Level of Service Worksheets
- Appendix E – Other Development Information
- Appendix F – Model Plots and Post-Processing Worksheets
- Appendix G – Future Intersection Delay and Level of Service Worksheets

LIST OF TABLES

Table 1.	Existing Intersection Delay and Level of Service.....	8
Table 2.	Project Trip Generation	18
Table 3.	Existing Plus Project Intersection Delay and Level of Service.....	43
Table 4.	Opening Year Without Project Intersection Delay and Level of Service	44
Table 5.	Opening Year With Project Intersection Delay and Level of Service	45
Table 6.	Year 2040 Without Project Intersection Delay and Level of Service	46
Table 7.	Year 2040 With Project Intersection Delay and Level of Service	47

LIST OF FIGURES

Figure 1.	Project Location Map.....	2
Figure 2.	Site Plan	3
Figure 3.	Existing Through Travel Lanes and Intersection Controls	9
Figure 4.	Existing Average Daily Traffic Volumes.....	10
Figure 5.	Existing Morning Peak Hour Intersection Turning Movement Volumes	11
Figure 6.	Existing Evening Peak Hour Intersection Turning Movement Volumes	12
Figure 7.	County of San Bernardino General Plan Circulation Map	13
Figure 8.	County of San Bernardino General Plan Roadway Cross-Sections	14
Figure 9.	Existing Transit Routes.....	15
Figure 10.	Existing Pedestrian Facilities.....	16
Figure 11.	Project Trip Distribution	19
Figure 12.	Project Average Daily Traffic Volumes	20
Figure 13.	Project Morning Peak Hour Intersection Turning Movement Volumes.....	21
Figure 14.	Project Evening Peak Hour Intersection Turning Movement Volumes	22
Figure 15.	Project Trip Contribution Test Volumes	23
Figure 16.	Existing Plus Project Average Daily Traffic Volumes.....	26
Figure 17.	Existing Plus Project Morning Peak Hour Intersection Turning Movement Volumes	27
Figure 18.	Existing Plus Project Evening Peak Hour Intersection Turning Movement Volumes	28
Figure 19.	Opening Year (2018) Without Project Average Daily Traffic Volumes	29
Figure 20.	Opening Year (2018) Without Project Morning Peak Hour Intersection Turning Movement Volumes	30
Figure 21.	Opening Year (2018) Without Project Evening Peak Hour Intersection Turning Movement Volumes	31
Figure 22.	Opening Year (2018) With Project Average Daily Traffic Volumes.....	32
Figure 23.	Opening Year (2018) With Project Morning Peak Hour Intersection Turning Movement Volumes	33
Figure 24.	Opening Year (2018) With Project Evening Peak Hour Intersection Turning Movement Volumes	34
Figure 25.	Year 2040 Without Project Average Daily Traffic Volumes	35
Figure 26.	Year 2040 Without Project Morning Peak Hour Intersection Turning Movement Volumes	36
Figure 27.	Year 2040 Without Project Evening Peak Hour Intersection Turning Movement Volumes	37
Figure 28.	Year 2040 With Project Average Daily Traffic Volumes.....	38
Figure 29.	Year 2040 With Project Morning Peak Hour Intersection Turning Movement Volumes	39
Figure 30.	Year 2040 With Project Evening Peak Hour Intersection Turning Movement Volumes	40
Figure 31.	Circulation Recommendations	49

EXECUTIVE SUMMARY

The purpose of this report is to provide an assessment of the traffic impacts resulting from the development of the proposed Tentative Tract Map No. 19991 project and to identify the traffic mitigation measures necessary to maintain the established level of service standard for the elements of the impacted roadway system. The traffic issues related to the proposed land use and development have been evaluated in the context of the California Environmental Quality Act (CEQA).

The County of San Bernardino is the lead agency responsible for preparation of the traffic impact analysis, in accordance with California Environmental Quality Act authorizing legislation. This report analyzes traffic impacts for the anticipated opening date with occupancy of the development in Opening Year (2018), at which time it will be generating trips at its full potential, and for the long-range traffic forecast in Year 2040.

Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with those terms unique to transportation engineering, a glossary of terms is provided in Appendix A.

A. Project Description

The project site is located at the northeast corner of Sapphire Avenue and Nice Avenue in the unincorporated Mentone area of San Bernardino County. The proposed project consists of developing the project site with 62 single-family detached residential dwelling units. Full project access will be provided at Nice Avenue via two new streets, Florence Drive and Venice Avenue; the proposed dwelling units located along the western project site boundary will have direct individual access to Sapphire Avenue.

B. Traffic Conditions

The study area intersections currently operate within acceptable Levels of Service during the peak hours for Existing traffic conditions (see Table 1).

The proposed project is forecast to generate approximately 590 daily trips, 47 trips of which will occur during the morning peak hour and 62 trips of which will occur during the evening peak hour (see Table 2).

The study area intersections are projected to operate within acceptable Levels of Service during the peak hours for Existing Plus Project traffic conditions (see Table 3). Therefore, the proposed project is forecast to result in no significant traffic impacts at the study intersections for Existing Plus Project traffic conditions.

The study area intersections are projected to operate within acceptable Levels of Service during the peak hours for Opening Year Without Project traffic conditions (see Table 4).

The study area intersections are projected to operate within acceptable Levels of Service during the peak hours for Opening Year With Project traffic conditions (see Table 5).

Therefore, the proposed project is forecast to result in no significant traffic impacts at the study intersections for Opening Year With Project traffic conditions.

The study area intersections are projected to operate within acceptable Levels of Service during the peak hours for Year 2040 Without Project traffic conditions (see Table 6).

The study area intersections are projected to operate within acceptable Levels of Service during the peak hours for Year 2040 With Project traffic conditions (see Table 7). Therefore, the proposed project is forecast to result in no significant traffic impacts at the study intersections for Year 2040 With Project traffic conditions with improvements.

C. Off-Site Mitigation Measures

No off-site mitigation measures were identified since the proposed project is forecast to result in no significant traffic impacts at the study intersections for the scenarios analyzed.

D. On-Site Recommendations

Site-specific circulation and access recommendations are depicted on Figure 31.

Construct all project site internal roadways at their ultimate cross-section width in accordance with County of San Bernardino standards, including landscaping and parkway improvements in conjunction with development.

Construct Sapphire Avenue along the project site boundary at its ultimate half-section width, including landscaping and parkway improvements in conjunction with development, as necessary.

Construct Nice Avenue along the project site boundary at its ultimate half-section width, including landscaping and parkway improvements in conjunction with development, as necessary.

On-site traffic signing and striping should be submitted for County approval in conjunction with detailed construction plans for the project.

On-site parking should be provided to meet County of San Bernardino parking code requirements.

I. INTRODUCTION

This section discusses the project location and proposed development and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

A. Project Description

The project site is located at the northeast corner of Sapphire Avenue and Nice Avenue in the unincorporated Mentone area of San Bernardino County. The proposed project consists of developing the project site with 62 single-family detached residential dwelling units. Full project access will be provided at Nice Avenue via two new streets, Florence Drive and Venice Avenue; the proposed dwelling units located along the western project site boundary will have direct individual access to Sapphire Avenue.

B. Study Area

Based on the County-approved scoping agreement contained in Appendix B, the study area consists of the following five study intersections:

- Crafton Avenue (NS) at Nice Avenue (EW)¹ - #1
- Sapphire Avenue (NS) at Mentone Boulevard/State Route 38 (SR-38) (EW) - #2
- Sapphire Avenue (NS) at Nice Avenue (EW) - #3
- Florence Drive (NS) at Nice Avenue (EW) - #4 [Proposed]
- Venice Drive (NS) at Nice Avenue (EW) - #5 [Proposed]

C. Analysis Scenarios

Based on the County-approved scoping agreement, the following six scenarios are analyzed:

- 1) Existing Conditions,
- 2) Existing Plus Project Conditions²,
- 3) Opening Year (2018) Without Project Conditions,
- 4) Opening Year (2018) With Project Conditions,
- 5) Year 2040 Without Project Conditions, and
- 6) Year 2040 With Project Conditions.

¹ NS = North-South; EW = East-West

² The existing plus project conditions has been analyzed to comply with the Sunnyvale West Neighborhood Association v. City of Sunnyvale CEQA court case. This scenario assumes the full development of the proposed project and full absorption of the proposed project trips on the circulation system at the present time.

Figure 1
Project Location Map

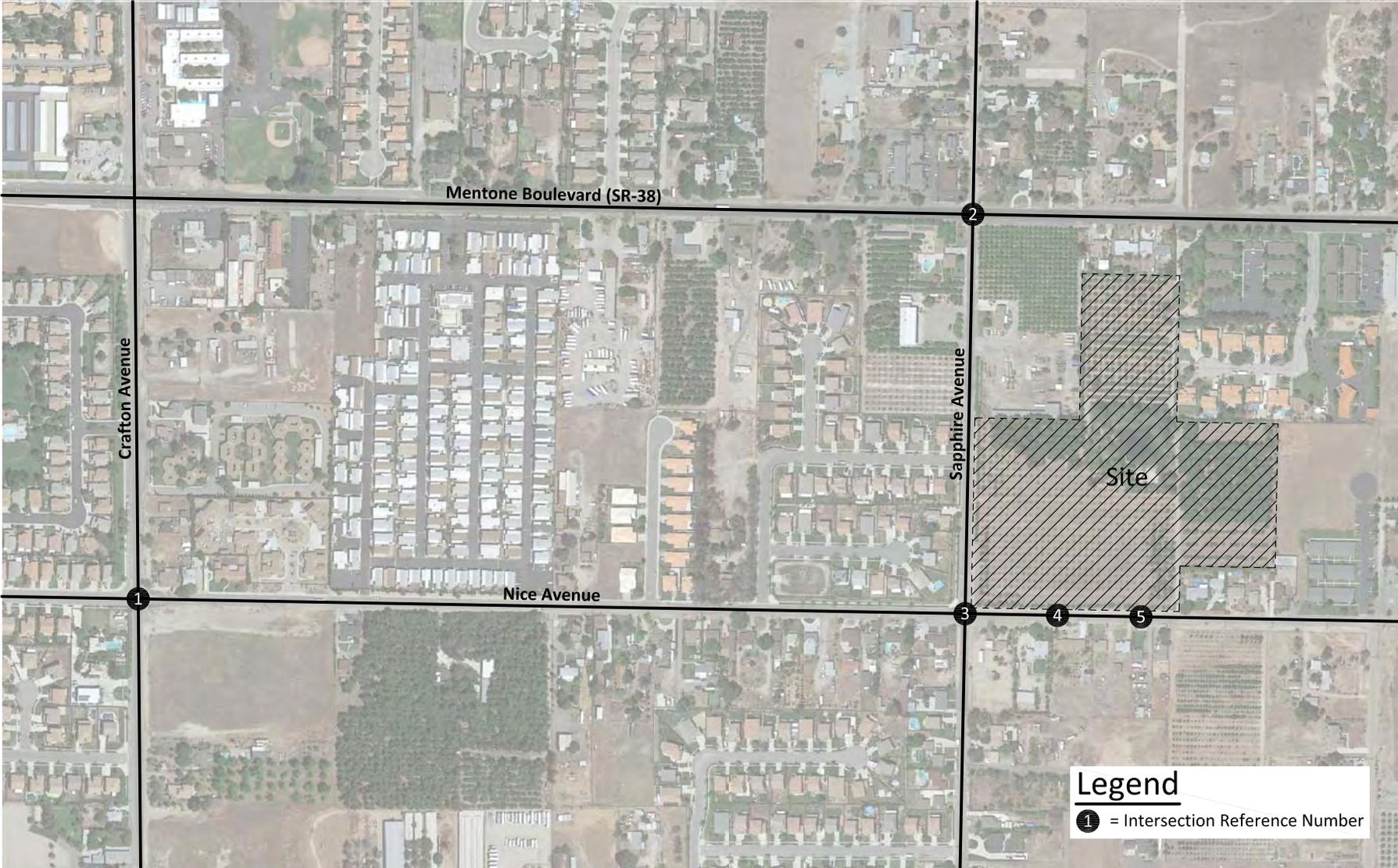


Figure 2
Site Plan



II. METHODOLOGY

This study has been prepared in accordance with San Bernardino Association of Governments (SANBAG) Congestion Management Program for San Bernardino County (2007 Update) requirements for preparation of Traffic Impact Analysis, including default values for Highway Capacity Manual calculations, saturation flow rates, and study intersections. The County-approved scoping agreement is contained in Appendix B.

A. Identification of Study Area

Identification of the study area was based on the forecast contribution of peak hour project-generated trips on the roadway segments near the project site. Based on the Congestion Management Program for San Bernardino County requirements for preparation of Traffic Impact Analysis, arterial facilities are required to be included in the analysis when the anticipated project trip contribution equals or exceeds 50 two-way trips in the peak hours; freeway segments are required to be included when the anticipated project trip contribution equals or exceeds 100 two-way peak hour trips. No analysis is typically required further than 5 miles from the project site.

B. Intersection Analysis Methodology

In accordance with the City-approved scoping agreement, the technique used to assess the performance of an intersection is known as the intersection delay method based on the procedures contained in the Highway Capacity Manual (Transportation Research Board, 2010). The methodology compares the volume of traffic using the intersection to the capacity of the intersection to calculate the delay associated with the traffic control at the intersection. The intersection control delay is then correlated to a performance measure known as Level of Service based on the following thresholds:

Level of Service	Intersection Control Delay (Seconds / Vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: Highway Capacity Manual (Transportation Research Board, 2010).

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure). Per the Highway Capacity Manual, Level of Service is based

on the weighted average delay of the overall intersection for intersections with traffic signal or all way stop control. For intersections with cross street stop control, Level of Service is based on average delay of the worst individual movement.

Input parameters such as saturation flow rates and default values for Highway Capacity Manual calculations were used in accordance with the Congestion Management Program for San Bernardino County (2007 Update) requirements for preparation of Traffic Impact Analysis.

C. Performance Standards

1. County of San Bernardino

The County of San Bernardino General Plan Circulation Element has established Level of Service D as the minimum acceptable Level of Service during peak hours for the County's transportation system in the Valley Region. Roadway facilities operating at Level of Service E or F are considered deficient.

2. California Department of Transportation (Caltrans)

The study intersection of Sapphire Avenue/Mentone Boulevard (SR-38) is a State highway facility under the jurisdiction of the Caltrans. The route concept for this segment of SR-38 is to maintain Level of Service E during the peak periods in accordance with the San Bernardino County Congestion Management Plan (CMP) (Source: Route Concept Fact Sheet District 8: State Route 38, California Department of Transportation Division of Planning, March 2000). Therefore, this study intersection is considered deficient if operating at Level of Service F.

D. Thresholds of Significance

For study intersections under County jurisdiction, a project traffic impact is considered significant if the proposed project causes or worsens Level of Service E or F at a study intersection. For the study intersection under Caltrans jurisdiction, a project traffic impact is considered significant if the proposed project causes or worsens Level of Service F.

To reduce a potential impact to a less than significant level, feasible mitigation measures should be identified that will maintain the acceptable Level of Service. If a project is forecast to worsen a facility already operating deficiently under pre-project conditions, proposed mitigation measures should maintain operation of the impacted facility at pre-project conditions. Mitigation measures can be in many forms, including addition of lanes, traffic control modification, or demand management measures. If no feasible mitigation measures can be identified for a significantly impacted facility, the impact will remain significant and unavoidable.

III. EXISTING CONDITIONS

A. Existing Roadway System

Figure 3 identifies the existing number of through lanes, intersection traffic controls, and intersection geometry based on a field survey of the study area. Regional access to the project site is provided by the I-10 Freeway located south of the project site and SR-210 Freeway located west of the project site; Mentone Boulevard (State Route 38) provides regional access to/from San Bernardino Mountain communities. Local access is provided by Crafton Avenue, Sapphire Avenue, Mentone Boulevard, and Nice Avenue.

B. Existing Traffic Volumes

Existing peak hour traffic volumes are based upon morning peak period and evening peak period intersection turning movement counts conducted in March 2016 during typical weekday conditions. Typically, there are two peak periods in a weekday; the morning peak period was counted between 7:00 AM and 9:00 AM and the evening peak period was counted between 4:00 PM and 6:00 PM. The actual peak hour within the peak period is the four consecutive 15-minute periods with the highest total volume when all movements are added together. Thus, the weekday evening peak hour at one intersection may be 4:45 PM to 5:45 PM if those four consecutive 15-minute periods have the highest combined volume. Traffic count worksheets are provided in Appendix C.

In accordance with the Congestion Management Program for San Bernardino County guidelines, existing traffic volumes were converted into Passenger Car Equivalent (PCE) using the recommended PCE factors (1.5 PCEs for 2-axle trucks, 2.0 PCEs for 3-axle trucks, and 3.0 PCEs for trucks with 4 or more axles). For existing and near-term conditions, the peak hour traffic volumes have been adjusted to peak 15 minute volumes for analysis purposes using the existing measured peak hour factors.

The existing average daily traffic volumes are provided for informational purposes and have been obtained from the Caltrans Traffic Census Program (2014) and factored from peak hour volumes using the following formula for each intersection leg:

$$\text{PM Peak Hour (Approach Volume + Exit Volume)} \times 11.5 = \text{Average Daily Traffic (ADT)}.$$

Figure 4 depicts the existing average daily traffic volumes. Figure 5 and Figure 6 show the existing morning peak hour and evening peak hour intersection turning movement volumes, respectively.

C. Existing Intersection Delay and Level of Service

The morning and evening peak hour Levels of Service for existing traffic conditions have been calculated and are shown in Table 1. As shown in Table 1, the study area intersections currently operate within acceptable Levels of Service during the peak hours for existing traffic conditions. Existing Level of Service worksheets are provided in Appendix D.

D. County of San Bernardino General Plan Circulation Element

Figure 7 shows the County of San Bernardino General Plan Circulation Map. This figure shows the nature and extent of arterial highways that are needed to adequately serve the ultimate development depicted by the Land Use Element of the General Plan. The County of San Bernardino General Plan roadway cross-sections are illustrated on Figure 8.

E. Existing Transit Service, Pedestrian, and Bicycle Facilities

The study area is currently served by Omnitrans Route 8 along Crafton Avenue; however, the nearest stop is over one mile away at Wabash Avenue/Mentone Boulevard. The existing transit routes provided within the study area are shown on Figure 9.

Existing pedestrian facilities adjacent to the project site are shown on Figure 10. There are currently no marked bicycle lanes in the project vicinity.

Table 1

Existing Intersection Delay and Level of Service

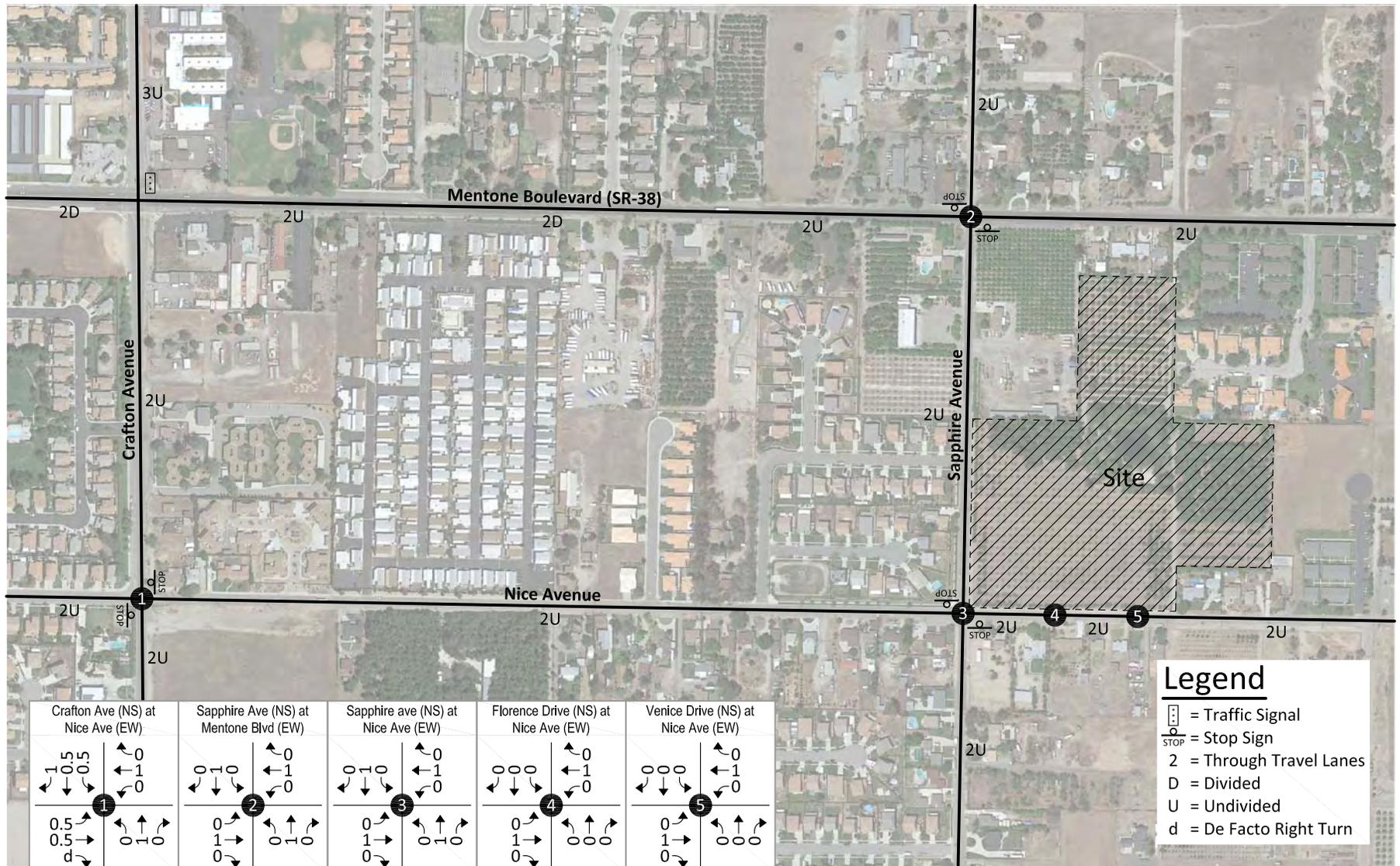
Intersection	Jurisdiction	Traffic Control ³	Intersection Approach Lanes ¹												Peak Hour Delay-LOS ²	
			Northbound			Southbound			Eastbound			Westbound			Morning	Evening
			L	T	R	L	T	R	L	T	R	L	T	R		
Crafton Avenue (NS) at: Nice Avenue (EW) - #1	County	CSS	0	1	0	0.5	0.5	1	0.5	0.5	d	0	1	0	14.4-B	16.0-C
Sapphire Avenue (NS) at: Mentone Boulevard/SR-38 (EW) - #2	Caltrans	CSS	0	1	0	0	1	0	0	1	0	0	1	0	15.2-C	14.3-B
Nice Avenue (EW) - #3	County	CSS	0	1	0	0	1	0	0	1	0	0	1	0	9.4-A	9.5-A

¹ When a right turn lane is designated, the lane can either be striped or unstriped (de facto). To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right; d = De Facto Right

² Delay and Level of Service (LOS) has been calculated using the following analysis software: HCS 2010, Version 6.80. Per the Highway Capacity Manual, for intersections with cross street stop control, the delay and Level of Service for the worst individual lane are shown.

³ CSS = Cross Street Stop

Figure 3
Existing Through Travel Lanes and Intersection Controls



Legend

- = Traffic Signal
- = Stop Sign
- 2 = Through Travel Lanes
- D = Divided
- U = Undivided
- d = De Facto Right Turn

Figure 4
Existing Average Daily Traffic Volumes

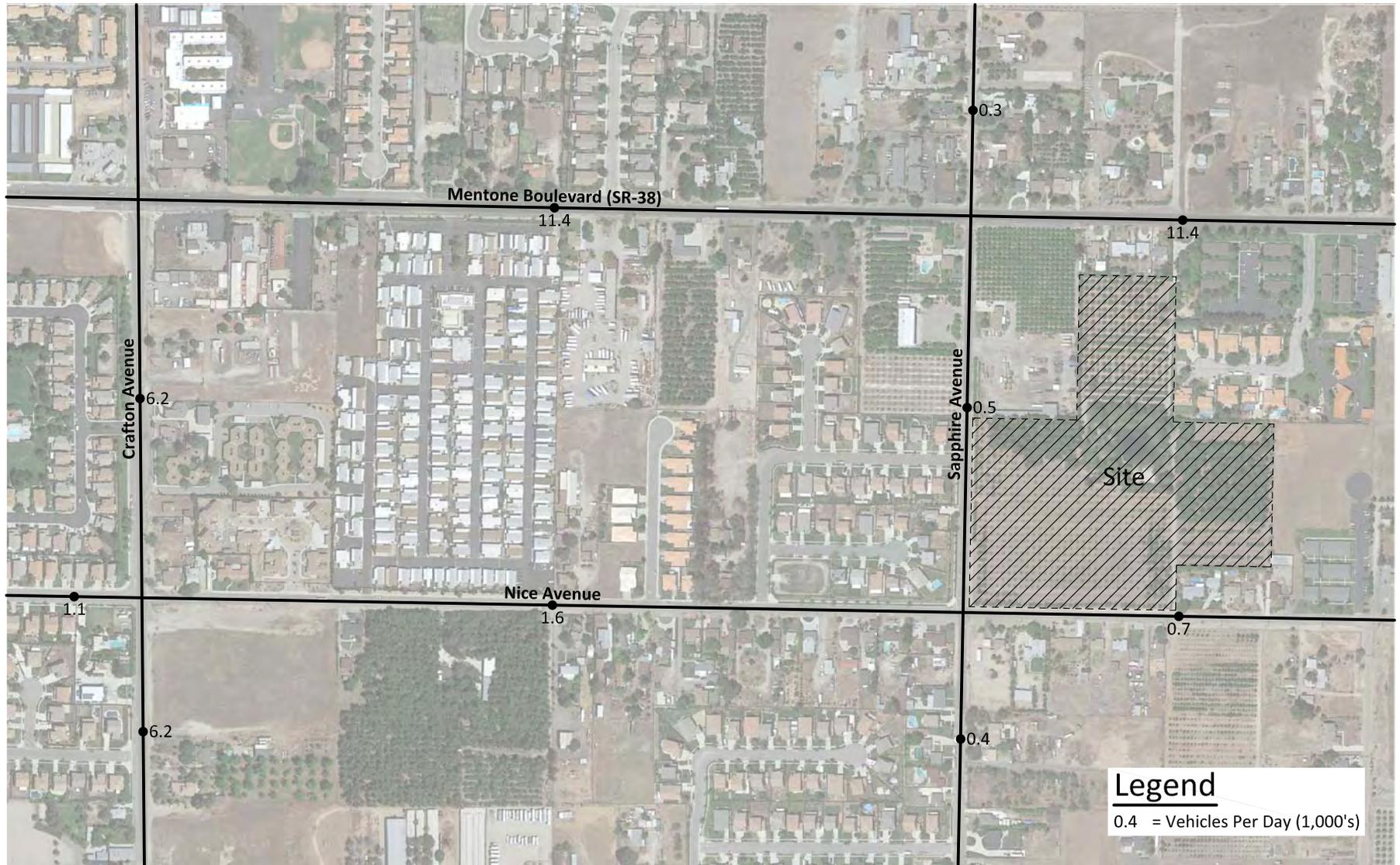


Figure 5
Existing Morning Peak Hour Intersection Turning Movement Volumes

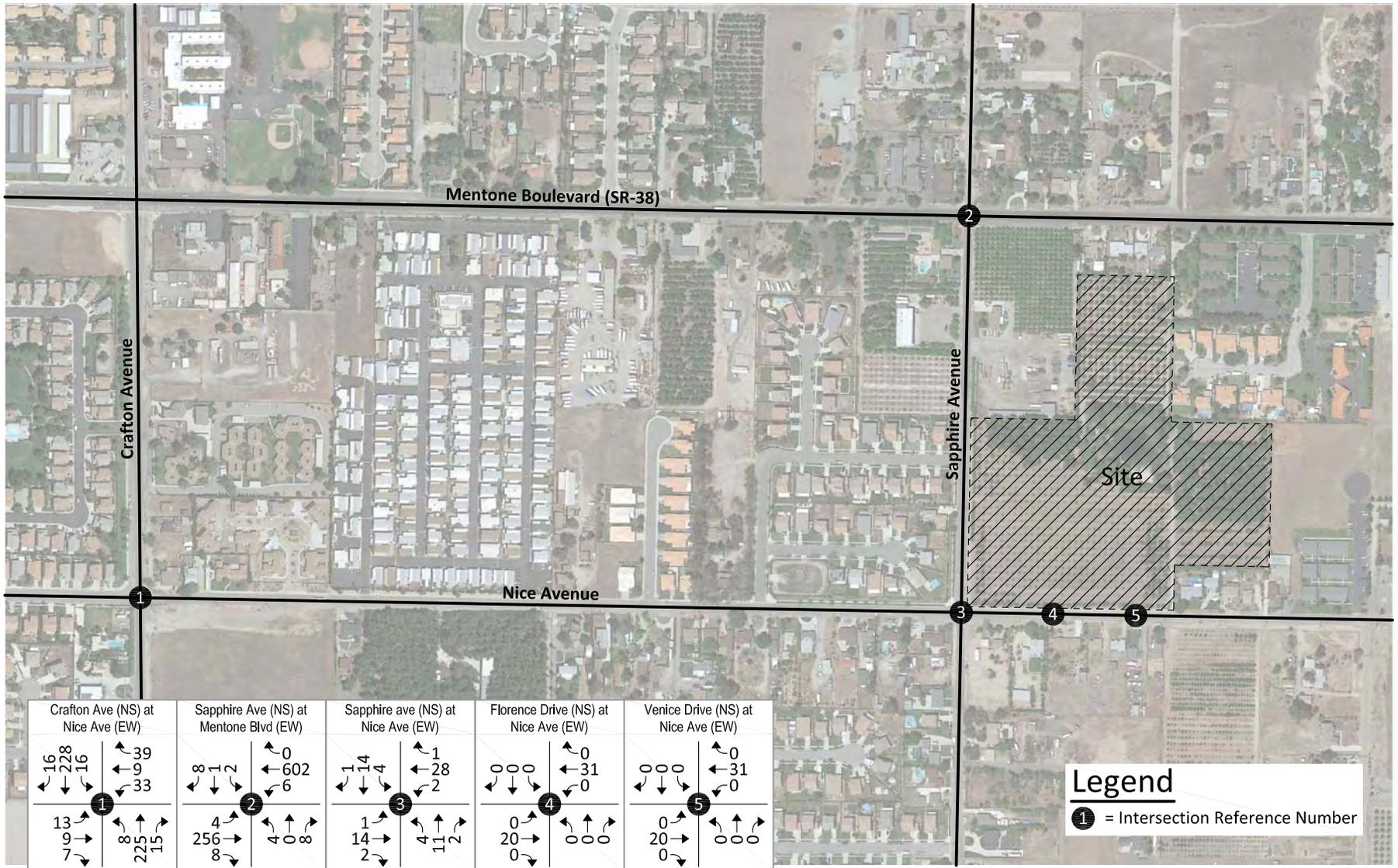


Figure 6
Existing Evening Peak Hour Intersection Turning Movement Volumes

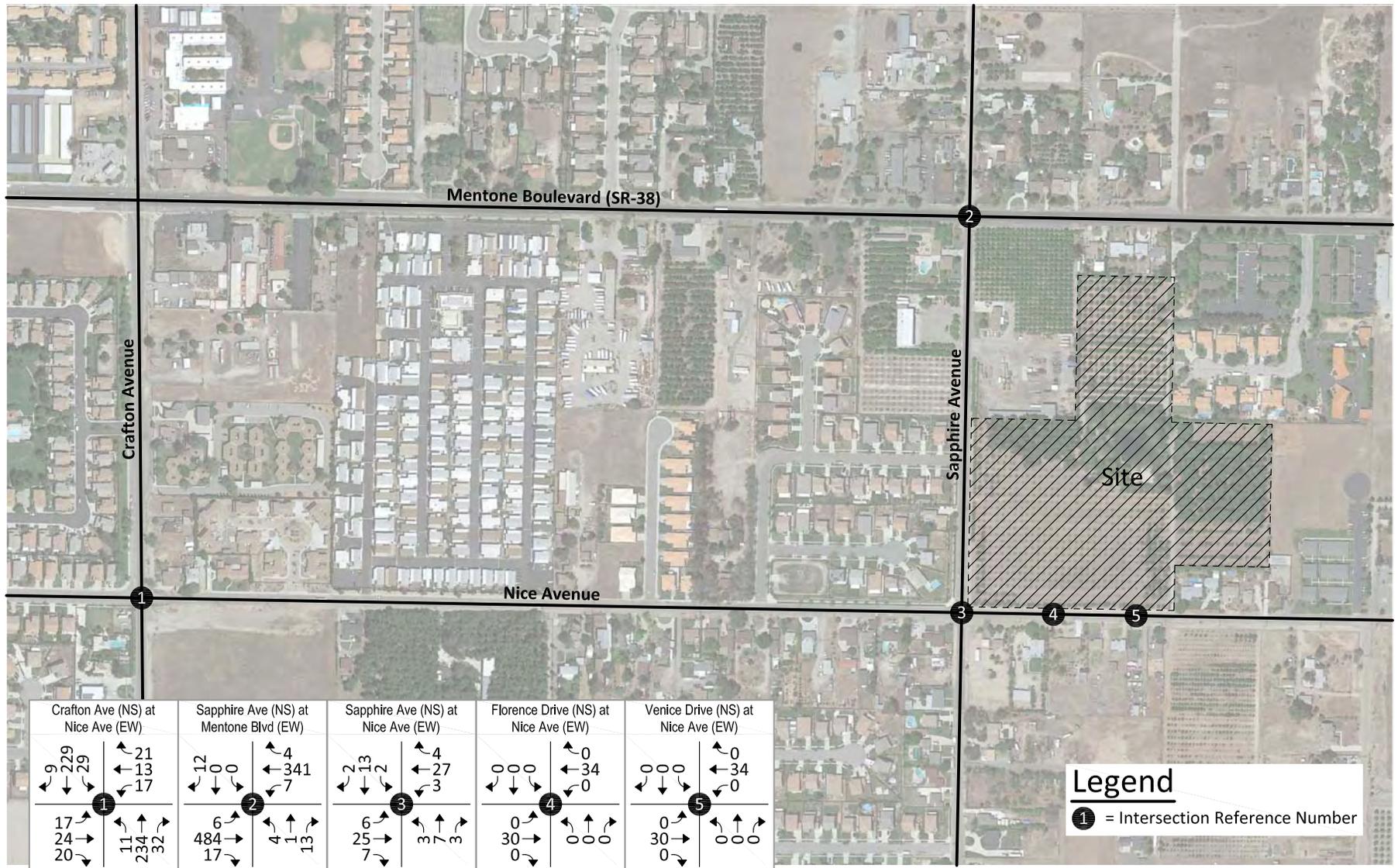
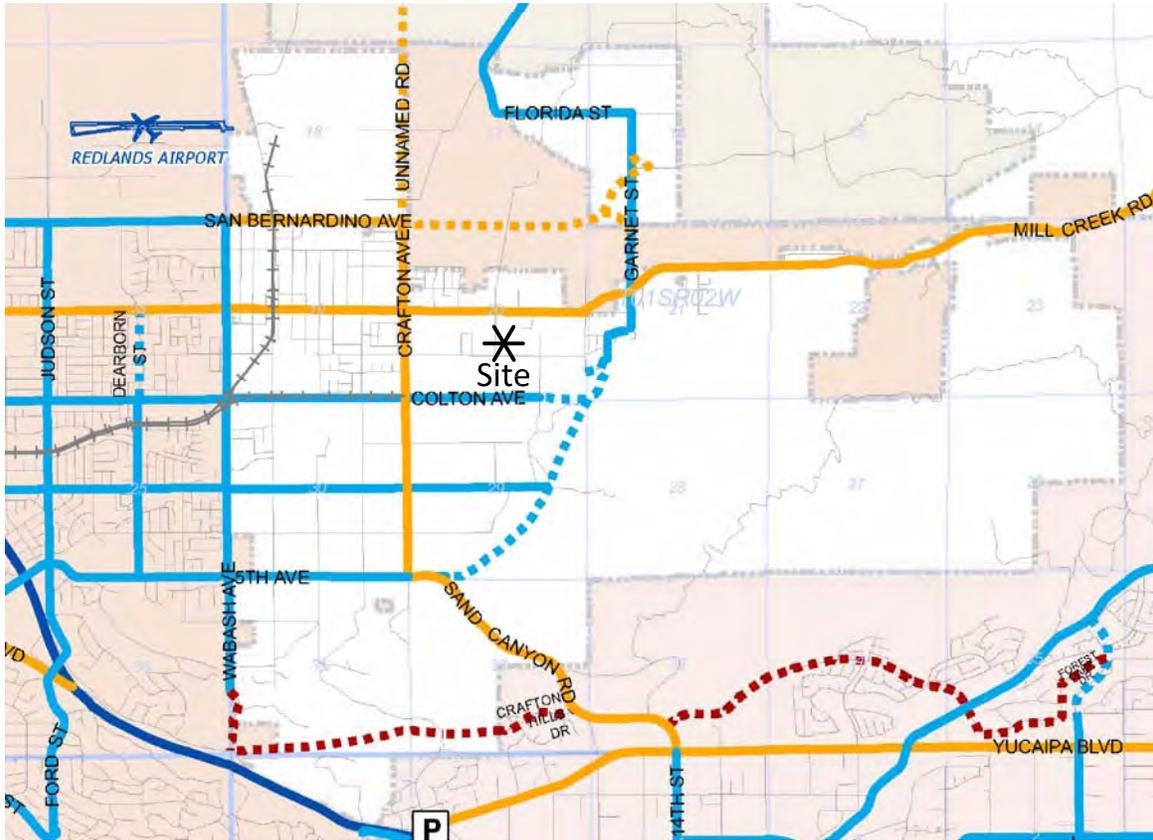


Figure 7
 County of San Bernardino General Plan Circulation Map



Legend

- | Existing | Proposed | |
|----------|----------|---|
| | | Freeway |
| | | Major Divided Highway |
| | | Major Arterial Highway |
| | | Major Highway |
| | | Secondary Highway |
| | | Controlled/Limited Access Collector |
| | | Mountain Major Highway |
| | | Mountain Secondary Highway |
| | | State Highway (Special Standards or Conditions) |
| | | Park & Ride Railroad |
| | | Airport / Airfield |

Figure 8

County of San Bernardino General Plan Roadway Cross-Sections

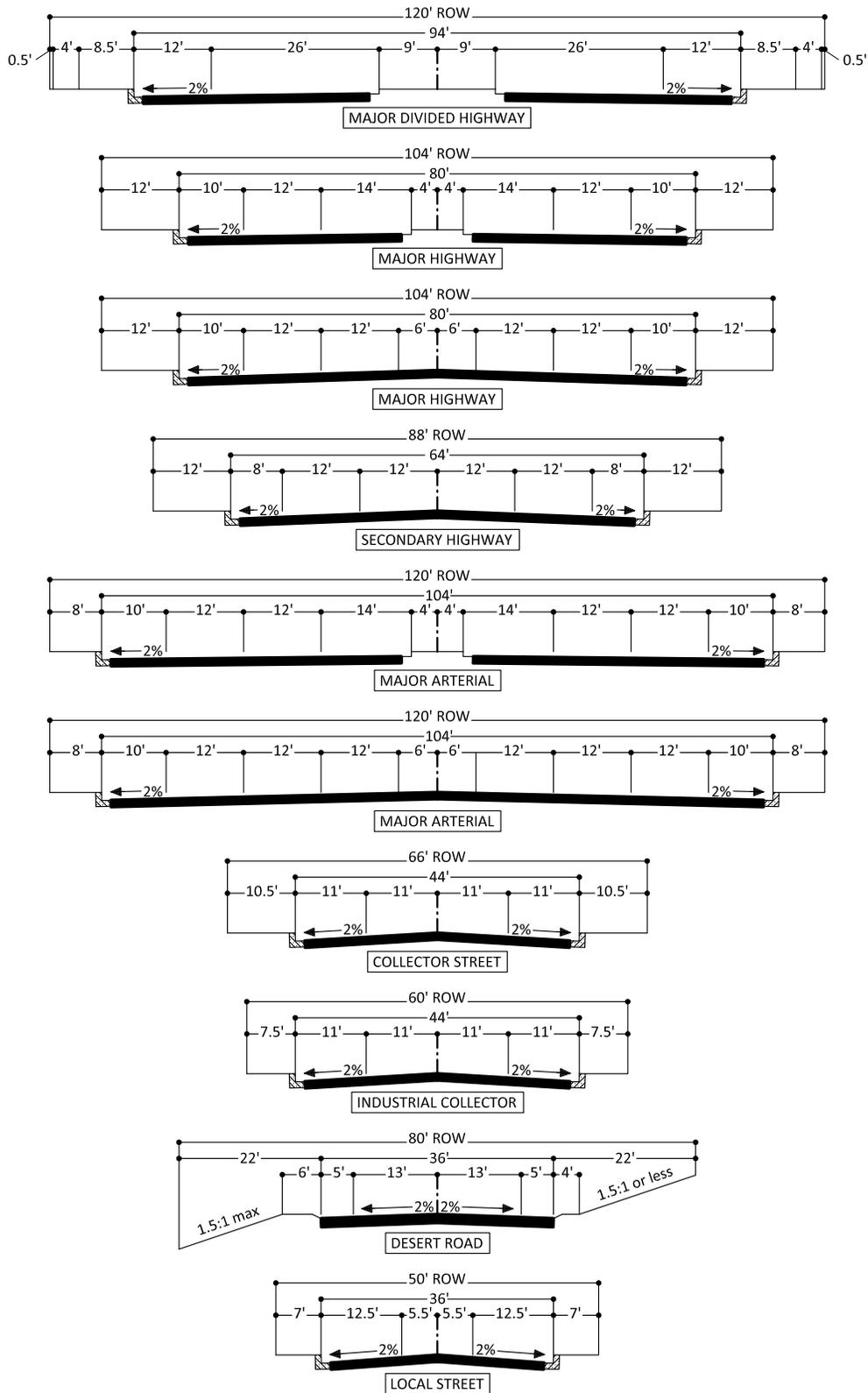
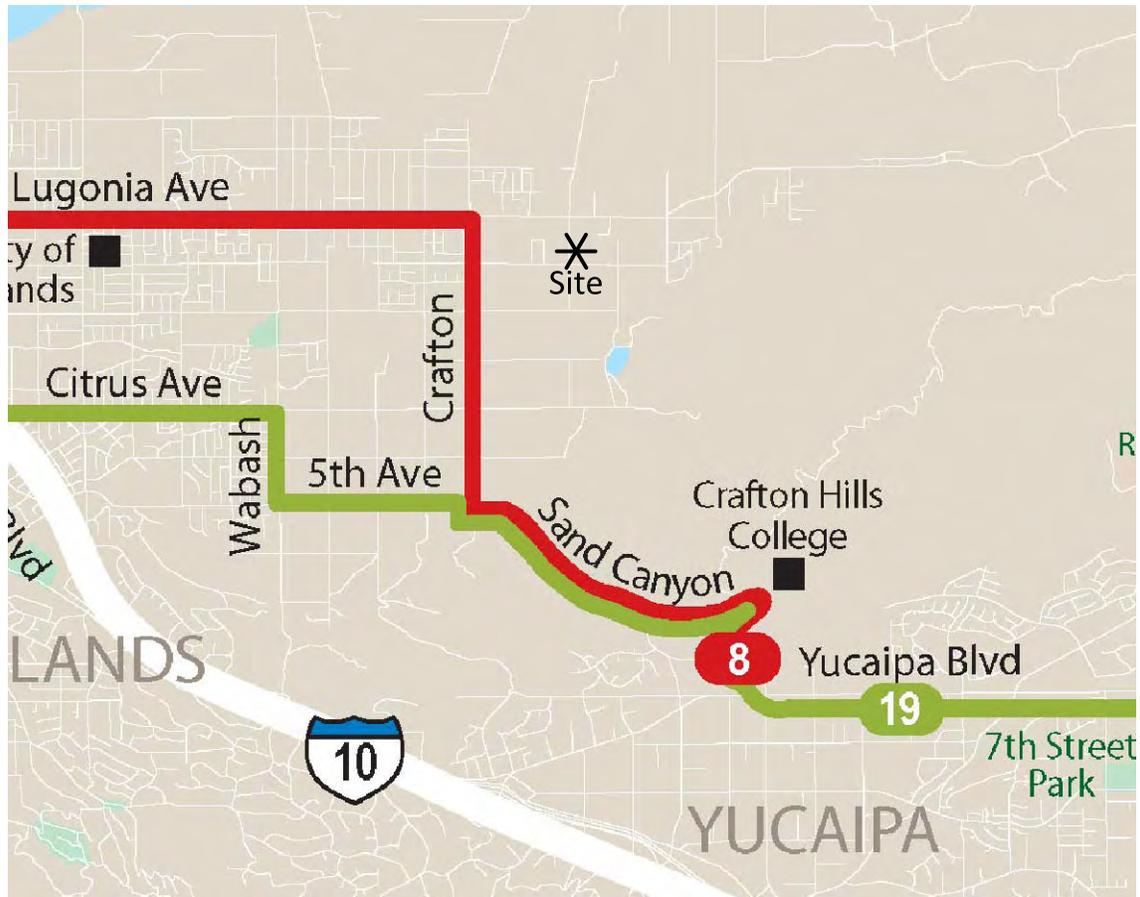


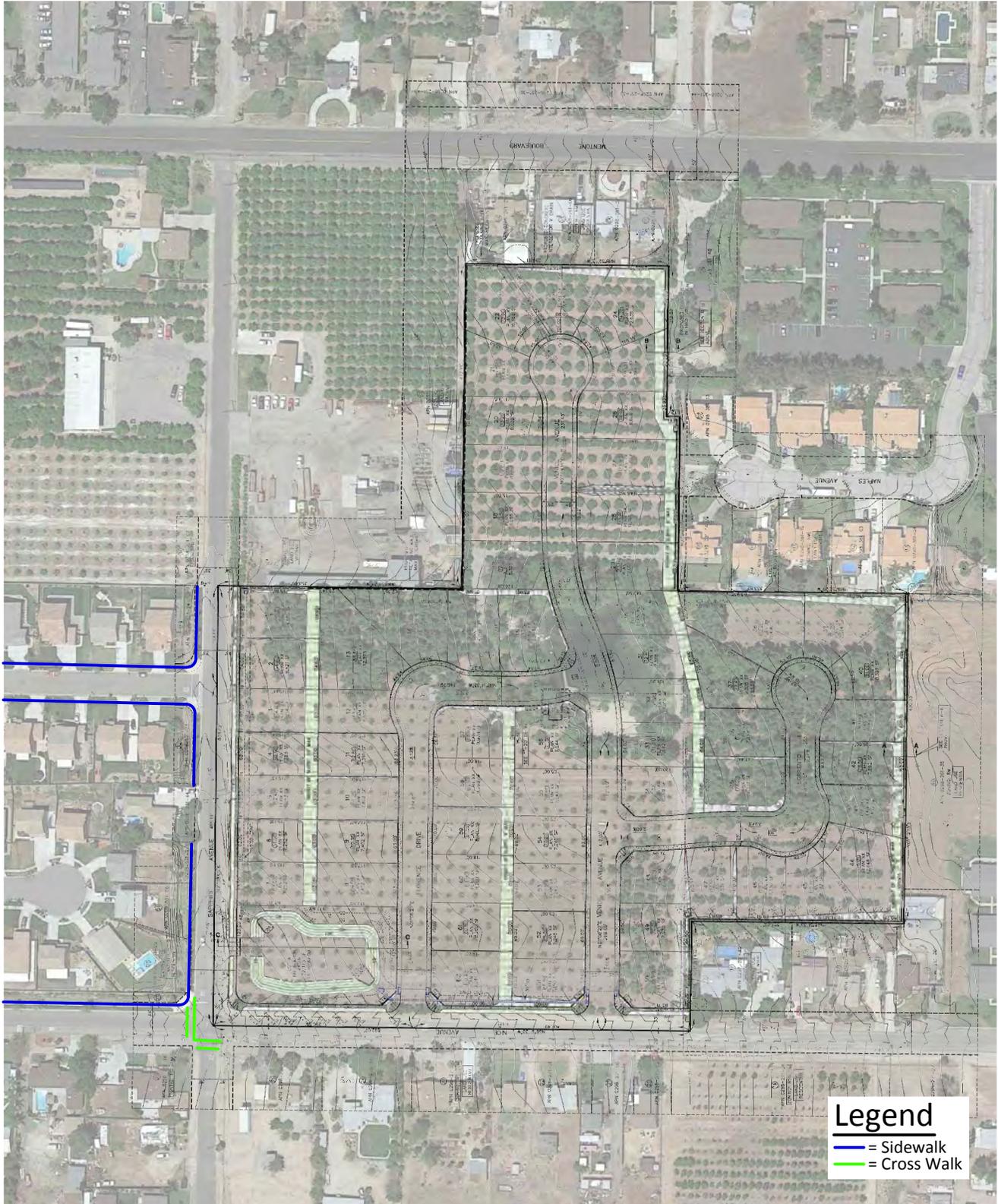
Figure 9
Existing Transit Routes



Legend

- 8 San Bdnno – Mentone – Crafton Hills College
- 10 Fontana – Baseline – San Bernardino
- 11 San Bernardino – Muscoy – Cal State
- 14 Fontana – Foothill – San Bernardino
- 15 Fontana – San Bernardino/Highland – Redlands
- 19 Fontana – Colton – Redlands - Yucaipa

Figure 10
Existing Pedestrian Facilities



IV. PROJECT TRIPS

A. Project Description

The proposed project consists of developing the project site with 62 single-family detached residential dwelling units.

B. Trip Generation

Table 2 shows the project trip generation based upon rates obtained from the Institute of Transportation Engineers, Trip Generation Manual, 9th Edition, 2012. Trip generation rates were determined for daily trips, morning peak hour inbound and outbound trips, and evening peak hour inbound and outbound trips for the proposed land use. The number of trips forecast to be generated by the proposed project are determined by multiplying the trip generation rates by the land use quantity. Existing trips generated by agricultural uses at the project site are nominal; therefore, no credit has been assumed for existing project site trips that will be displaced.

As shown in Table 2, the proposed project is forecast to generate approximately 590 daily trips, 47 trips of which will occur during the morning peak hour and 62 trips of which will occur during the evening peak hour.

C. Trip Distribution

Figure 11 shows the directional distribution of the project trips. The forecast project trip distribution is based on review of existing traffic data, surrounding land uses, and the local and regional roadway facilities in the project vicinity.

D. Trip Assignment

Based on the identified trip generation and distribution, project average daily traffic volumes have been calculated and shown on Figure 12. Morning and evening peak hour intersection turning movement volumes expected from the project are shown on Figure 13 and Figure 14, respectively.

E. Project Trip Contribution Test

Figure 15 shows the forecast project trip contribution test used for identifying the study area. Based on scoping discussions with County staff, the study area includes key intersections at which the project is forecast to contribute 50 or more trips during the morning and evening peak hours. As shown on Figure 15, the project trip contribution is forecast to drop below the 50 peak hour trip threshold at the limits of the study area.

Table 2

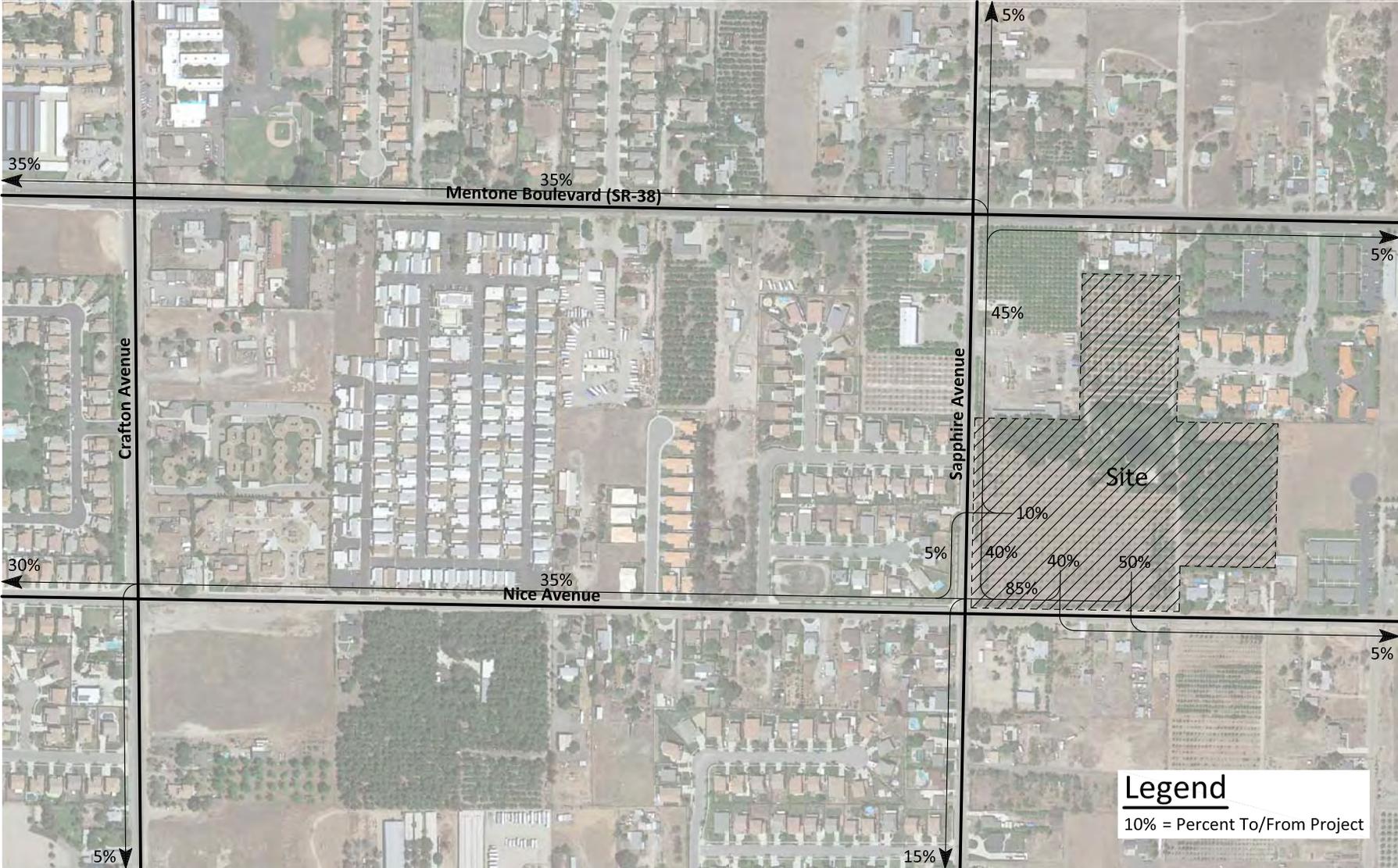
Project Trip Generation¹

Land Use	Quantity	Units ²	Peak Hour						Daily
			Morning			Evening			
			Inbound	Outbound	Total	Inbound	Outbound	Total	
<u>Trip Generation Rates</u>									
Single-Family Detached Residential		DU	0.19	0.56	0.75	0.63	0.37	1.00	9.52
<u>Trips Generated</u>									
Single-Family Detached Residential	62	DU	12	35	47	39	23	62	590

¹ Source: Institute of Transportation Engineers, Trip Generation Manual, 9th Edition, 2012, Land Use Category 210.

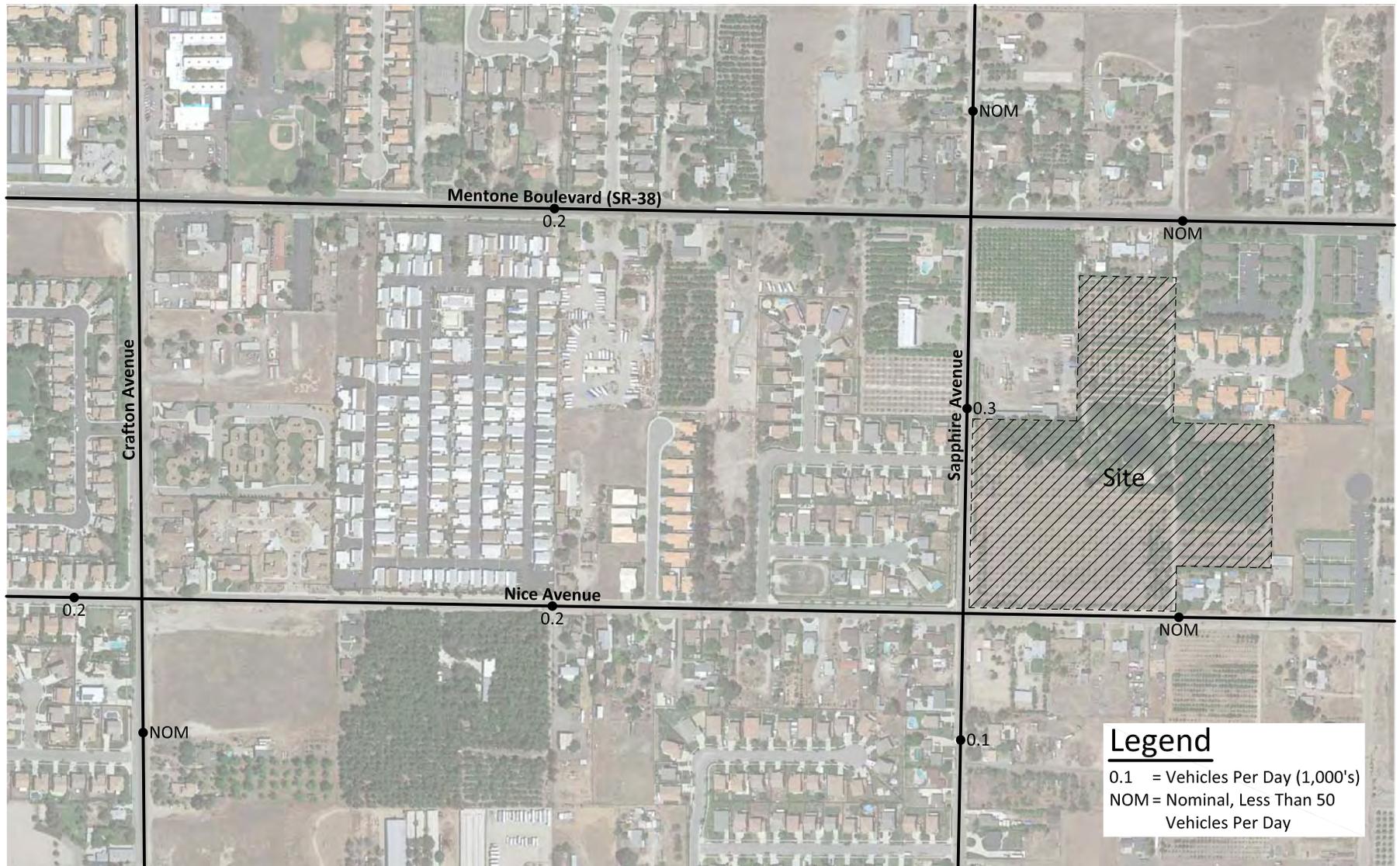
² DU = Dwelling Units

Figure 11
Project Trip Distribution



Legend
10% = Percent To/From Project

Figure 12
Project Average Daily Traffic Volumes



Legend
 0.1 = Vehicles Per Day (1,000's)
 NOM = Nominal, Less Than 50
 Vehicles Per Day

Figure 13
Project Morning Peak Hour Intersection Turning Movement Volumes

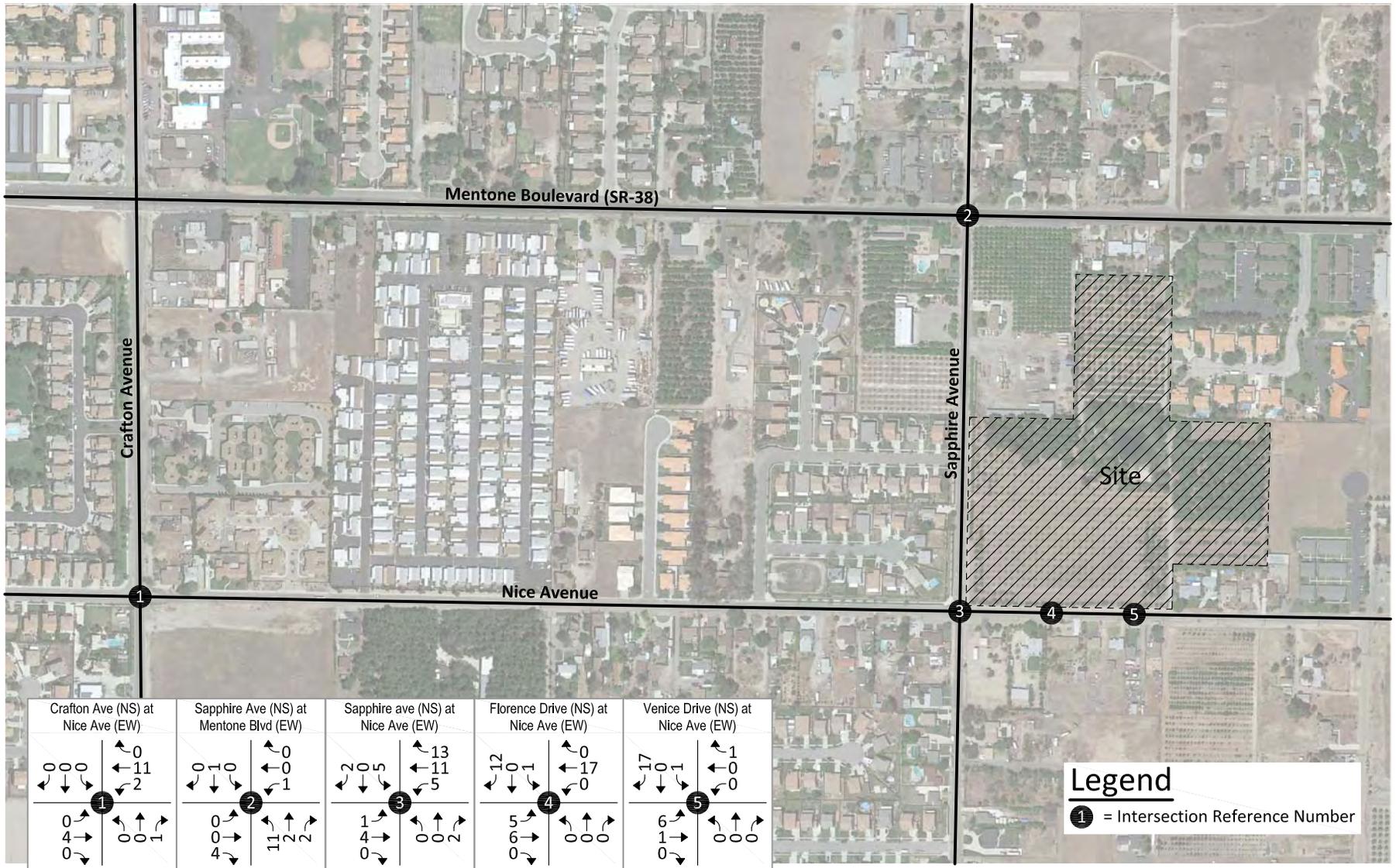
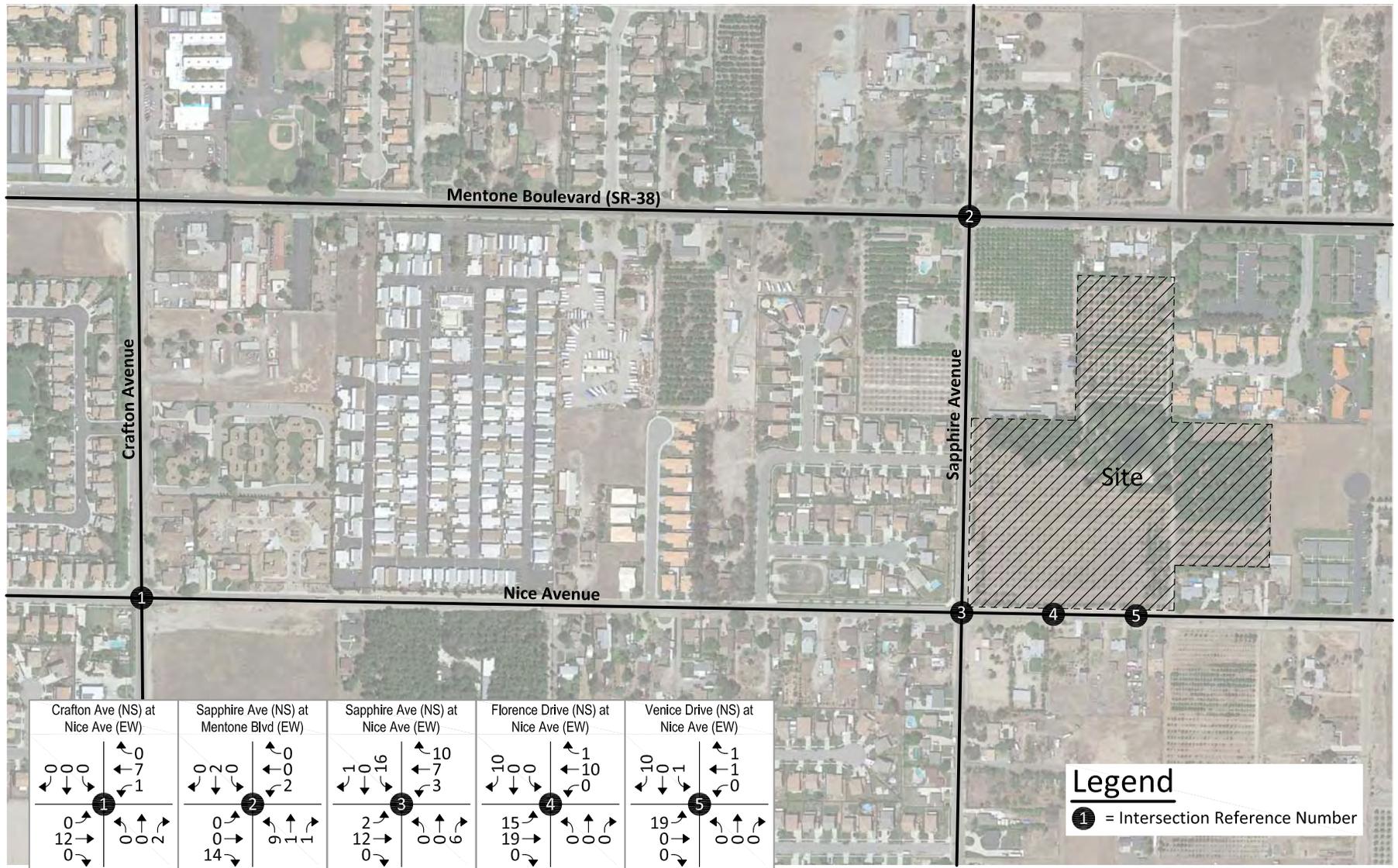
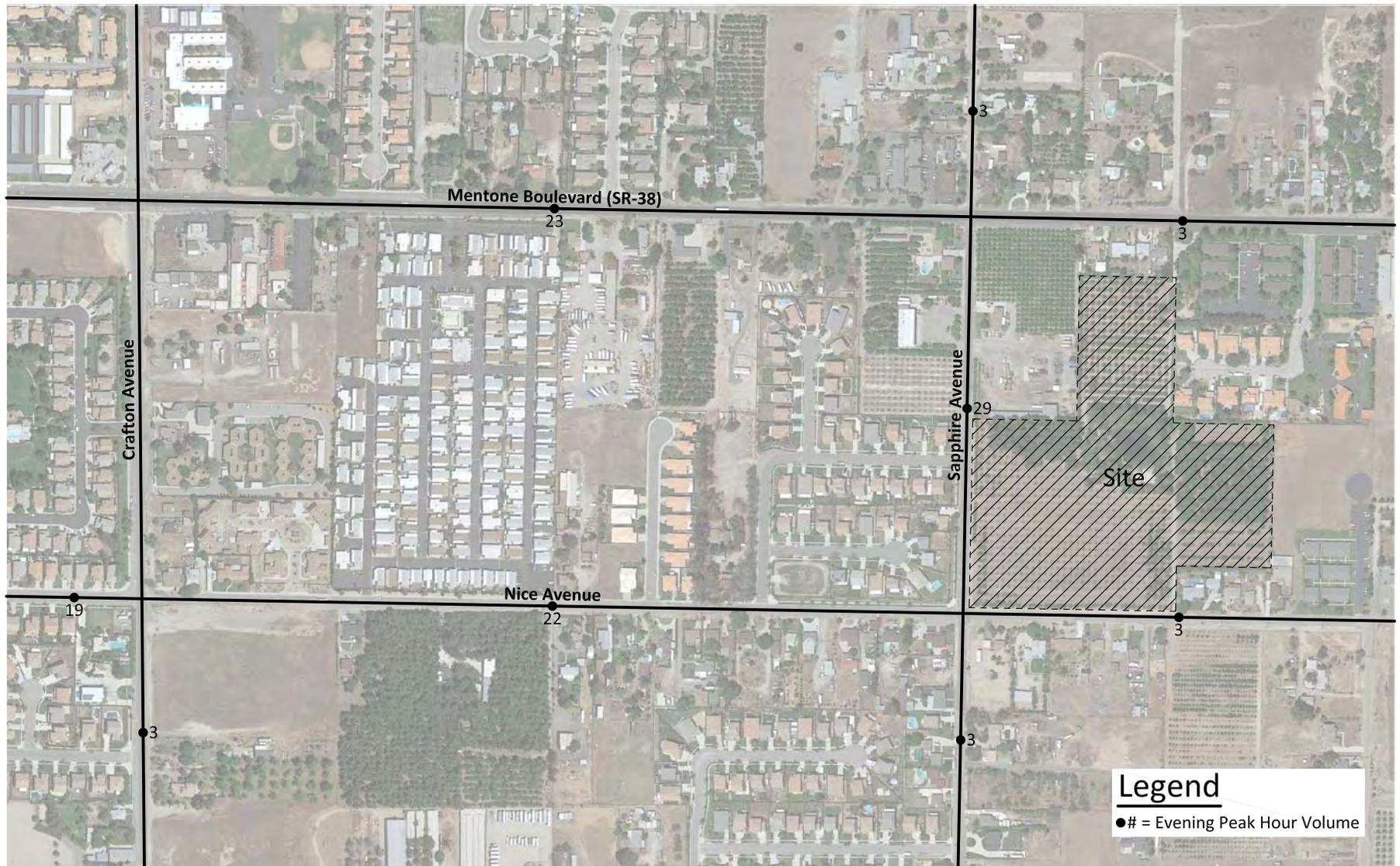


Figure 14
Project Evening Peak Hour Intersection Turning Movement Volumes



Legend
① = Intersection Reference Number

Figure 15
Project Trip Contribution test Volumes



Legend
●# = Evening Peak Hour Volume

V. FUTURE TRAFFIC VOLUMES

A. Method of Projection

To assess future traffic conditions, existing traffic is combined with project trips, ambient growth, and trips generated by other developments. The project completion year for analysis purposes in this report is 2018. For Year 2040 conditions, the San Bernardino Transportation Analysis Model (SBTAM) was used.

1. Ambient Growth

Existing traffic volumes were increased by two (2) percent per year over a two year period to account for ambient traffic growth. This is a conservative assumption since the ambient growth was applied to all movements at the study intersections.

2. Other Development

Future trips generated by other pending or approved development projects in the City were calculated and assigned to the study area. Other development information and trip generation forecasts are contained in Appendix E.

3. San Bernardino Transportation Analysis Model (SBTAM)

To derive General Plan buildout traffic volumes, the current San Bernardino Transportation Analysis Model (SBTAM) was used. In accordance with post-processing procedures contained in the Congestion Management Program for San Bernardino County, the long-range traffic volume forecasts have been determined using a growth increment approach on the Year 2012 and Year 2040 link volumes. This difference defines the growth in traffic over the 28 year period. The incremental growth in traffic volume has been factored to reflect the forecast growth between existing traffic volumes (Year 2016) and Year 2040. For this purpose, linear growth between the Year 2012 base condition and the forecast Year 2040 condition was assumed. Since the increment between existing Year 2016 and Year 2040 is 24 years of the 28 year time frame, a factor of 0.89 (i.e., 24/27) was used.

To derive morning and evening peak hour intersection turning movement volumes, the traffic growth forecasts were further refined using a spreadsheet program developed by the Federal Highway Administration and consistent with traffic forecasting procedures outlined in the National Cooperative Highway Research Program Report 255. The spreadsheet program uses a linear programming algorithm to calculate future turning movements based on the relationship of existing intersection turning movements and forecast model growth. The forecast turning movements developed by the spreadsheet program were reviewed for reasonableness and adjusted as necessary to ensure traffic growth. The end results of the post-processing procedures are future traffic volumes suitable for analysis. Model plots and post-processing worksheets are contained in Appendix F.

B. Future Traffic Volumes

1. Existing Plus Project

The traffic volumes for existing plus project conditions have been derived by adding the project-generated trips to existing traffic volumes. Existing plus project average daily traffic volumes are shown on Figure 16. Existing plus project morning and evening peak hour intersection turning movement volumes are shown on Figure 17 and Figure 18, respectively.

2. Opening Year Without Project

To assess Opening Year Without Project traffic conditions, existing traffic is combined with ambient growth and trips generated by other developments. Opening Year Without Project average daily traffic volumes are shown on Figure 19. Opening Year Without Project morning and evening peak hour intersection turning movement volumes are shown on Figure 20 and Figure 21, respectively.

3. Opening Year With Project

To assess Opening Year With Project traffic conditions, project generated trips are added to Opening Year Without Project traffic volumes. Opening Year With Project average daily traffic volumes are shown on Figure 22. Opening Year With Project morning and evening peak hour intersection turning movement volumes are shown on Figure 23 and Figure 24, respectively.

4. Year 2040 Without Project

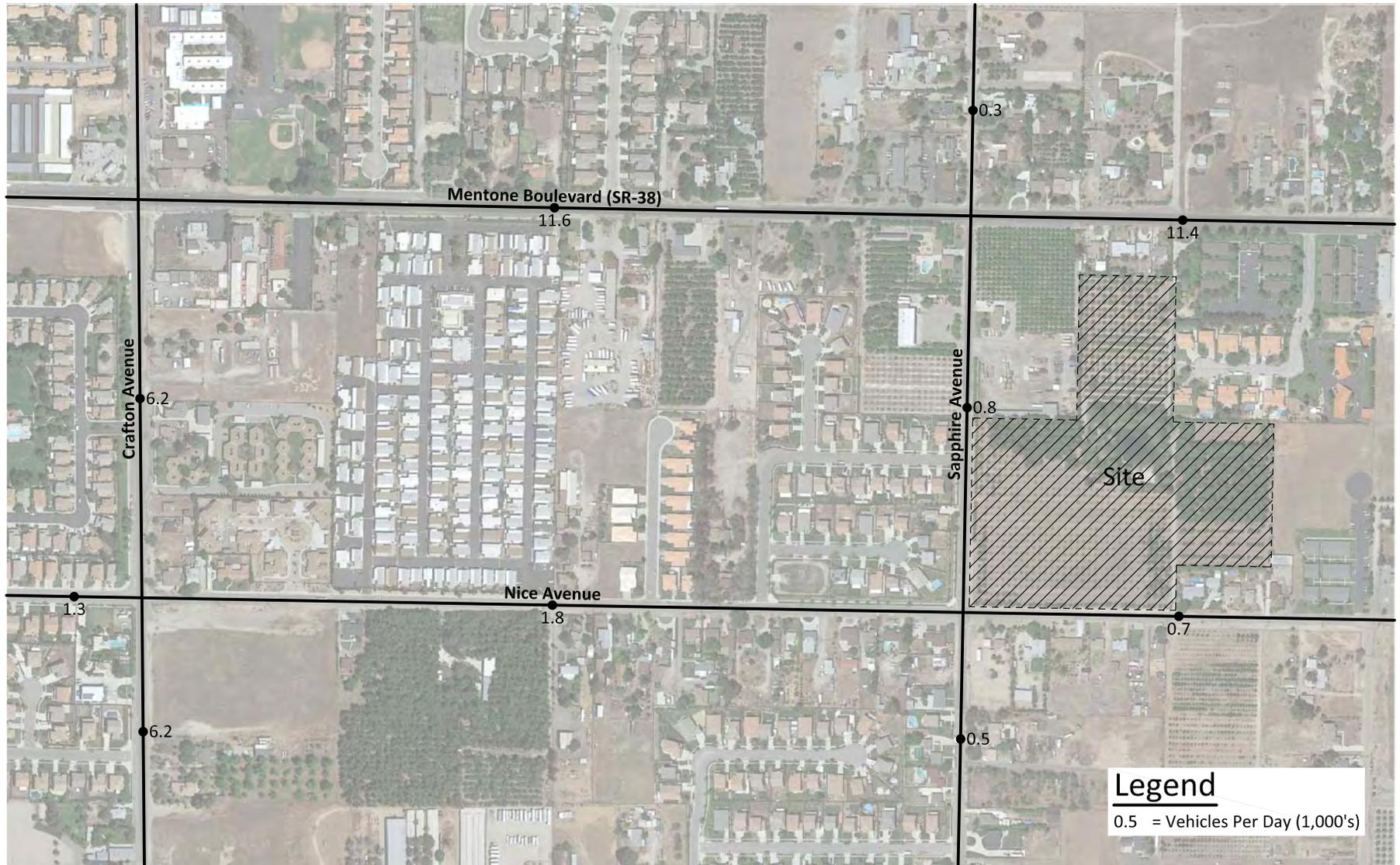
Year 2040 Without Project traffic conditions represent full buildout of the region according to General Plans for the region and are derived using the San Bernardino Transportation Analysis Model (SBTAM) as described above. This analysis assumes no changes to the existing study intersection geometry and controls.

Year 2040 Without Project average daily traffic volumes are shown on Figure 25. Year 2040 Without Project morning and evening peak hour intersection turning movement volumes are shown on Figure 26 and Figure 27, respectively.

5. Year 2040 With Project

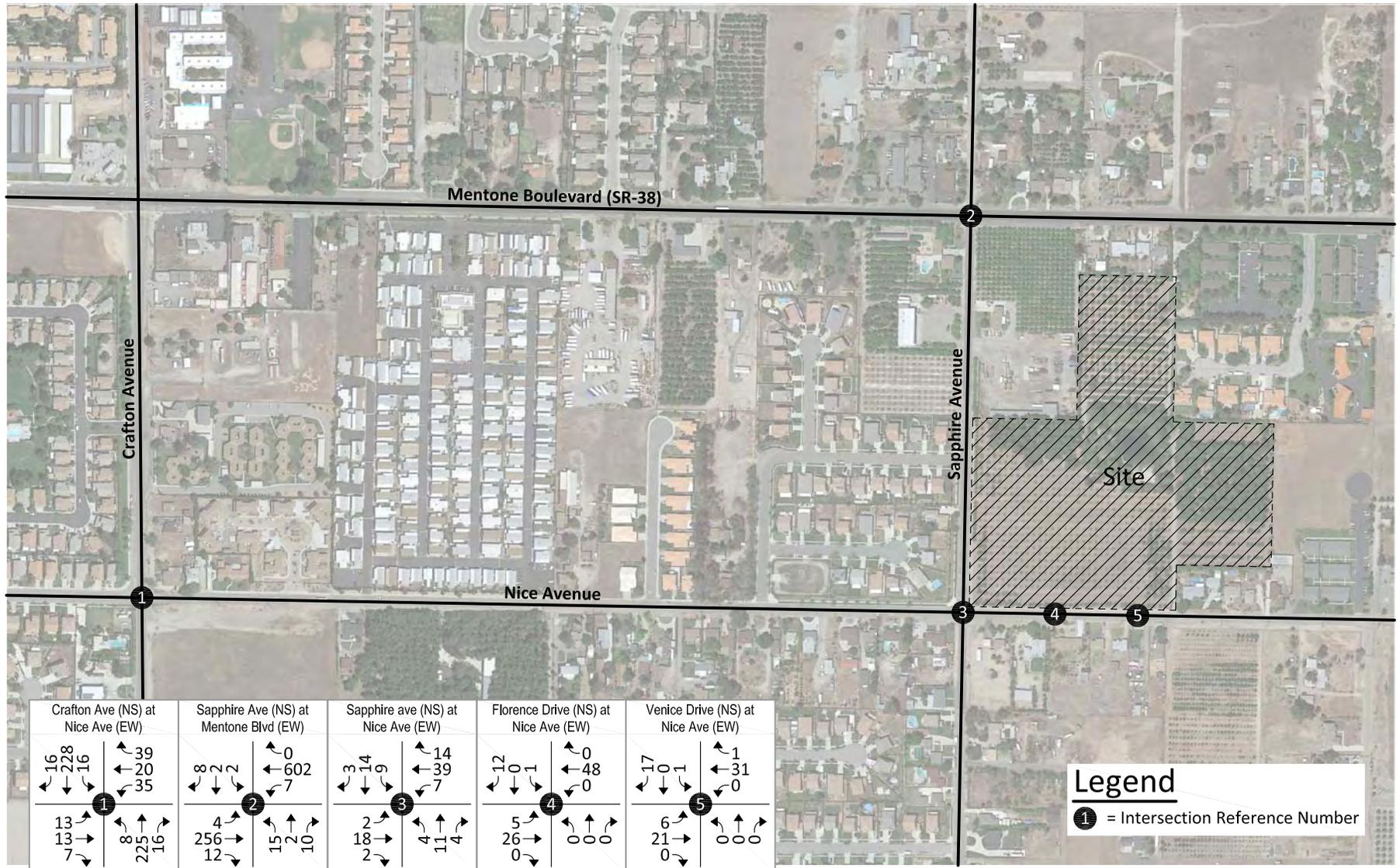
To assess Year 2040 With Project traffic conditions, project generated trips are added to Year 2040 Without Project traffic volumes. Year 2040 With Project average daily traffic volumes are shown on Figure 28. Year 2040 With Project morning and evening peak hour intersection turning movement volumes are shown on Figure 29 and Figure 30, respectively.

Figure 16
Existing Plus Project Average Daily Traffic Volumes



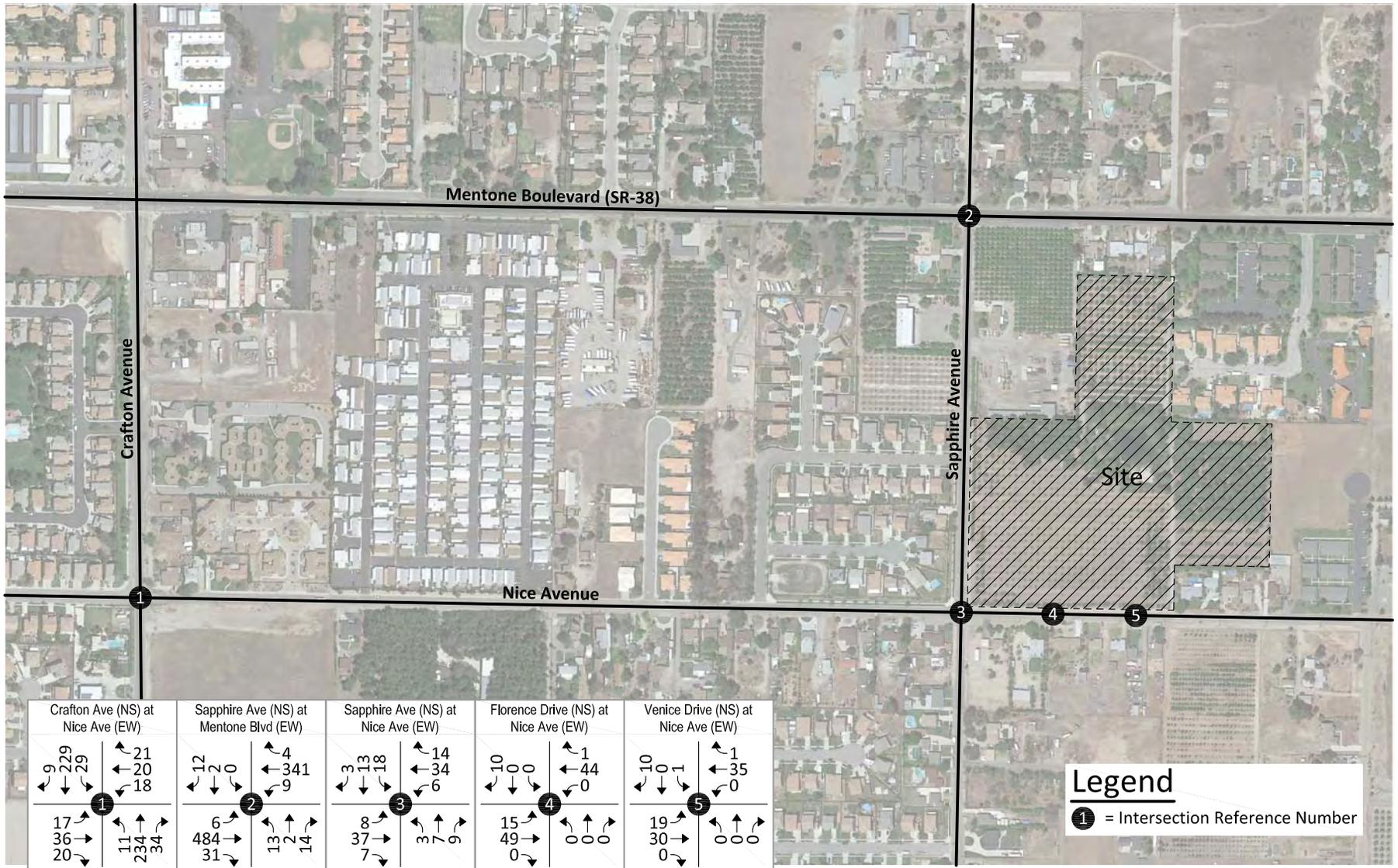
Legend
0.5 = Vehicles Per Day (1,000's)

Figure 17
Existing Plus Project
Morning Peak Hour Intersection Turning Movement Volumes



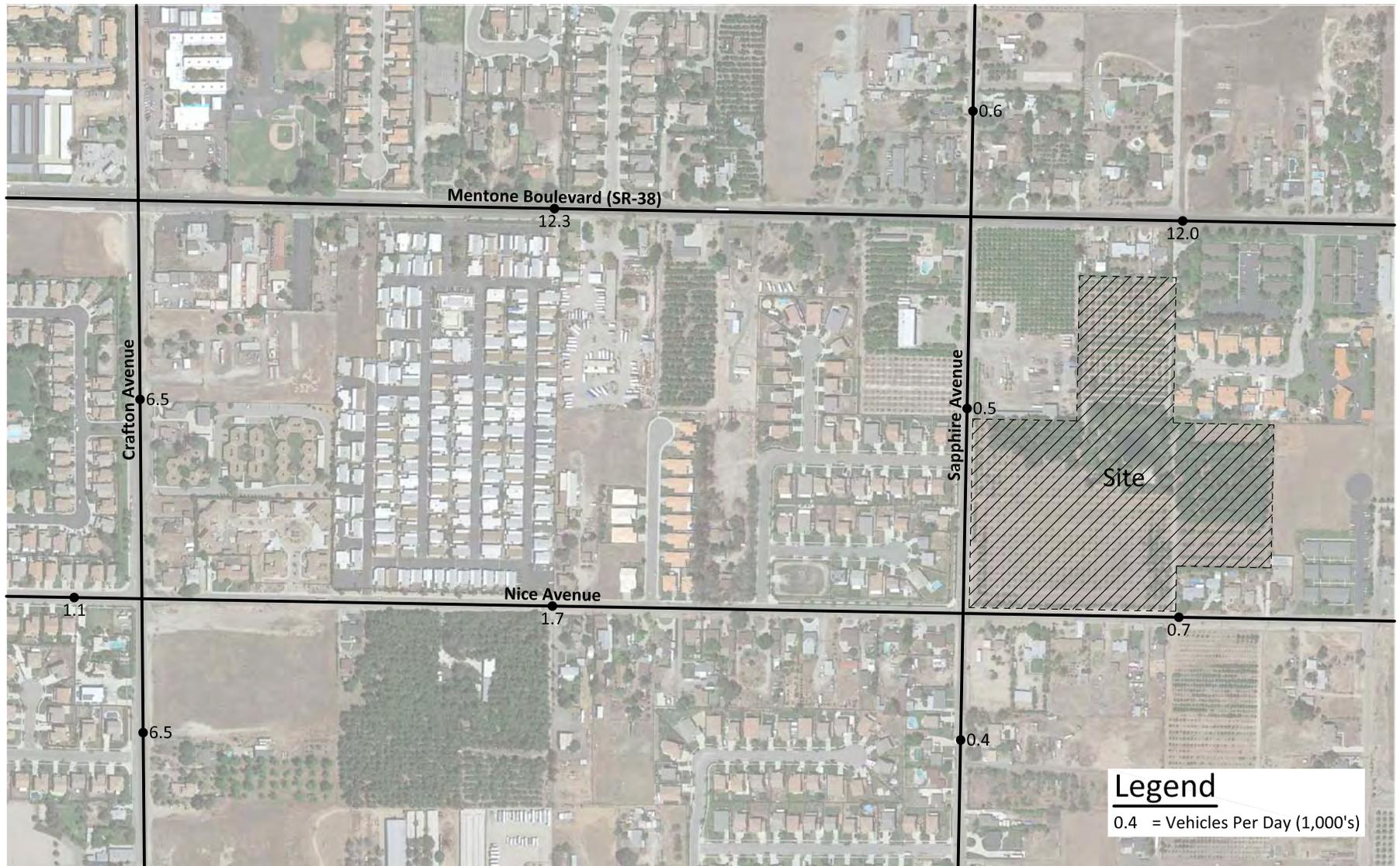
Legend
 1 = Intersection Reference Number

Figure 18
Existing Plus Project
Evening Peak Hour Intersection Turning Movement Volumes



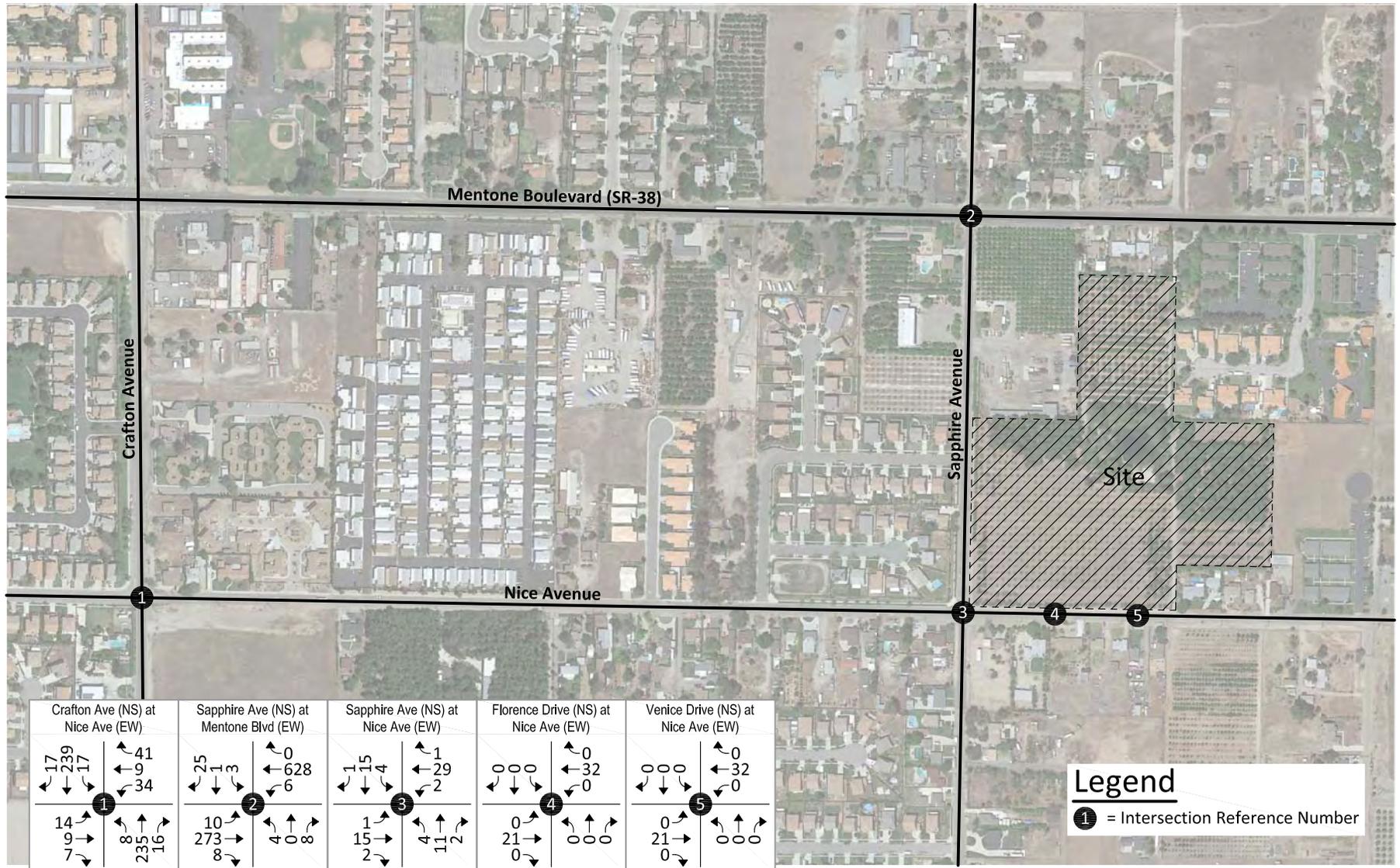
Legend
 ① = Intersection Reference Number

Figure 19
 Opening Year (2018) Without Project Average Daily Traffic Volumes



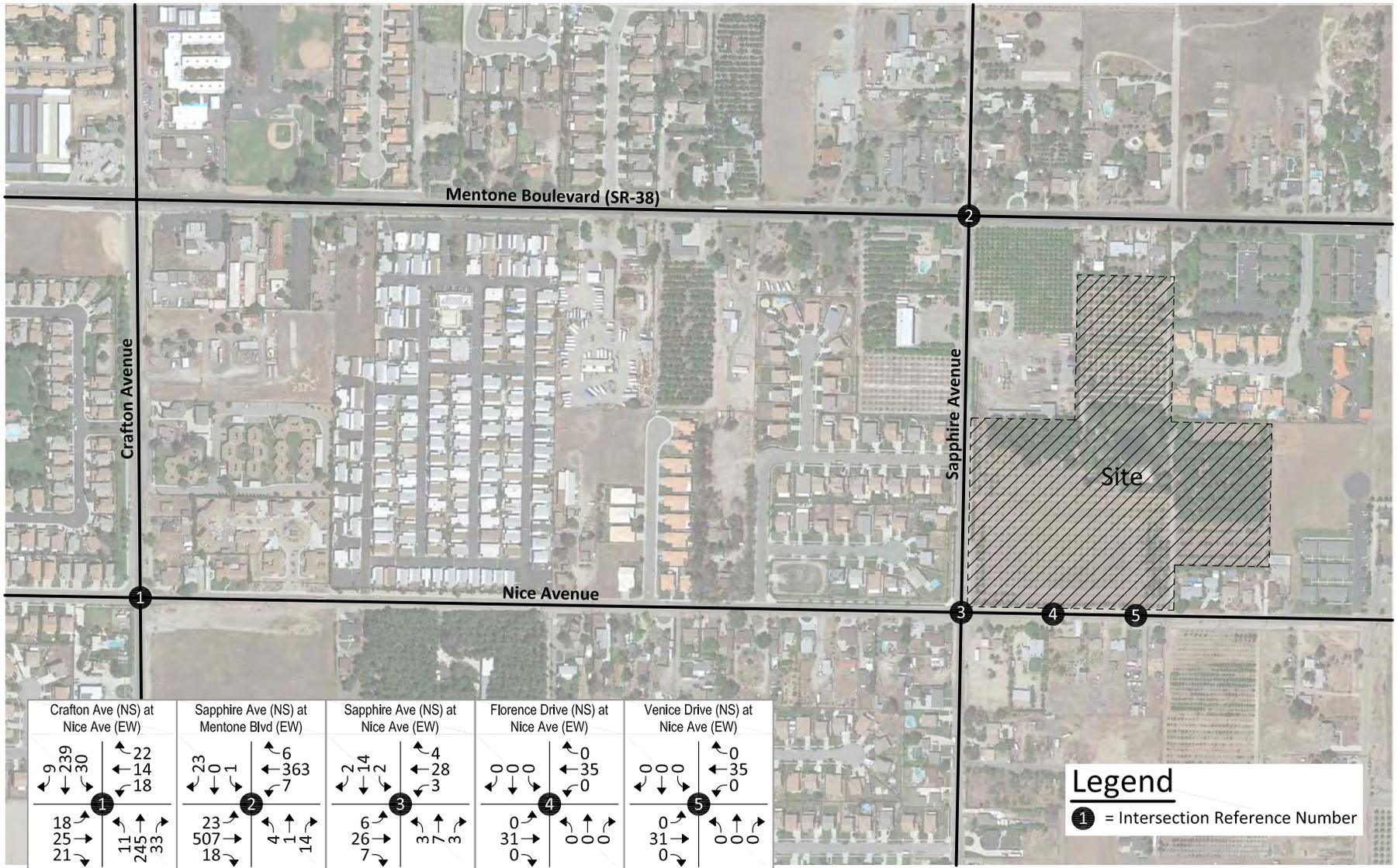
Legend
 0.4 = Vehicles Per Day (1,000's)

Figure 20
Opening Year (2018) Without Project
Morning Peak Hour Intersection Turning Movement Volumes



Legend
 ① = Intersection Reference Number

Figure 21
Opening Year (2018) Without Project
Evening Peak Hour Intersection Turning Movement Volumes



Legend
 1 = Intersection Reference Number

Figure 22
 Opening Year (2018) With Project Average Daily Traffic Volumes

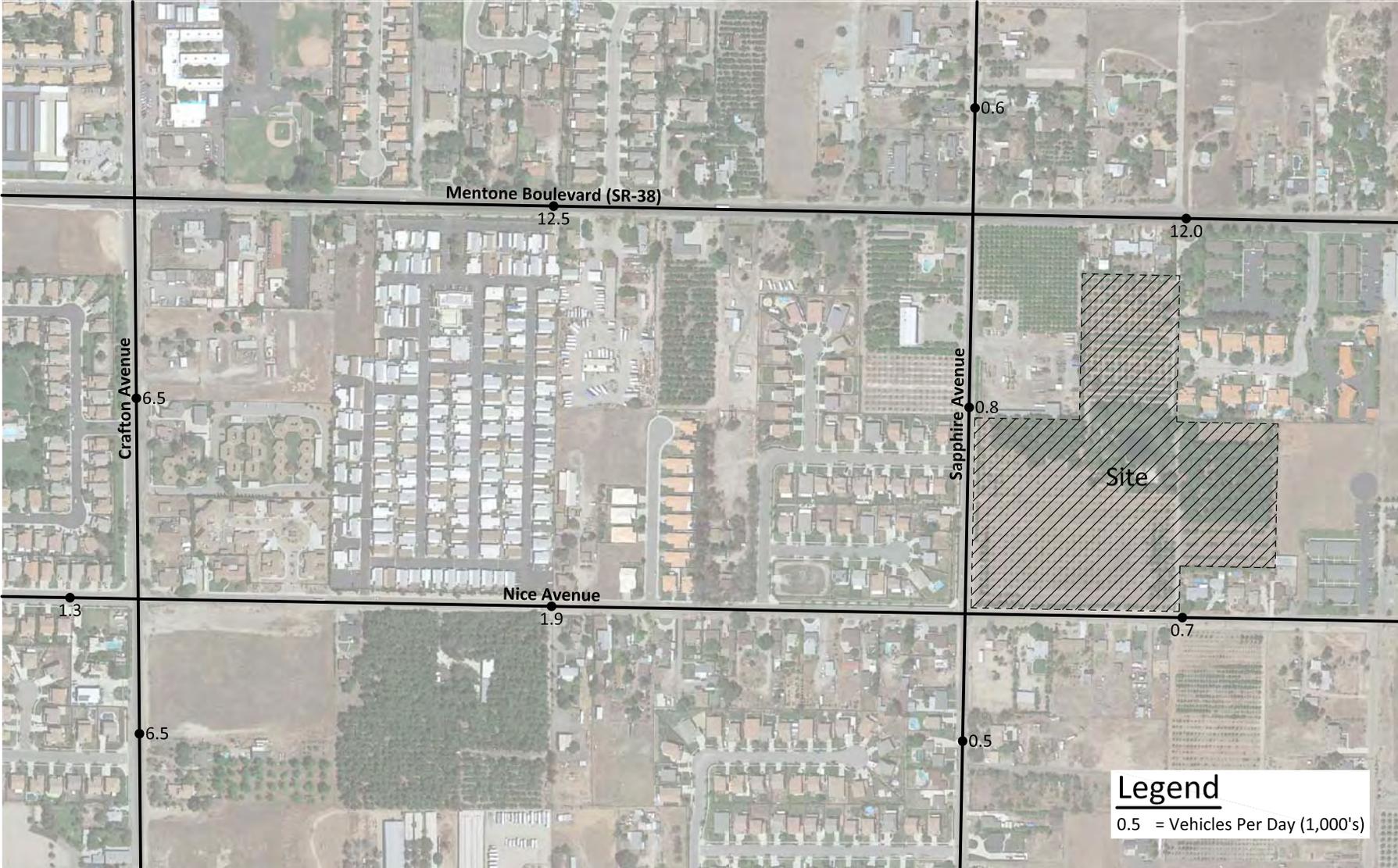
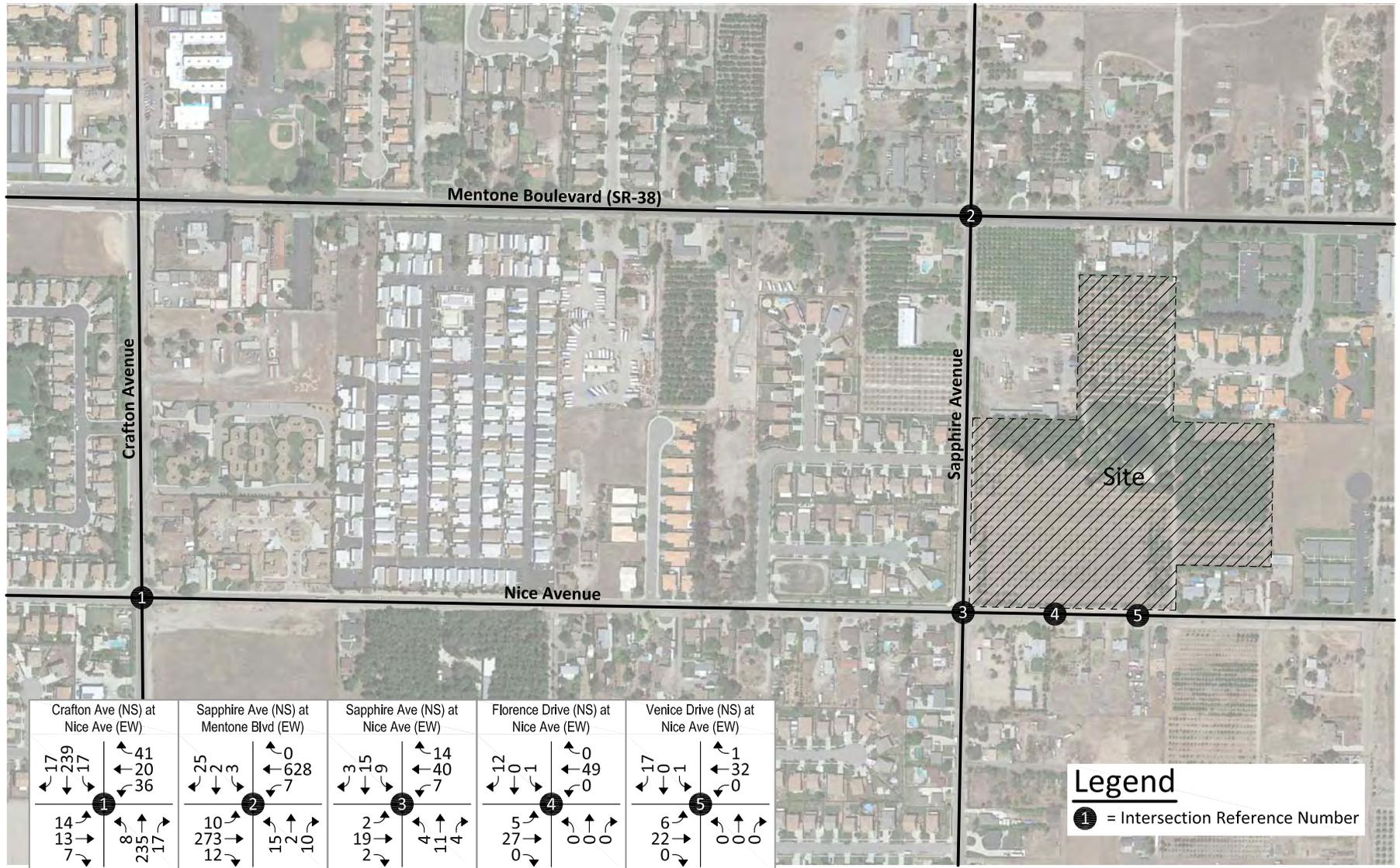
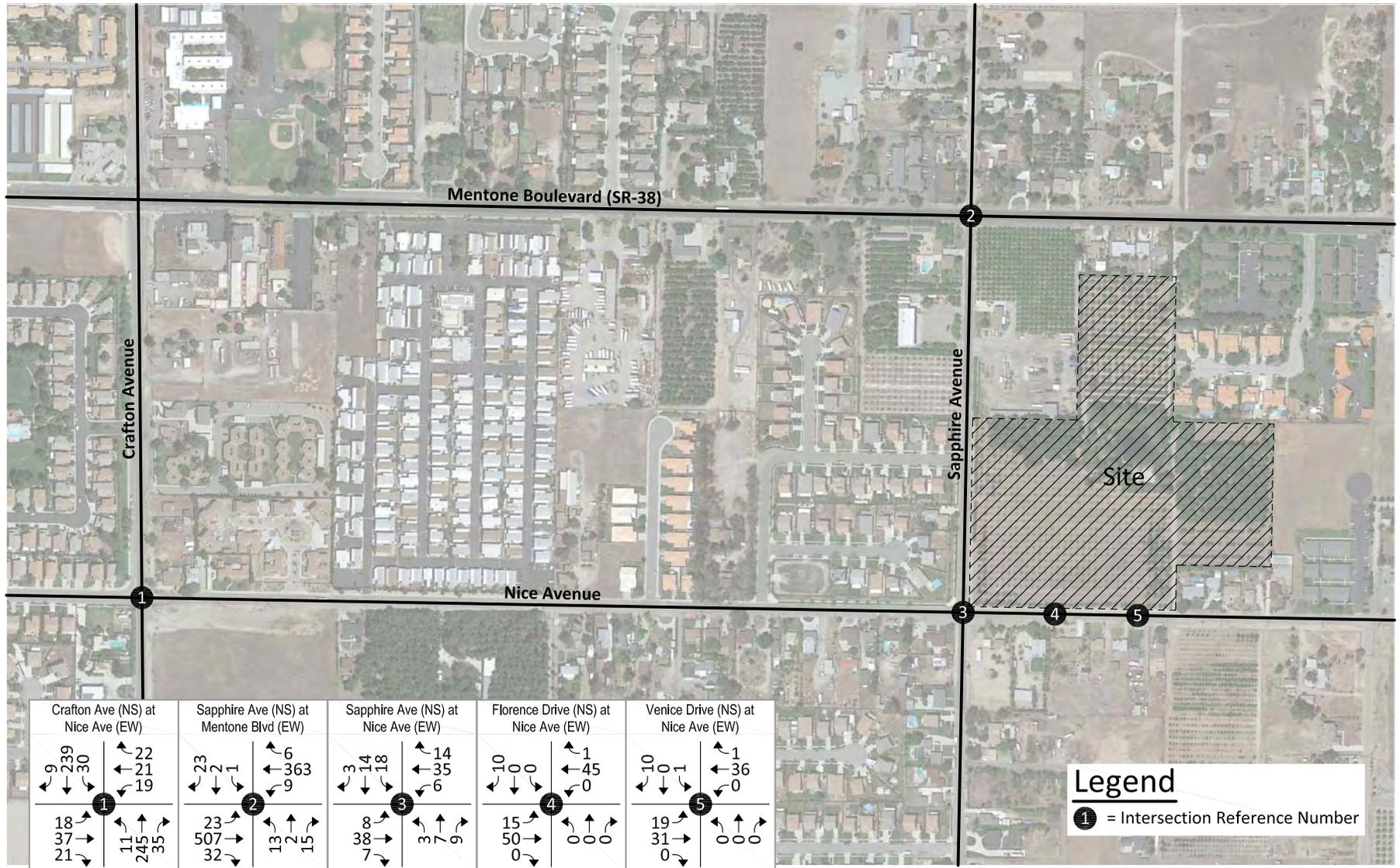


Figure 23
Opening Year (2018) With Project
Morning Peak Hour Intersection Turning Movement Volumes



Legend
 ① = Intersection Reference Number

Figure 24
Opening Year (2018) With Project
Evening Peak Hour Intersection Turning Movement Volumes



Legend
 ① = Intersection Reference Number

Figure 25
 Year 2040 Without Project Average Daily Traffic Volumes

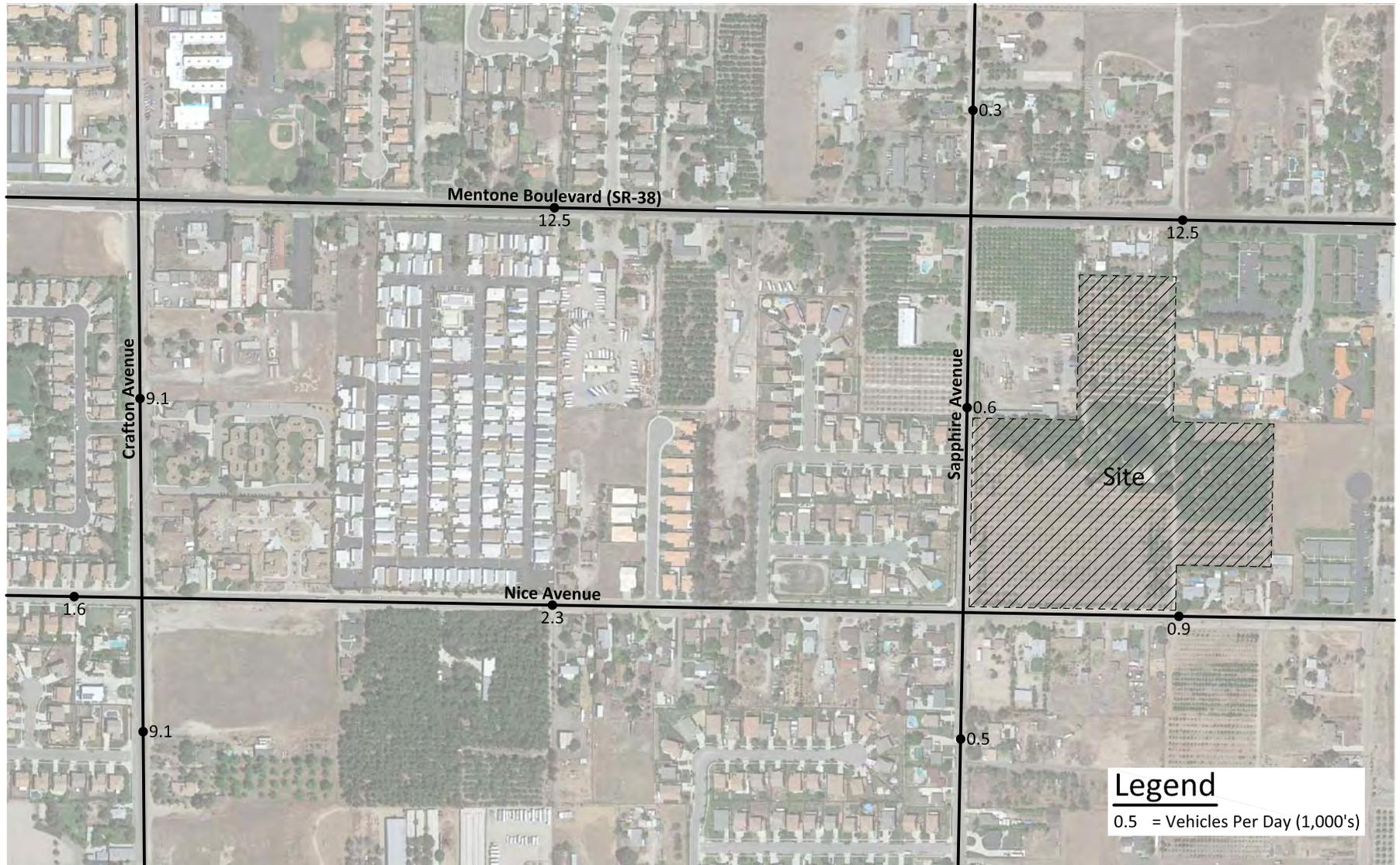


Figure 26
Year 2040 Without Project
Morning Peak Hour Intersection Turning Movement Volumes

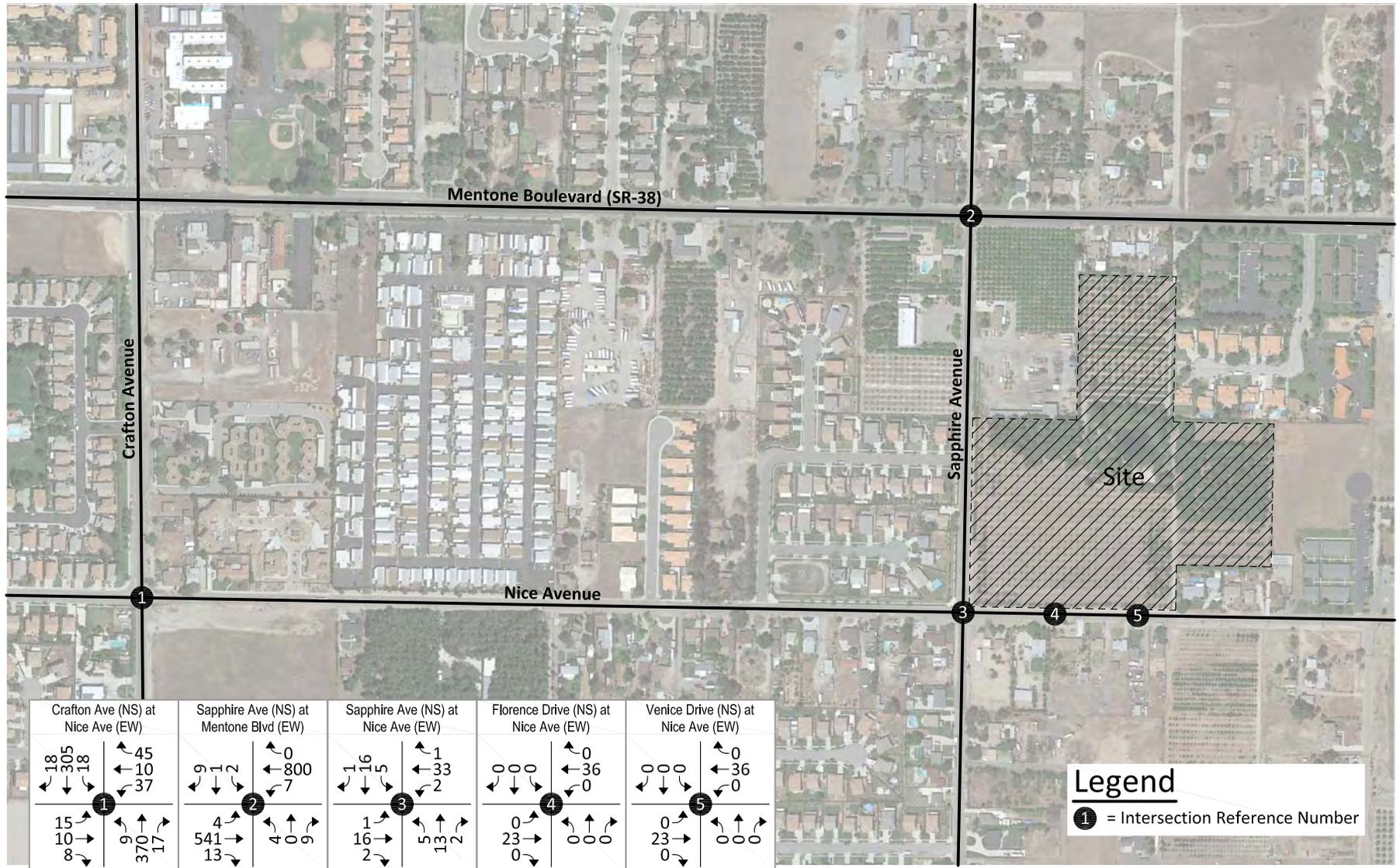


Figure 27
Year 2040 Without Project
Evening Peak Hour Intersection Turning Movement Volumes

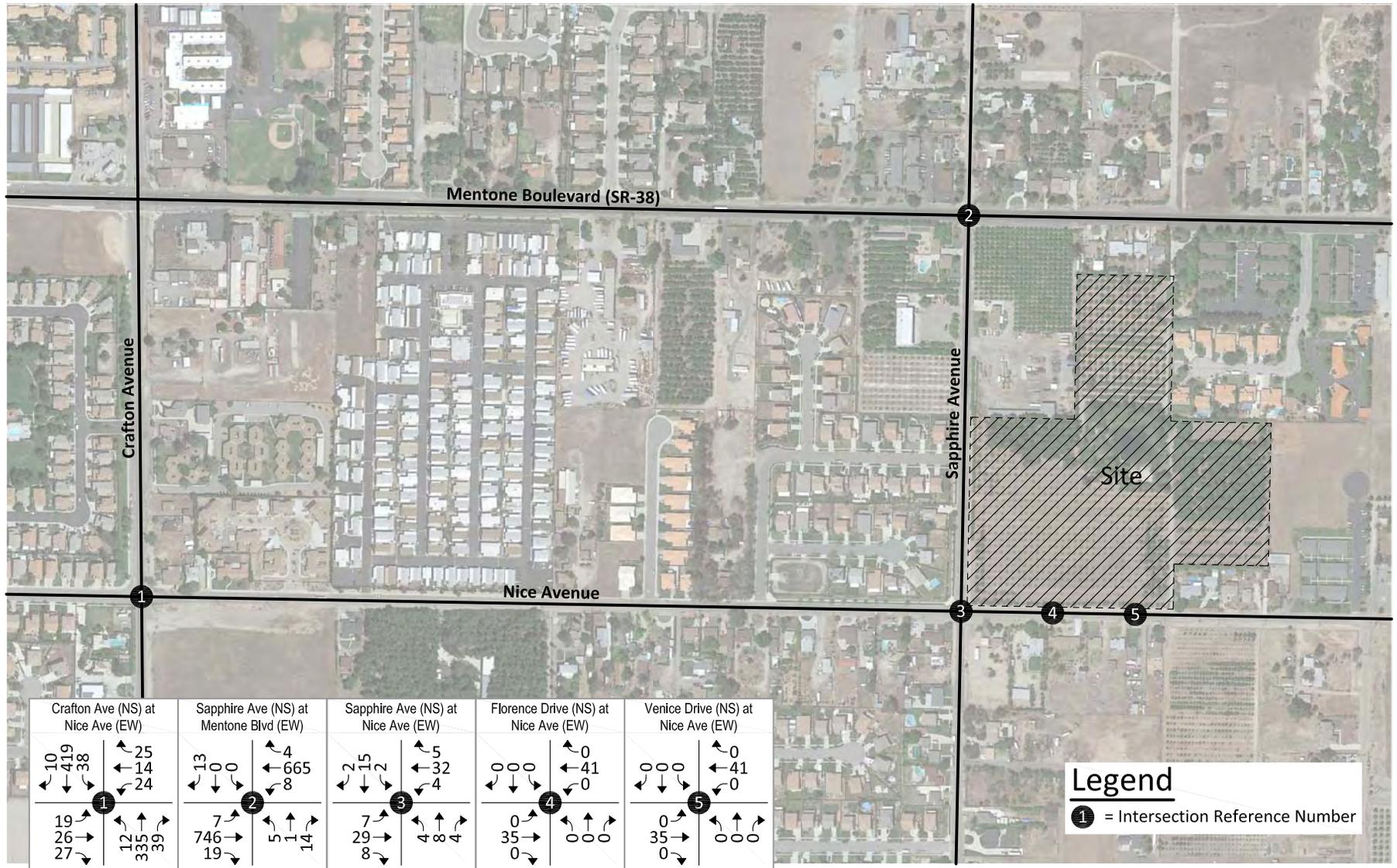


Figure 28
 Year 2040 With Project Average Daily Traffic Volumes

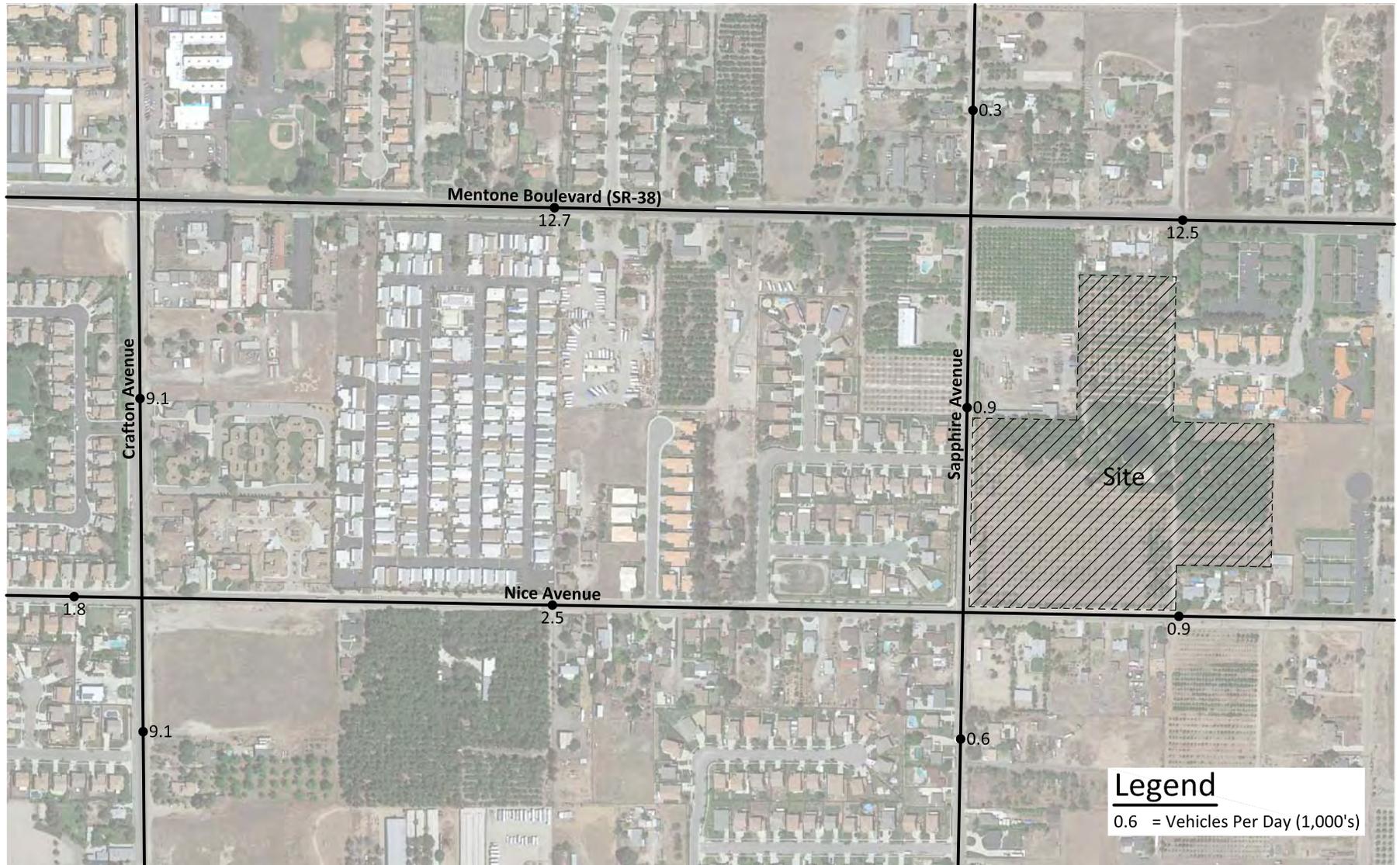
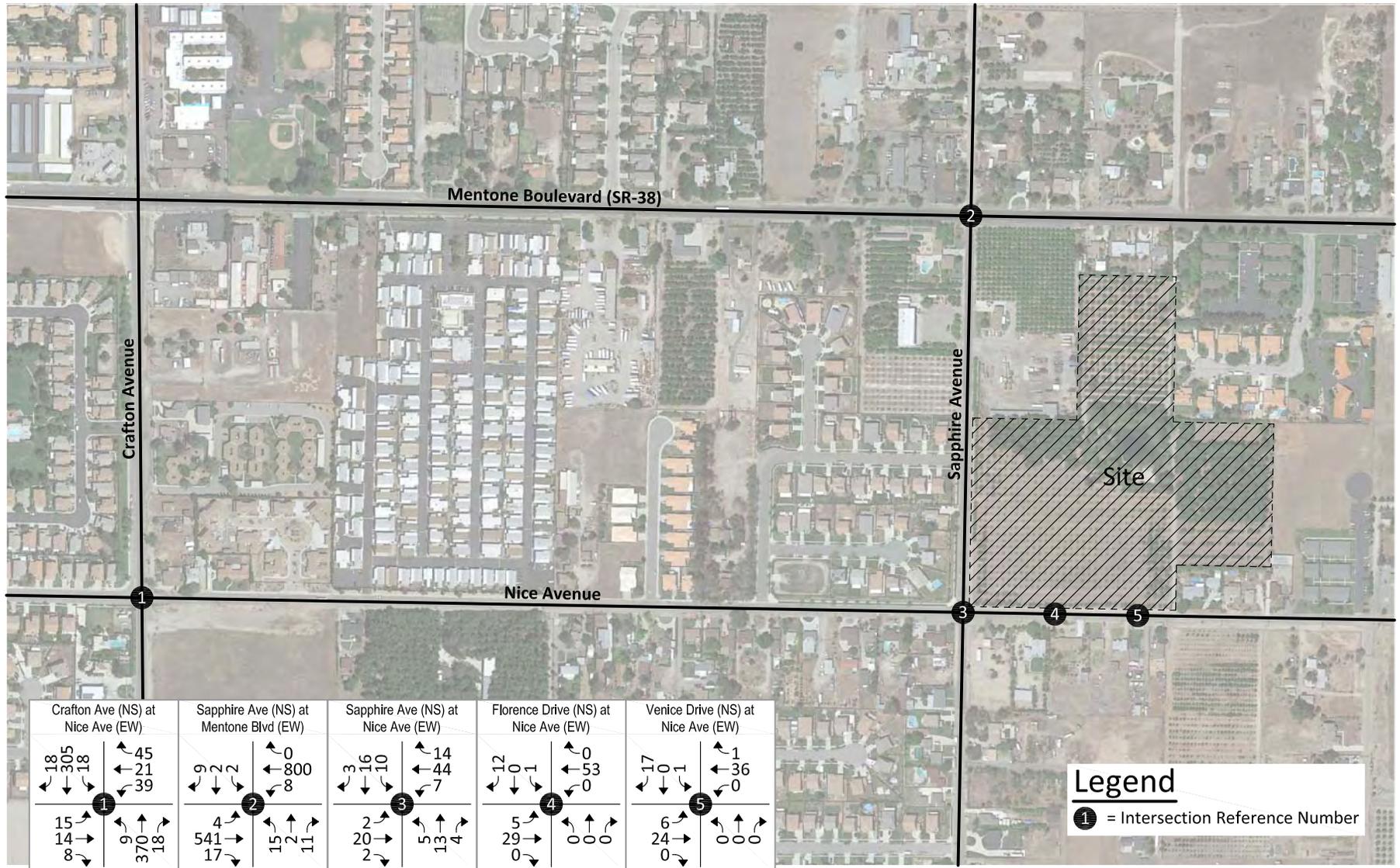
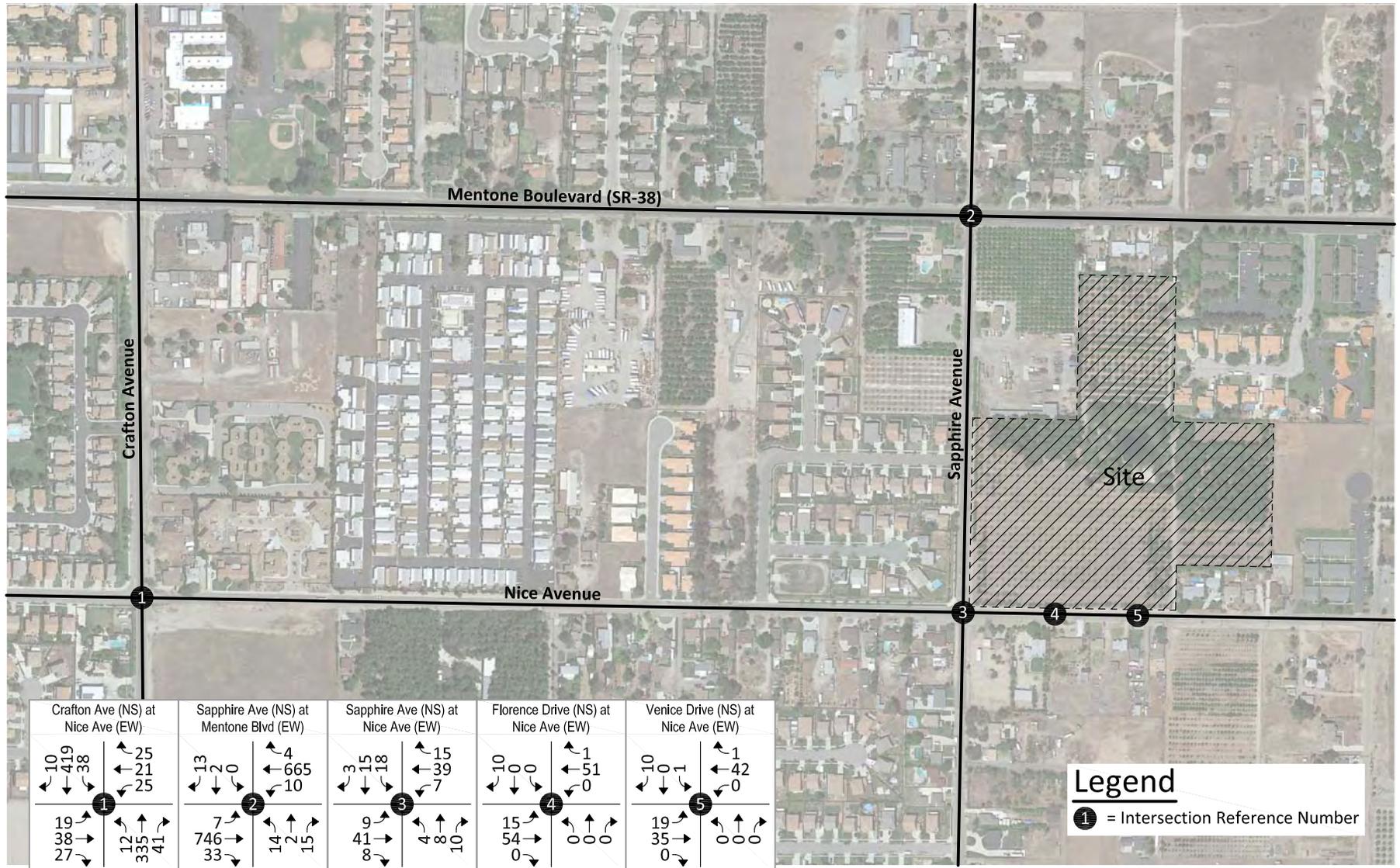


Figure 29
Year 2040 With Project
Morning Peak Hour Intersection Turning Movement Volumes



Legend
① = Intersection Reference Number

Figure 30
 Year 2040 With Project
 Evening Peak Hour Intersection Turning Movement Volumes



Legend
 ① = Intersection Reference Number

VI. FUTURE LEVELS OF SERVICE

Detailed delay and Level of Service calculation worksheets for each of the following analysis scenarios are provided in Appendix G.

A. Existing Plus Project Intersection Delay and Level of Service

The study intersection delay and level of service for Existing Plus Project traffic conditions are shown in Table 3. As shown in Table 3, the study area intersections are projected to operate within acceptable Levels of Service during the peak hours for Existing Plus Project traffic conditions. Therefore, the proposed project is forecast to result in no significant traffic impacts at the study intersections for Existing Plus Project traffic conditions.

B. Opening Year Without Project Intersection Delay and Level of Service

The study intersection delay and level of service for Opening Year Without Project traffic conditions are shown in Table 4. As shown in Table 4, the study area intersections are projected to operate within acceptable Levels of Service during the peak hours for Opening Year Without Project traffic conditions.

C. Opening Year With Project Intersection Delay and Level of Service

The study intersection delay and level of service for Opening Year With Project traffic conditions are shown in Table 5. As shown in Table 5, the study area intersections are projected to operate within acceptable Levels of Service during the peak hours for Opening Year With Project traffic conditions. Therefore, the proposed project is forecast to result in no significant traffic impacts at the study intersections for Opening Year With Project traffic conditions.

D. Year 2040 Without Project Intersection Delay and Level of Service

The study intersection delay and level of service for Year 2040 Without Project traffic conditions are shown in Table 6. As shown in Table 6, the study area intersections are projected to operate within acceptable Levels of Service during the peak hours for Year 2040 Without Project traffic conditions.

E. Year 2040 With Project Intersection Delay and Level of Service

The study intersection delay and level of service for Year 2040 With Project traffic conditions are shown in Table 7. As shown in Table 7, the study area intersections are projected to operate within acceptable Levels of Service during the peak hours for Year 2040 With Project traffic conditions. Therefore, the proposed project is forecast to result in no significant traffic impacts at the study intersections for Year 2040 With Project traffic conditions with improvements.

It should be noted, the Level of Service for Sapphire Avenue/Mentone Boulevard (SR-38) is based on the individual lane with the worst (highest) delay value, or in this case the

northbound left-turn movement. The 95th-percentile queue length suggests that a queue of more than vehicle will occur very infrequently for the northbound approach. The uncontrolled eastbound and westbound movements along Mentone Boulevard (SR-38) at Sapphire Avenue are forecast to operate at Level of Service A for Year 2040 With Project traffic conditions.

Table 3

Existing Plus Project Intersection Delay and Level of Service

Intersection	Jurisdiction	Traffic Control ³	Intersection Approach Lanes ¹												Peak Hour Delay-LOS ²	
			Northbound			Southbound			Eastbound			Westbound			Morning	Evening
			L	T	R	L	T	R	L	T	R	L	T	R		
Crafton Avenue (NS) at: Nice Avenue (EW) - #1	County	CSS	0	1	0	0.5	0.5	1	0.5	0.5	d	0	1	0	14.6-B	16.6-C
Sapphire Avenue (NS) at: Mentone Boulevard/SR-38 (EW) - #2	Caltrans	CSS	0	1	0	0	1	0	0	1	0	0	1	0	18.6-C	17.6-C
Nice Avenue (EW) - #3	County	CSS	0	1	0	0	1	0	0	1	0	0	1	0	9.6-A	9.7-A
Florence Drive (NS) at: Nice Avenue (EW) - #4	County	CSS	0	0	0	0.5	0	0.5	0.5	0.5	0	0	0.5	0.5	8.6-A	8.5-A
Venice Avenue (NS) at: Nice Avenue (EW) - #5	County	CSS	0	0	0	0.5	0	0.5	0.5	0.5	0	0	0.5	0.5	8.5-A	8.6-A

¹ When a right turn lane is designated, the lane can either be striped or unstriped (de facto). To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right; d = De Facto Right; **Bold** = Improvement

² Delay and Level of Service (LOS) has been calculated using the following analysis software: HCS 2010, Version 6.80. Per the Highway Capacity Manual, for intersections with cross street stop control, the delay and Level of Service for the worst individual lane are shown.

³ CSS = Cross Street Stop

Table 4

Opening Year (2018) Without Project Intersection Delay and Level of Service

Intersection	Jurisdiction	Traffic Control ³	Intersection Approach Lanes ¹												Peak Hour Delay-LOS ²	
			Northbound			Southbound			Eastbound			Westbound			Morning	Evening
			L	T	R	L	T	R	L	T	R	L	T	R		
Crafton Avenue (NS) at: Nice Avenue (EW) - #1	County	CSS	0	1	0	0.5	0.5	1	0.5	0.5	d	0	1	0	14.9-B	16.7-C
Sapphire Avenue (NS) at: Mentone Boulevard/SR-38 (EW) - #2	Caltrans	CSS	0	1	0	0	1	0	0	1	0	0	1	0	15.2-C	15.2-C
Nice Avenue (EW) - #3	County	CSS	0	1	0	0	1	0	0	1	0	0	1	0	9.3-A	9.4-A

¹ When a right turn lane is designated, the lane can either be striped or unstriped (de facto). To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right; d = De Facto Right

² Delay and Level of Service (LOS) has been calculated using the following analysis software: HCS 2010, Version 6.80. Per the Highway Capacity Manual, for intersections with cross street stop control, the delay and Level of Service for the worst individual lane are shown.

³ CSS = Cross Street Stop

Table 5

Opening Year (2018) With Project Intersection Delay and Level of Service

Intersection	Jurisdiction	Traffic Control ³	Intersection Approach Lanes ¹												Peak Hour Delay-LOS ²	
			Northbound			Southbound			Eastbound			Westbound			Morning	Evening
			L	T	R	L	T	R	L	T	R	L	T	R		
Crafton Avenue (NS) at: Nice Avenue (EW) - #1	County	CSS	0	1	0	0.5	0.5	1	0.5	0.5	d	0	1	0	15.1-C	17.2-C
Sapphire Avenue (NS) at: Mentone Boulevard/SR-38 (EW) - #2	Caltrans	CSS	0	1	0	0	1	0	0	1	0	0	1	0	20.9-C	19.5-C
Nice Avenue (EW) - #3	County	CSS	0	1	0	0	1	0	0	1	0	0	1	0	9.6-A	9.7-A
Florence Drive (NS) at: Nice Avenue (EW) - #4	County	CSS	0	0	0	0.5	0	0.5	0.5	0.5	0	0	0.5	0.5	8.6-A	8.5-A
Venice Avenue (NS) at: Nice Avenue (EW) - #5	County	CSS	0	0	0	0.5	0	0.5	0.5	0.5	0	0	0.5	0.5	8.5-A	8.6-A

¹ When a right turn lane is designated, the lane can either be striped or unstriped (de facto). To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right; d = De Facto Right; **Bold** = Improvement

² Delay and Level of Service (LOS) has been calculated using the following analysis software: HCS 2010, Version 6.80. Per the Highway Capacity Manual, for intersections with cross street stop control, the delay and Level of Service for the worst individual lane are shown.

³ CSS = Cross Street Stop

Table 6

Year 2040 Without Project Intersection Delay and Level of Service

Intersection	Jurisdiction	Traffic Control ³	Intersection Approach Lanes ¹												Peak Hour Delay-LOS ²	
			Northbound			Southbound			Eastbound			Westbound			Morning	Evening
			L	T	R	L	T	R	L	T	R	L	T	R		
Crafton Avenue (NS) at: Nice Avenue (EW) - #1	County	CSS	0	1	0	0.5	0.5	1	0.5	0.5	d	0	1	0	18.9-C	24.2-C
Sapphire Avenue (NS) at: Mentone Boulevard/SR-38 (EW) - #2	Caltrans	CSS	0	1	0	0	1	0	0	1	0	0	1	0	21.1-C	24.5-C
Nice Avenue (EW) - #3	County	CSS	0	1	0	0	1	0	0	1	0	0	1	0	9.2-A	9.3-A

¹ When a right turn lane is designated, the lane can either be striped or unstriped (de facto). To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right; d = De Facto Right

² Delay and Level of Service (LOS) has been calculated using the following analysis software: HCS 2010, Version 6.80. Per the Highway Capacity Manual, for intersections with cross street stop control, the delay and Level of Service for the worst individual lane are shown.

³ CSS = Cross Street Stop

Table 7

Year 2040 With Project Intersection Delay and Level of Service

Intersection	Jurisdiction	Traffic Control ³	Intersection Approach Lanes ¹												Peak Hour Delay-LOS ²	
			Northbound			Southbound			Eastbound			Westbound			Morning	Evening
			L	T	R	L	T	R	L	T	R	L	T	R		
Crafton Avenue (NS) at: Nice Avenue (EW) - #1	County	CSS	0	1	0	0.5	0.5	1	0.5	0.5	d	0	1	0	19.2-C	25.6-D
Sapphire Avenue (NS) at: Mentone Boulevard/SR-38 (EW) - #2	Caltrans	CSS	0	1	0	0	1	0	0	1	0	0	1	0	33.4-D	37.6-E
Nice Avenue (EW) - #3	County	CSS	0	1	0	0	1	0	0	1	0	0	1	0	9.5-A	9.7-A
Florence Drive (NS) at: Nice Avenue (EW) - #4	County	CSS	0	0	0	0.5	0	0.5	0.5	0.5	0	0	0.5	0.5	8.6-A	8.6-A
Venice Avenue (NS) at: Nice Avenue (EW) - #5	County	CSS	0	0	0	0.5	0	0.5	0.5	0.5	0	0	0.5	0.5	8.6-A	8.6-A

¹ When a right turn lane is designated, the lane can either be striped or unstriped (de facto). To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right; d = De Facto Right; **bold** = Improvement

² Delay and Level of Service (LOS) has been calculated using the following analysis software: HCS 2010, Version 6.80. Per the Highway Capacity Manual, for intersections with cross street stop control, the delay and Level of Service for the worst individual lane are shown.

³ CSS = Cross Street Stop

VII. RECOMMENDATIONS

A. Off-Site Mitigation Measures

No off-site mitigation measures were identified since the proposed project is forecast to result in no significant traffic impacts at the study intersections for the scenarios analyzed.

B. On-Site Recommendations

Site-specific circulation and access recommendations are depicted on Figure 31.

Construct all project site internal roadways at their ultimate cross-section width in accordance with County of San Bernardino standards, including landscaping and parkway improvements in conjunction with development.

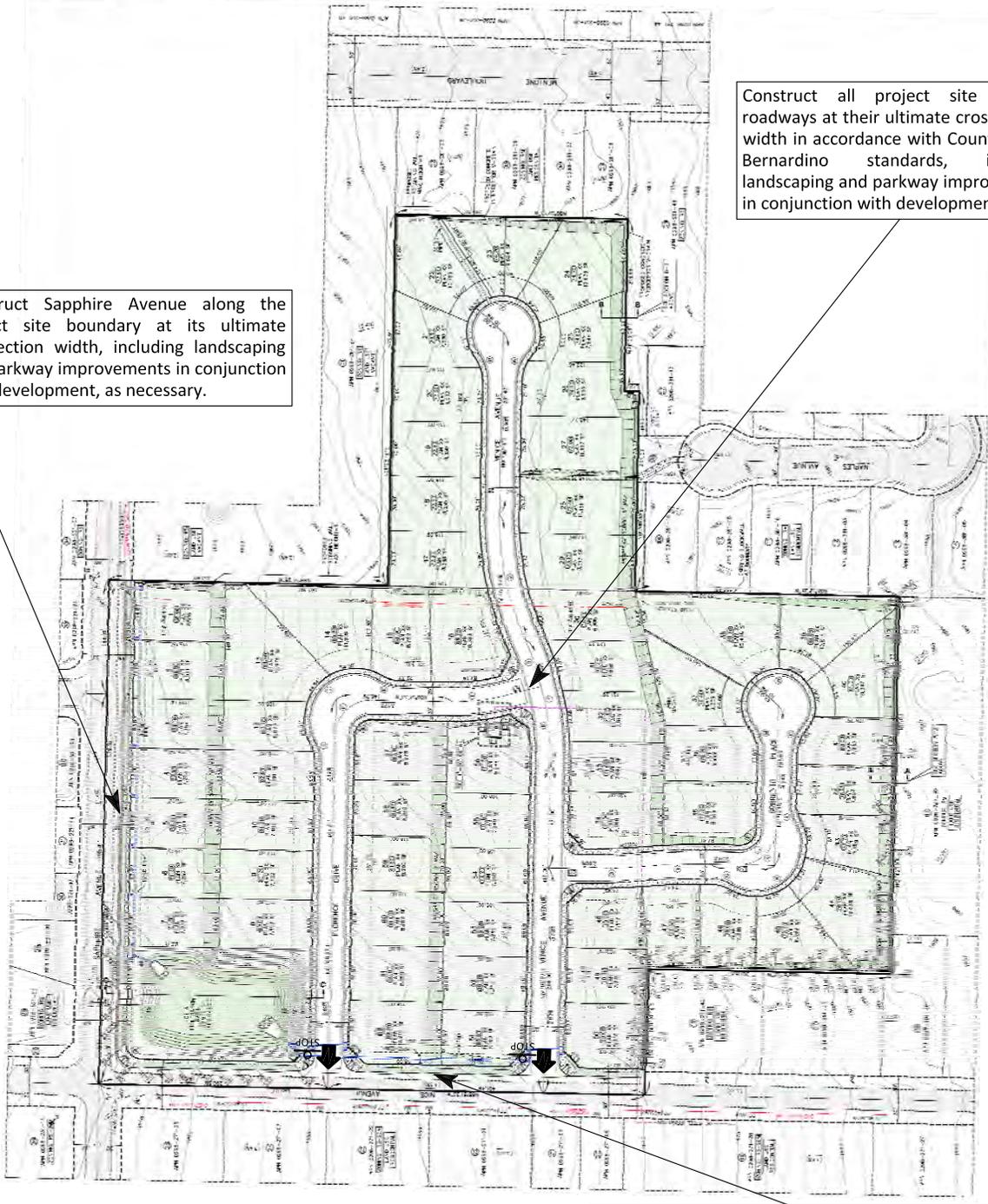
Construct Sapphire Avenue along the project site boundary at its ultimate half-section width, including landscaping and parkway improvements in conjunction with development, as necessary.

Construct Nice Avenue along the project site boundary at its ultimate half-section width, including landscaping and parkway improvements in conjunction with development, as necessary.

On-site traffic signing and striping should be submitted for County approval in conjunction with detailed construction plans for the project.

On-site parking should be provided to meet County of San Bernardino parking code requirements.

Figure 31
Circulation Recommendations



Construct Sapphire Avenue along the project site boundary at its ultimate half-section width, including landscaping and parkway improvements in conjunction with development, as necessary.

Construct all project site internal roadways at their ultimate cross-section width in accordance with County of San Bernardino standards, including landscaping and parkway improvements in conjunction with development.

Construct Nice Avenue along the project site boundary at its ultimate half-section width, including landscaping and parkway improvements in conjunction with development, as necessary.

On-site traffic signing and striping should be submitted for County approval in conjunction with detailed construction plans for the project.

On-site parking should be provided to meet County of San Bernardino parking code requirements.

Legend

- = Stop Sign
- ◀ = Full Access Driveway

APPENDICES

Appendix A – Glossary of Transportation Terms

Appendix B – Approved Scoping Agreement

Appendix C – Traffic Count Worksheets

Appendix D – Existing Intersection Delay and Level of Service Worksheets

Appendix E – Other Development Information

Appendix F – Model Plots and Post-Processing Worksheets

Appendix G – Future Intersection Delay and Level of Service Worksheets

APPENDIX A

Glossary of Transportation Terms

GLOSSARY OF TRANSPORTATION TERMS

COMMON ABBREVIATIONS

AC:	Acres
ADT:	Average Daily Traffic
Caltrans:	California Department of Transportation
DU:	Dwelling Unit
ICU:	Intersection Capacity Utilization
LOS:	Level of Service
TSF:	Thousand Square Feet
V/C:	Volume/Capacity
VMT:	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The total volume during a year divided by the number of days in a year. Usually only weekdays are included.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A constriction along a travelway that limits the amount of traffic that can proceed downstream from its location.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CHANNELIZATION: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

CLEARANCE INTERVAL: Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

CORDON: An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

CYCLE LENGTH: The time period in seconds required for one complete signal cycle.

CUL-DE-SAC STREET: A local street open at one end only, and with special provisions for turning around.

DAILY CAPACITY: The daily volume of traffic that will result in a volume during the peak hour equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DEMAND RESPONSIVE SIGNAL: Same as traffic-actuated signal.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

DIVERSION: The rerouting of peak hour traffic to avoid congestion.

FORCED FLOW: Opposite of free flow.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

GAP: Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

INTERCONNECTED SIGNAL SYSTEM: A number of intersections that are connected to achieve signal progression.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MINIMUM ACCEPTABLE GAP: Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

MULTI-MODAL: More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

OFFSET: The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

PLATOON: A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

PASSENGER CAR EQUIVALENTS (PCE): One car is one Passenger Car Equivalent. A truck is equal to 2 or 3 Passenger Car Equivalents in that a truck requires longer to start, goes slower, and accelerates slower. Loaded trucks have a higher Passenger Car Equivalent than empty trucks.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

PRETIMED SIGNAL: A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

PROGRESSION: A term used to describe the progressive movement of traffic through several signalized intersections.

SCREEN-LINE: An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through a signalized intersection.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

TRIP-END: One end of a trip at either the origin or destination; i.e. each trip has two trip-ends. A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

TRIP GENERATION RATE: The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TRUCK: A vehicle having dual tires on one or more axles, or having more than two axles.

UNBALANCED FLOW: Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.

APPENDIX B

Approved Scoping Agreement

Scope of Study Form

To be completed by applicant and approved by Development Services prior to start of study

Project Name: Tentative Tract Map No. 19991
Project Address: East of Sapphire Avenue between Mantone Avenue and Nice Avenue
Project Description: 62 single-family detached residential dwelling units
Developer's Name: Mr. Pat Meyer
Address: 1345 Fountain Place, Redlands, CA 92373
Telephone No.: (909) 798-4446 **Fax Number:** (909) 335-9747
Email Address: _____

Trip Generation Rates From: ITE Ed. Other: _____

Trip Generation For:

<table border="0" style="width: 100%;"> <tr> <td style="width: 30%;">Land Use (1)</td> <td><u>Single-Family Detached Residential</u></td> </tr> <tr> <td>ITE Land Use Code</td> <td><u>210</u></td> </tr> <tr> <td>Daily Trips</td> <td><u>590</u></td> </tr> <tr> <td>AM Peak Hour Trips</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Inbound</td> <td><u>12</u></td> </tr> <tr> <td style="padding-left: 20px;">Outbound</td> <td><u>35</u></td> </tr> <tr> <td style="padding-left: 20px;">Total</td> <td><u>47</u></td> </tr> <tr> <td>PM Peak Hour Trips</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Inbound</td> <td><u>39</u></td> </tr> <tr> <td style="padding-left: 20px;">Outbound</td> <td><u>23</u></td> </tr> <tr> <td style="padding-left: 20px;">Total</td> <td><u>62</u></td> </tr> </table>	Land Use (1)	<u>Single-Family Detached Residential</u>	ITE Land Use Code	<u>210</u>	Daily Trips	<u>590</u>	AM Peak Hour Trips		Inbound	<u>12</u>	Outbound	<u>35</u>	Total	<u>47</u>	PM Peak Hour Trips		Inbound	<u>39</u>	Outbound	<u>23</u>	Total	<u>62</u>	<table border="0" style="width: 100%;"> <tr> <td style="width: 30%;">Land Use (2)</td> <td>_____</td> </tr> <tr> <td>ITE Land Use Code</td> <td>_____</td> </tr> <tr> <td>Daily Trips</td> <td>_____</td> </tr> <tr> <td>AM Peak Hour Trips</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Inbound</td> <td>_____</td> </tr> <tr> <td style="padding-left: 20px;">Outbound</td> <td>_____</td> </tr> <tr> <td style="padding-left: 20px;">Total</td> <td>_____</td> </tr> <tr> <td>PM Peak Hour Trips</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Inbound</td> <td>_____</td> </tr> <tr> <td style="padding-left: 20px;">Outbound</td> <td>_____</td> </tr> <tr> <td style="padding-left: 20px;">Total</td> <td>_____</td> </tr> </table>	Land Use (2)	_____	ITE Land Use Code	_____	Daily Trips	_____	AM Peak Hour Trips		Inbound	_____	Outbound	_____	Total	_____	PM Peak Hour Trips		Inbound	_____	Outbound	_____	Total	_____
Land Use (1)	<u>Single-Family Detached Residential</u>																																												
ITE Land Use Code	<u>210</u>																																												
Daily Trips	<u>590</u>																																												
AM Peak Hour Trips																																													
Inbound	<u>12</u>																																												
Outbound	<u>35</u>																																												
Total	<u>47</u>																																												
PM Peak Hour Trips																																													
Inbound	<u>39</u>																																												
Outbound	<u>23</u>																																												
Total	<u>62</u>																																												
Land Use (2)	_____																																												
ITE Land Use Code	_____																																												
Daily Trips	_____																																												
AM Peak Hour Trips																																													
Inbound	_____																																												
Outbound	_____																																												
Total	_____																																												
PM Peak Hour Trips																																													
Inbound	_____																																												
Outbound	_____																																												
Total	_____																																												

(Use Additional Sheet(s), if necessary)

Pass-by Trips (%), if applicable: _____ %

<table border="0" style="width: 100%;"> <tr> <td style="width: 30%;">Land Use (1)</td> <td>_____</td> </tr> <tr> <td>ITE Land Use Code</td> <td>_____</td> </tr> <tr> <td>Daily Trips</td> <td>_____</td> </tr> <tr> <td>AM Peak Hour Trips</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Inbound</td> <td>_____</td> </tr> <tr> <td style="padding-left: 20px;">Outbound</td> <td>_____</td> </tr> <tr> <td style="padding-left: 20px;">Total</td> <td>_____</td> </tr> <tr> <td>PM Peak Hour Trips:</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Inbound</td> <td>_____</td> </tr> <tr> <td style="padding-left: 20px;">Outbound</td> <td>_____</td> </tr> </table>	Land Use (1)	_____	ITE Land Use Code	_____	Daily Trips	_____	AM Peak Hour Trips		Inbound	_____	Outbound	_____	Total	_____	PM Peak Hour Trips:		Inbound	_____	Outbound	_____	<table border="0" style="width: 100%;"> <tr> <td style="width: 30%;">Land Use (2)</td> <td>_____</td> </tr> <tr> <td>ITE Land Use Code</td> <td>_____</td> </tr> <tr> <td>Daily Trips</td> <td>_____</td> </tr> <tr> <td>AM Peak Hour Trips</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Inbound</td> <td>_____</td> </tr> <tr> <td style="padding-left: 20px;">Outbound</td> <td>_____</td> </tr> <tr> <td style="padding-left: 20px;">Total</td> <td>_____</td> </tr> <tr> <td>PM Peak Hour Trips:</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Inbound</td> <td>_____</td> </tr> <tr> <td style="padding-left: 20px;">Outbound</td> <td>_____</td> </tr> <tr> <td style="padding-left: 20px;">Total</td> <td>_____</td> </tr> </table>	Land Use (2)	_____	ITE Land Use Code	_____	Daily Trips	_____	AM Peak Hour Trips		Inbound	_____	Outbound	_____	Total	_____	PM Peak Hour Trips:		Inbound	_____	Outbound	_____	Total	_____
Land Use (1)	_____																																										
ITE Land Use Code	_____																																										
Daily Trips	_____																																										
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Outbound	_____																																										
Total	_____																																										
PM Peak Hour Trips:																																											
Inbound	_____																																										
Outbound	_____																																										
Total	_____																																										

Analysis of: Total _____

Existing, E+P, OY _____ **W/O Project, OY** _____ **W/Project, 2040** _____ **W/O Project, 2040** _____ **W/Project** _____

Project Opening Year: 2018 **Build-out Year:** 2040

Study Intersections:	
1 <u>Crafton Ave (NS) / Nice Ave (EW)</u>	<u>6</u>
2 <u>Sapphire Ave (NS) / Mantone Blvd (EW)</u>	<u>7</u>
3 <u>Sapphire Ave (NS) / Nice Ave (EW)</u>	<u>8</u>
4 <u>Florence Drive (NS) / Nice Ave (EW)</u>	<u>9</u>
5 <u>Venice Avenue (NS) / Nice Ave (EW)</u>	<u>10</u>

(Use Additional Sheet(s) and Map, if necessary)

Ambient Growth Rate: SBTAM %

Trip Distribution: East 10 % West 65 % North 5 % South 20 %

Preparer's Name: Carl Ballard at Kunzman Associates, Inc.
Address: 1111 Town & Country Road, Suite 34, Orange, CA 92868
Telephone No.: (714) 973-8383 **Fax Number:** (714) 973-8821
Email Address: carl@traffic-engineer.com
Signature:  **Date:** 2/29/2016

Approved By (Development Services Department):
Signature:  **Date:** 3/1/16
Name: Edmund Petre **Title:** PWIII

Table 2
Project Trip Generation¹

Land Use	Quantity	Units ²	Peak Hour						Daily
			Morning			Evening			
			Inbound	Outbound	Total	Inbound	Outbound	Total	
Trip Generation Rates									
Single-Family Detached Residential		DU	0.19	0.56	0.75	0.63	0.37	1.00	9.52
Trips Generated									
Single-Family Detached Residential	62	DU	12	35	47	39	23	62	590

¹ Source: Institute of Transportation Engineers, Trip Generation, 9th Edition, 2012, Land Use Category 210.

² DU = Dwelling Units

Figure 1
Project Location Map



Figure 2
Site Plan

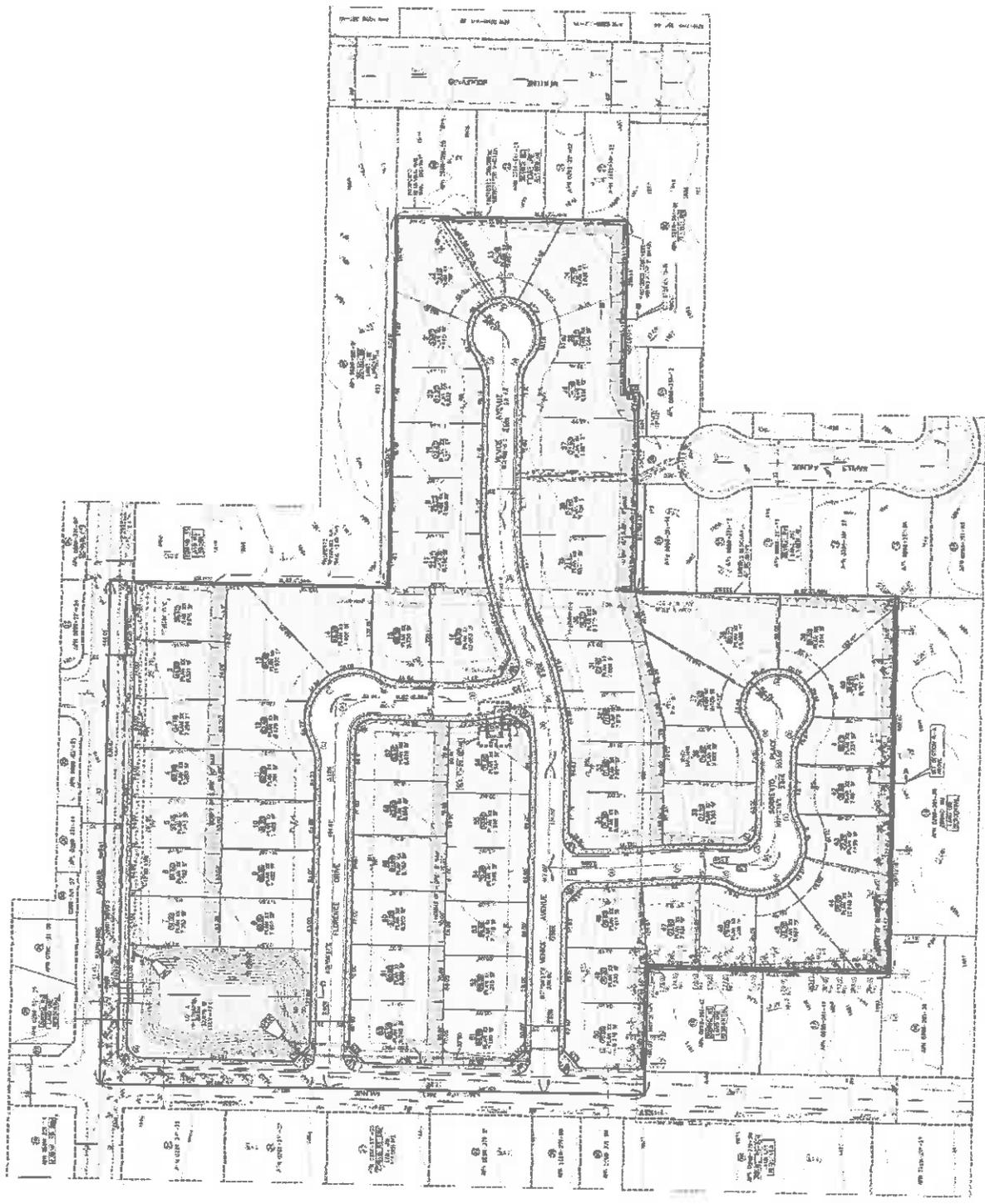


Figure 3
Project Trip Distribution



Legend
10% = Percent To/From Project

APPENDIX C

Traffic Count Worksheets

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

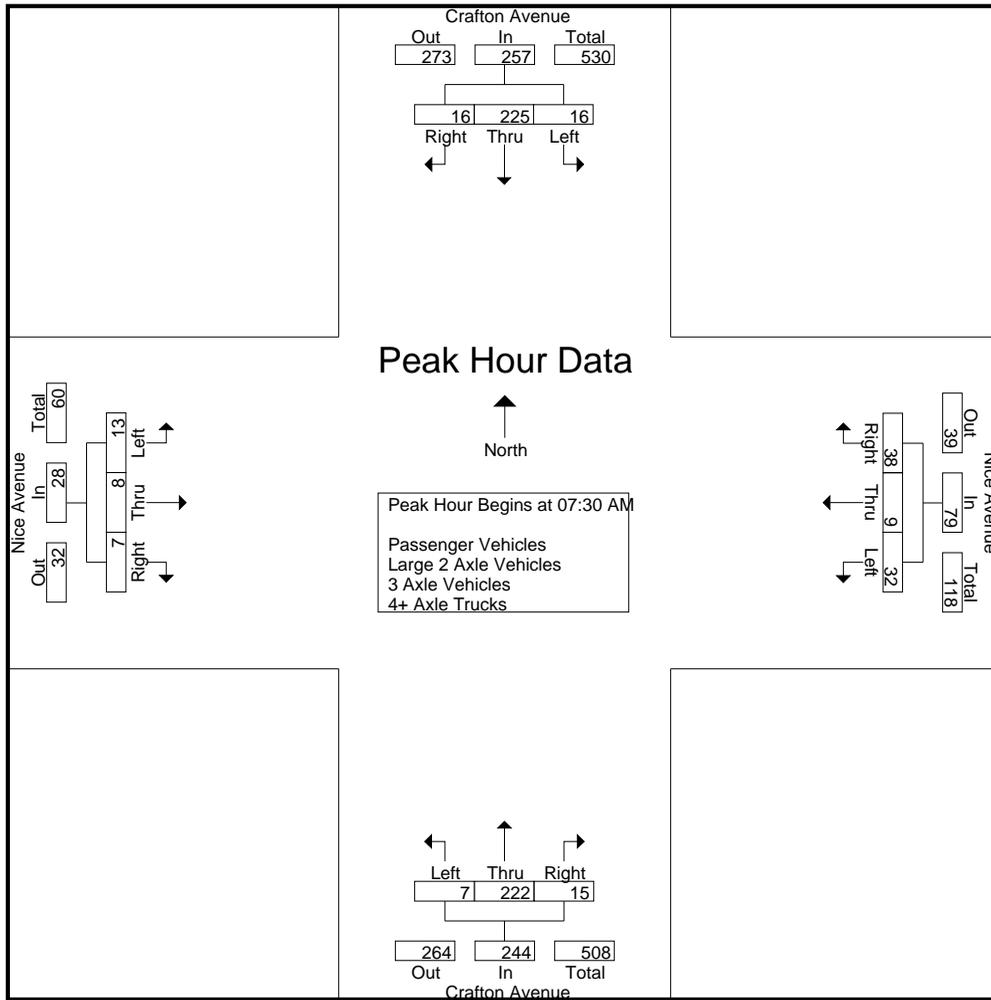
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	3	42	1	46	5	5	11	21	3	33	1	37	0	2	5	7	111
07:15 AM	2	49	0	51	11	2	7	20	5	34	1	40	2	4	0	6	117
07:30 AM	4	46	3	53	5	3	13	21	1	44	2	47	2	1	0	3	124
07:45 AM	5	62	6	73	8	2	12	22	1	61	5	67	3	0	0	3	165
Total	14	199	10	223	29	12	43	84	10	172	9	191	7	7	5	19	517
08:00 AM	7	60	1	68	14	2	7	23	4	50	2	56	3	4	3	10	157
08:15 AM	0	57	6	63	5	2	6	13	1	67	6	74	5	3	4	12	162
08:30 AM	2	41	0	43	8	4	4	16	0	54	6	60	3	1	0	4	123
08:45 AM	3	55	0	58	2	7	2	11	4	35	3	42	1	2	5	8	119
Total	12	213	7	232	29	15	19	63	9	206	17	232	12	10	12	34	561
Grand Total	26	412	17	455	58	27	62	147	19	378	26	423	19	17	17	53	1078
Apprch %	5.7	90.5	3.7		39.5	18.4	42.2		4.5	89.4	6.1		35.8	32.1	32.1		
Total %	2.4	38.2	1.6	42.2	5.4	2.5	5.8	13.6	1.8	35.1	2.4	39.2	1.8	1.6	1.6	4.9	
Passenger Vehicles	26	402	17	445	57	27	61	145	18	367	26	411	19	16	17	52	1053
% Passenger Vehicles	100	97.6	100	97.8	98.3	100	98.4	98.6	94.7	97.1	100	97.2	100	94.1	100	98.1	97.7
Large 2 Axle Vehicles	0	10	0	10	0	0	1	1	1	10	0	11	0	1	0	1	23
% Large 2 Axle Vehicles	0	2.4	0	2.2	0	0	1.6	0.7	5.3	2.6	0	2.6	0	5.9	0	1.9	2.1
3 Axle Vehicles	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	2
% 3 Axle Vehicles	0	0	0	0	1.7	0	0	0.7	0	0.3	0	0.2	0	0	0	0	0.2
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	4	46	3	53	5	3	13	21	1	44	2	47	2	1	0	3	124
07:45 AM	5	62	6	73	8	2	12	22	1	61	5	67	3	0	0	3	165
08:00 AM	7	60	1	68	14	2	7	23	4	50	2	56	3	4	3	10	157
08:15 AM	0	57	6	63	5	2	6	13	1	67	6	74	5	3	4	12	162
Total Volume	16	225	16	257	32	9	38	79	7	222	15	244	13	8	7	28	608
% App. Total	6.2	87.5	6.2		40.5	11.4	48.1		2.9	91	6.1		46.4	28.6	25		
PHF	.571	.907	.667	.880	.571	.750	.731	.859	.438	.828	.625	.824	.650	.500	.438	.583	.921

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIAAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:15 AM				07:45 AM				08:00 AM			
+0 mins.	4	46	3	53	11	2	7	20	1	61	5	67	3	4	3	10
+15 mins.	5	62	6	73	5	3	13	21	4	50	2	56	5	3	4	12
+30 mins.	7	60	1	68	8	2	12	22	1	67	6	74	3	1	0	4
+45 mins.	0	57	6	63	14	2	7	23	0	54	6	60	1	2	5	8
Total Volume	16	225	16	257	38	9	39	86	6	232	19	257	12	10	12	34
% App. Total	6.2	87.5	6.2		44.2	10.5	45.3		2.3	90.3	7.4		35.3	29.4	35.3	
PHF	.571	.907	.667	.880	.679	.750	.750	.935	.375	.866	.792	.868	.600	.625	.600	.708

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIAAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

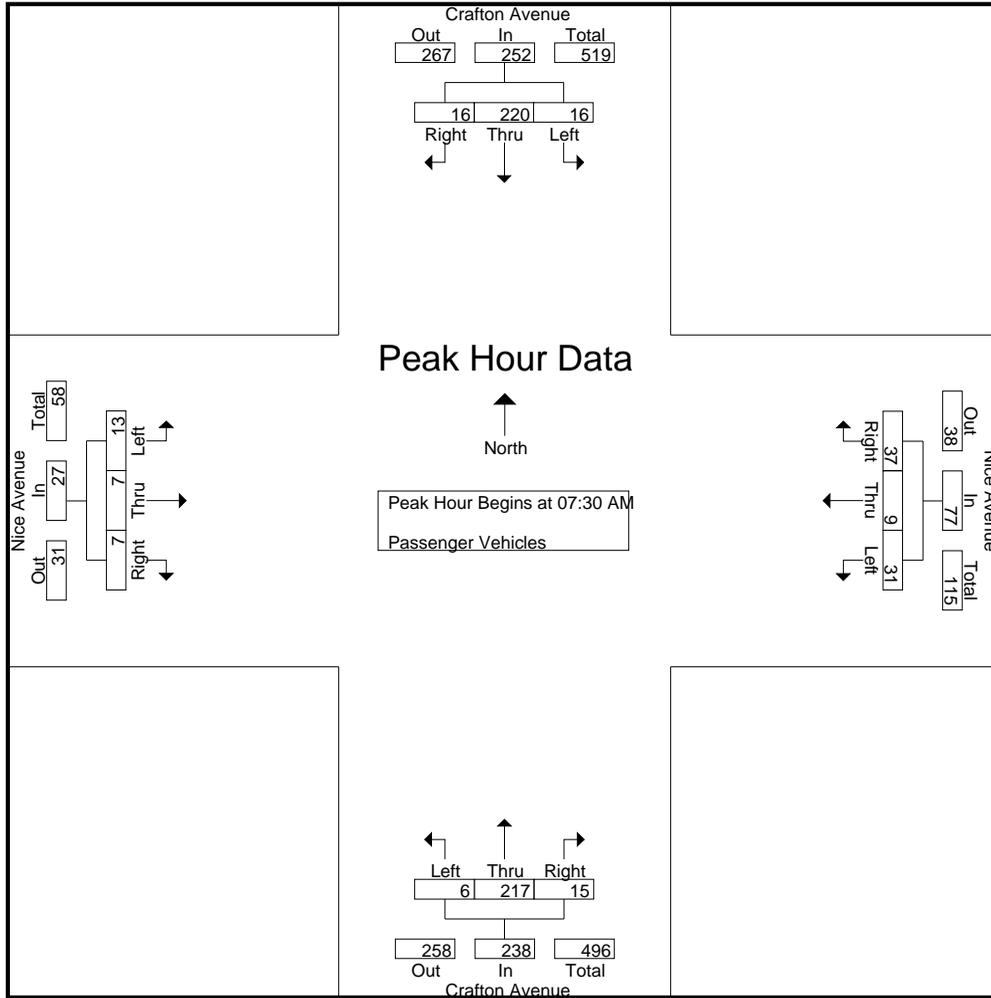
Groups Printed- Passenger Vehicles

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	3	40	1	44	5	5	11	21	3	31	1	35	0	2	5	7	107
07:15 AM	2	49	0	51	11	2	7	20	5	34	1	40	2	4	0	6	117
07:30 AM	4	45	3	52	5	3	13	21	1	44	2	47	2	1	0	3	123
07:45 AM	5	60	6	71	7	2	12	21	0	60	5	65	3	0	0	3	160
Total	14	194	10	218	28	12	43	83	9	169	9	187	7	7	5	19	507
08:00 AM	7	58	1	66	14	2	7	23	4	46	2	52	3	3	3	9	150
08:15 AM	0	57	6	63	5	2	5	12	1	67	6	74	5	3	4	12	161
08:30 AM	2	41	0	43	8	4	4	16	0	52	6	58	3	1	0	4	121
08:45 AM	3	52	0	55	2	7	2	11	4	33	3	40	1	2	5	8	114
Total	12	208	7	227	29	15	18	62	9	198	17	224	12	9	12	33	546
Grand Total	26	402	17	445	57	27	61	145	18	367	26	411	19	16	17	52	1053
Apprch %	5.8	90.3	3.8		39.3	18.6	42.1		4.4	89.3	6.3		36.5	30.8	32.7		
Total %	2.5	38.2	1.6	42.3	5.4	2.6	5.8	13.8	1.7	34.9	2.5	39	1.8	1.5	1.6	4.9	

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	4	45	3	52	5	3	13	21	1	44	2	47	2	1	0	3	123
07:45 AM	5	60	6	71	7	2	12	21	0	60	5	65	3	0	0	3	160
08:00 AM	7	58	1	66	14	2	7	23	4	46	2	52	3	3	3	9	150
08:15 AM	0	57	6	63	5	2	5	12	1	67	6	74	5	3	4	12	161
Total Volume	16	220	16	252	31	9	37	77	6	217	15	238	13	7	7	27	594
% App. Total	6.3	87.3	6.3		40.3	11.7	48.1		2.5	91.2	6.3		48.1	25.9	25.9		
PHF	.571	.917	.667	.887	.554	.750	.712	.837	.375	.810	.625	.804	.650	.583	.438	.563	.922

County of San Bernardino
 N/S: Crafton Avenue
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 Weather: Clear

File Name : CSBCRNIAAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	4	45	3	52	5	3	13	21	1	44	2	47	2	1	0	3
+15 mins.	5	60	6	71	7	2	12	21	0	60	5	65	3	0	0	3
+30 mins.	7	58	1	66	14	2	7	23	4	46	2	52	3	3	3	9
+45 mins.	0	57	6	63	5	2	5	12	1	67	6	74	5	3	4	12
Total Volume	16	220	16	252	31	9	37	77	6	217	15	238	13	7	7	27
% App. Total	6.3	87.3	6.3		40.3	11.7	48.1		2.5	91.2	6.3		48.1	25.9	25.9	
PHF	.571	.917	.667	.887	.554	.750	.712	.837	.375	.810	.625	.804	.650	.583	.438	.563

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIAAM
 Site Code : 07516132
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 Page No : 1

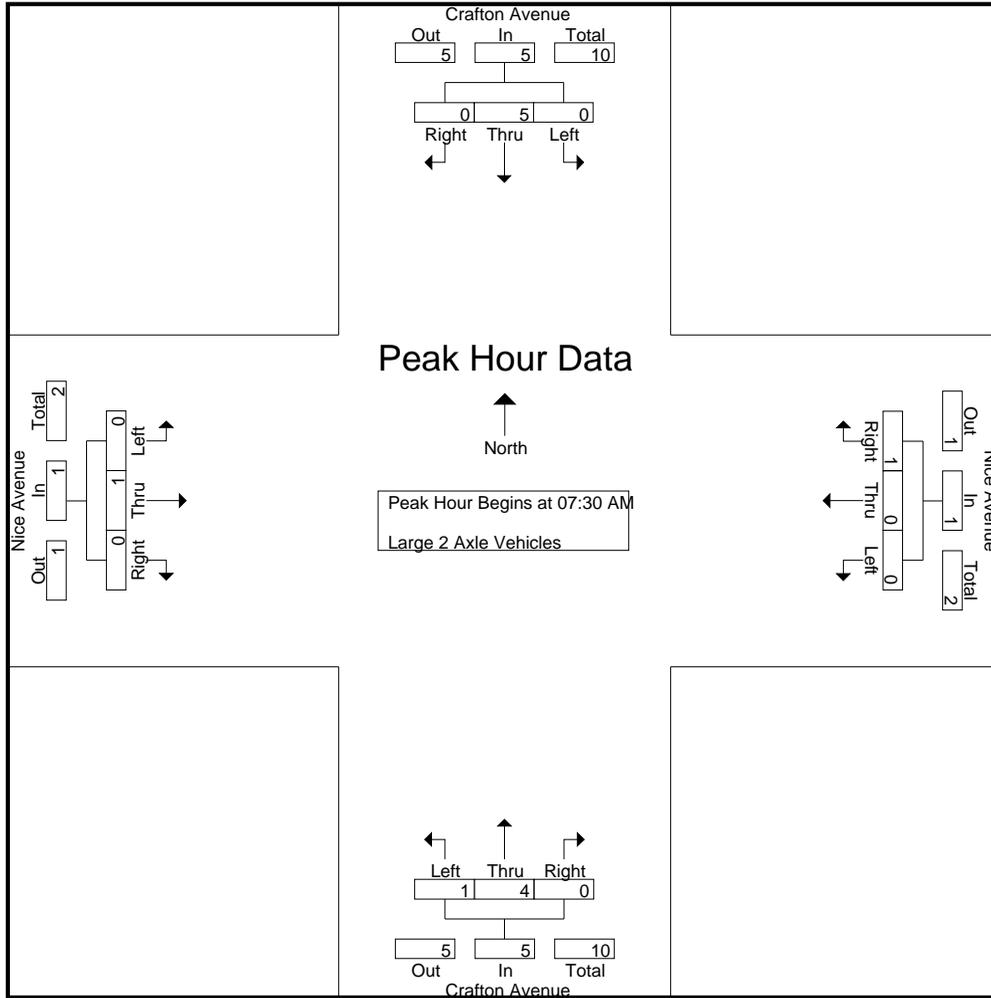
Groups Printed- Large 2 Axle Vehicles

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	2	0	2	0	0	0	0	1	1	0	2	0	0	0	0	4
Total	0	5	0	5	0	0	0	0	1	3	0	4	0	0	0	0	9
08:00 AM	0	2	0	2	0	0	0	0	0	3	0	3	0	1	0	1	6
08:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:45 AM	0	3	0	3	0	0	0	0	0	2	0	2	0	0	0	0	5
Total	0	5	0	5	0	0	1	1	0	7	0	7	0	1	0	1	14
Grand Total	0	10	0	10	0	0	1	1	1	10	0	11	0	1	0	1	23
Apprch %	0	100	0		0	0	100		9.1	90.9	0		0	100	0		
Total %	0	43.5	0	43.5	0	0	4.3	4.3	4.3	43.5	0	47.8	0	4.3	0	4.3	

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	2	0	2	0	0	0	0	1	1	0	2	0	0	0	0	4
08:00 AM	0	2	0	2	0	0	0	0	0	3	0	3	0	1	0	1	6
08:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
Total Volume	0	5	0	5	0	0	1	1	1	4	0	5	0	1	0	1	12
% App. Total	0	100	0		0	0	100		20	80	0		0	100	0		
PHF	.000	.625	.000	.625	.000	.000	.250	.250	.250	.333	.000	.417	.000	.250	.000	.250	.500

County of San Bernardino
 N/S: Crafton Avenue
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File Name : CSBCRNIAAM
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Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	2	0	2	0	0	0	0	1	1	0	2	0	0	0	0
+30 mins.	0	2	0	2	0	0	0	0	0	3	0	3	0	1	0	1
+45 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Total Volume	0	5	0	5	0	0	1	1	1	4	0	5	0	1	0	1
% App. Total	0	100	0		0	0	100		20	80	0		0	100	0	
PHF	.000	.625	.000	.625	.000	.000	.250	.250	.250	.333	.000	.417	.000	.250	.000	.250

County of San Bernardino
 N/S: Crafton Avenue
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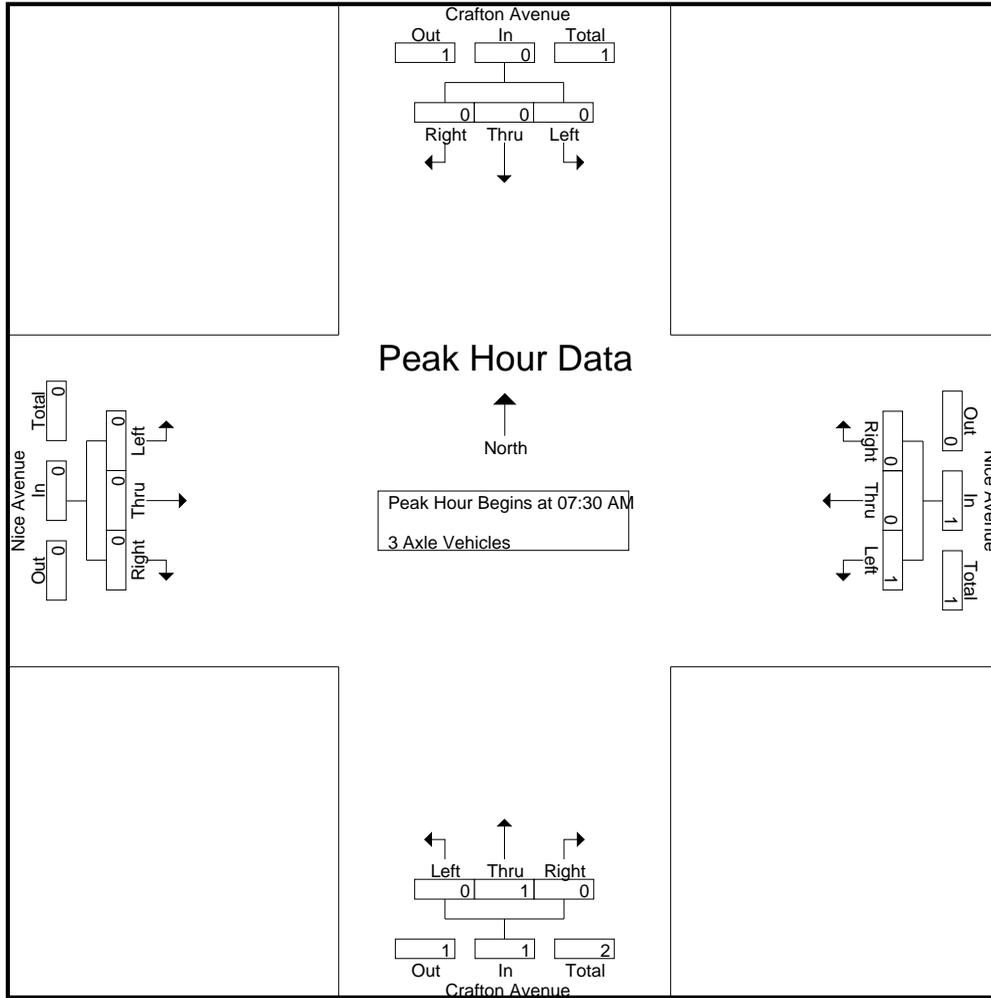
Groups Printed- 3 Axle Vehicles

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Grand Total	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	2
Apprch %	0	0	0		100	0	0		0	100	0		0	0	0		
Total %	0	0	0	0	50	0	0	50	0	50	0	50	0	0	0	0	

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	2
% App. Total	0	0	0		100	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.000	.250	.000	.250	.000	.000	.000	.000	.500

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIAAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0
% App. Total	0	0	0	0	100	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.000	.250	.000	.250	.000	.000	.000	.000

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIAAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

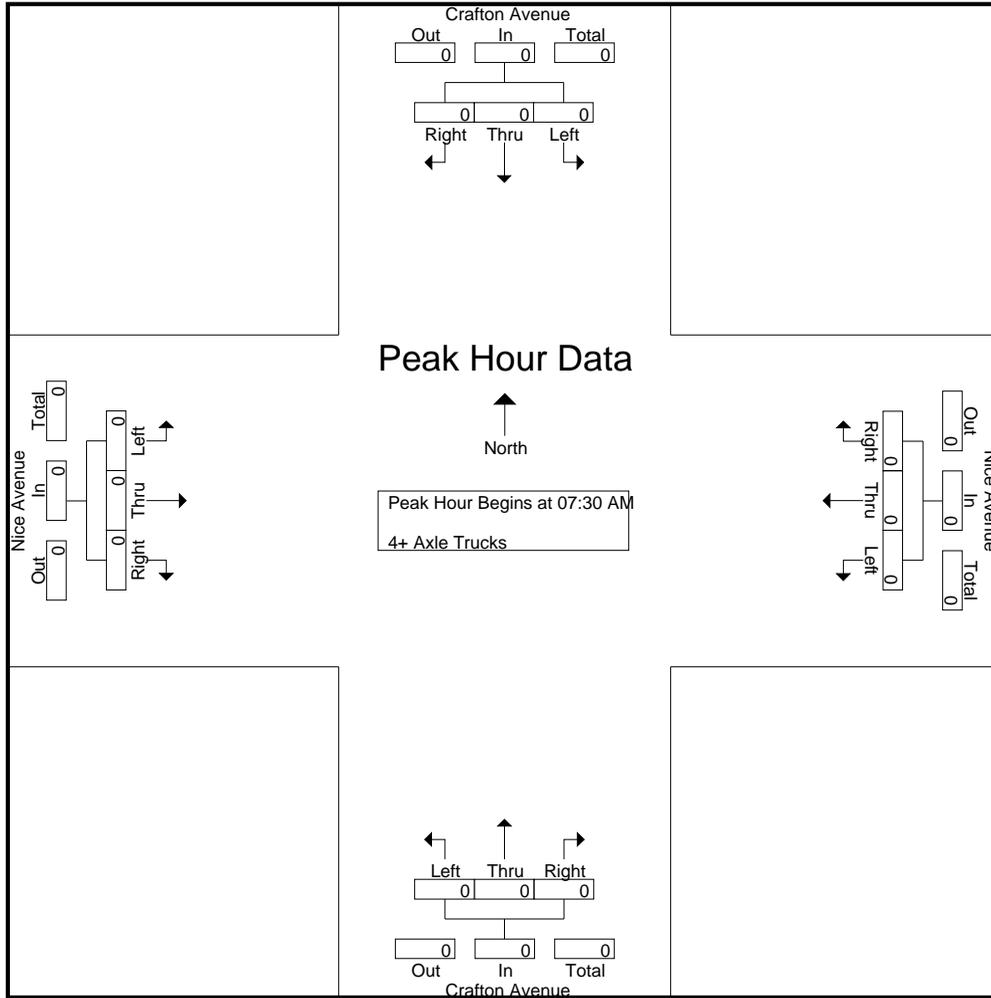
Groups Printed- 4+ Axle Trucks

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIAAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

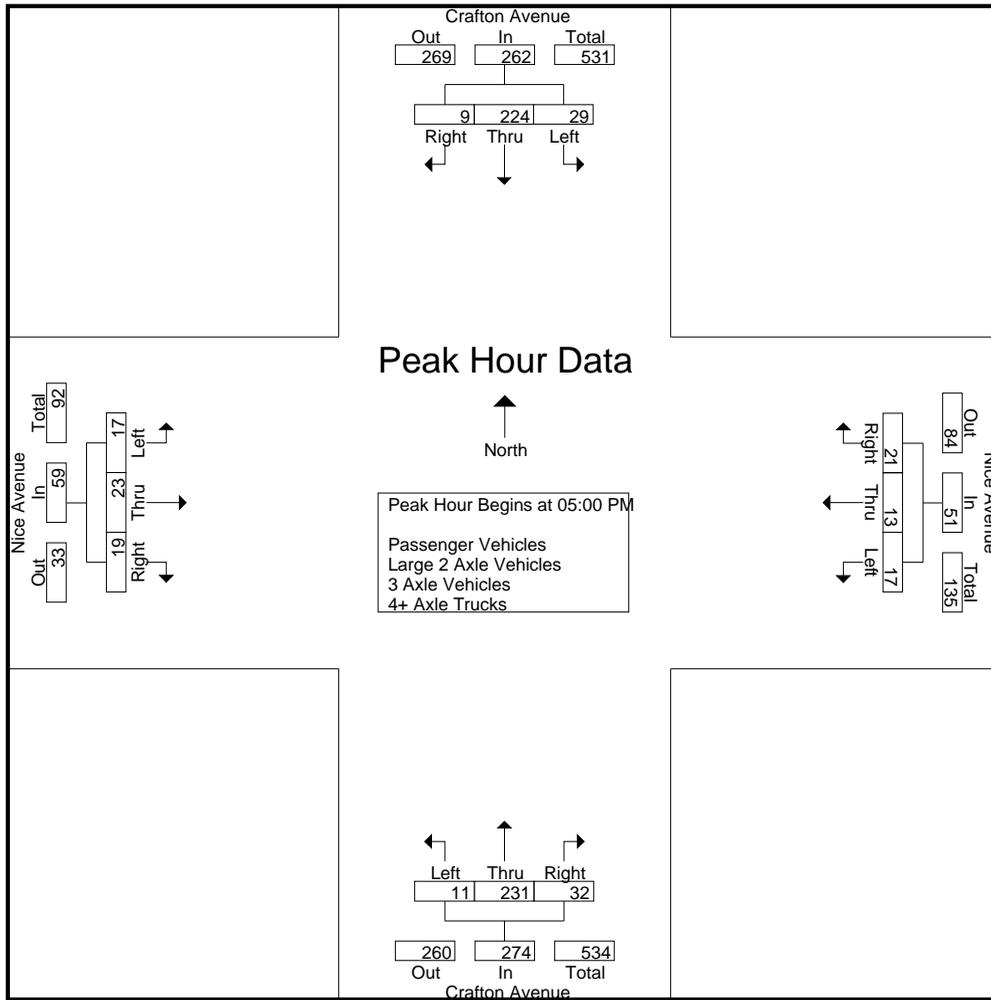
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	9	45	1	55	7	7	2	16	3	45	7	55	4	4	6	14	140
04:15 PM	5	51	1	57	5	6	6	17	2	56	3	61	0	4	1	5	140
04:30 PM	6	47	2	55	6	1	5	12	3	55	4	62	5	4	1	10	139
04:45 PM	6	41	2	49	8	3	3	14	3	46	4	53	0	3	1	4	120
Total	26	184	6	216	26	17	16	59	11	202	18	231	9	15	9	33	539
05:00 PM	5	48	4	57	3	2	6	11	3	57	14	74	3	8	3	14	156
05:15 PM	10	61	2	73	5	3	8	16	2	64	5	71	3	9	8	20	180
05:30 PM	7	63	2	72	6	7	3	16	3	57	8	68	7	3	1	11	167
05:45 PM	7	52	1	60	3	1	4	8	3	53	5	61	4	3	7	14	143
Total	29	224	9	262	17	13	21	51	11	231	32	274	17	23	19	59	646
Grand Total	55	408	15	478	43	30	37	110	22	433	50	505	26	38	28	92	1185
Apprch %	11.5	85.4	3.1		39.1	27.3	33.6		4.4	85.7	9.9		28.3	41.3	30.4		
Total %	4.6	34.4	1.3	40.3	3.6	2.5	3.1	9.3	1.9	36.5	4.2	42.6	2.2	3.2	2.4	7.8	
Passenger Vehicles	55	397	15	467	43	30	37	110	22	423	50	495	26	37	27	90	1162
% Passenger Vehicles	100	97.3	100	97.7	100	100	100	100	100	97.7	100	98	100	97.4	96.4	97.8	98.1
Large 2 Axle Vehicles	0	9	0	9	0	0	0	0	0	8	0	8	0	1	1	2	19
% Large 2 Axle Vehicles	0	2.2	0	1.9	0	0	0	0	0	1.8	0	1.6	0	2.6	3.6	2.2	1.6
3 Axle Vehicles	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
% 3 Axle Vehicles	0	0.2	0	0.2	0	0	0	0	0	0.2	0	0.2	0	0	0	0	0.2
4+ Axle Trucks	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
% 4+ Axle Trucks	0	0.2	0	0.2	0	0	0	0	0	0.2	0	0.2	0	0	0	0	0.2

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	5	48	4	57	3	2	6	11	3	57	14	74	3	8	3	14	156
05:15 PM	10	61	2	73	5	3	8	16	2	64	5	71	3	9	8	20	180
05:30 PM	7	63	2	72	6	7	3	16	3	57	8	68	7	3	1	11	167
05:45 PM	7	52	1	60	3	1	4	8	3	53	5	61	4	3	7	14	143
Total Volume	29	224	9	262	17	13	21	51	11	231	32	274	17	23	19	59	646
% App. Total	11.1	85.5	3.4		33.3	25.5	41.2		4	84.3	11.7		28.8	39	32.2		
PHF	.725	.889	.563	.897	.708	.464	.656	.797	.917	.902	.571	.926	.607	.639	.594	.738	.897

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				05:00 PM				05:00 PM			
+0 mins.	5	48	4	57	7	7	2	16	3	57	14	74	3	8	3	14
+15 mins.	10	61	2	73	5	6	6	17	2	64	5	71	3	9	8	20
+30 mins.	7	63	2	72	6	1	5	12	3	57	8	68	7	3	1	11
+45 mins.	7	52	1	60	8	3	3	14	3	53	5	61	4	3	7	14
Total Volume	29	224	9	262	26	17	16	59	11	231	32	274	17	23	19	59
% App. Total	11.1	85.5	3.4		44.1	28.8	27.1		4	84.3	11.7		28.8	39	32.2	
PHF	.725	.889	.563	.897	.813	.607	.667	.868	.917	.902	.571	.926	.607	.639	.594	.738

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

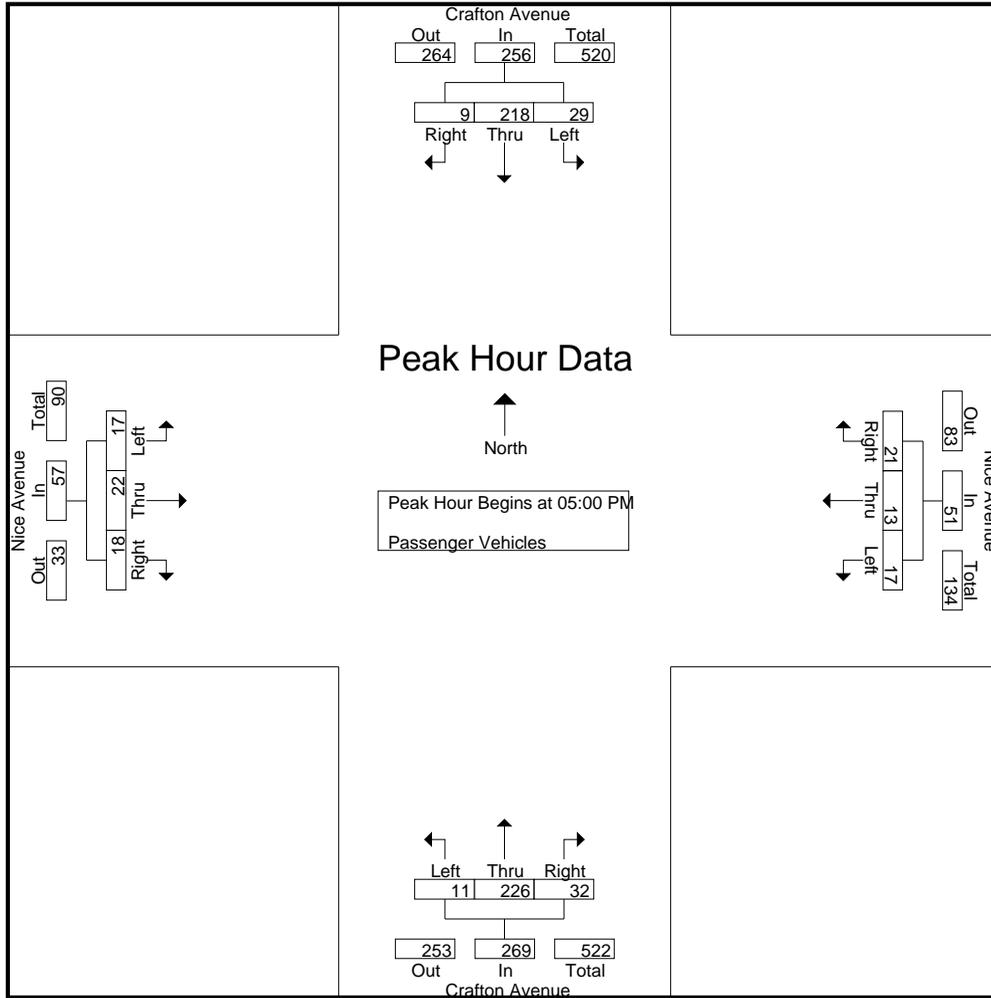
Groups Printed- Passenger Vehicles

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	9	43	1	53	7	7	2	16	3	44	7	54	4	4	6	14	137
04:15 PM	5	49	1	55	5	6	6	17	2	56	3	61	0	4	1	5	138
04:30 PM	6	47	2	55	6	1	5	12	3	54	4	61	5	4	1	10	138
04:45 PM	6	40	2	48	8	3	3	14	3	43	4	50	0	3	1	4	116
Total	26	179	6	211	26	17	16	59	11	197	18	226	9	15	9	33	529
05:00 PM	5	46	4	55	3	2	6	11	3	57	14	74	3	8	3	14	154
05:15 PM	10	60	2	72	5	3	8	16	2	61	5	68	3	8	7	18	174
05:30 PM	7	60	2	69	6	7	3	16	3	56	8	67	7	3	1	11	163
05:45 PM	7	52	1	60	3	1	4	8	3	52	5	60	4	3	7	14	142
Total	29	218	9	256	17	13	21	51	11	226	32	269	17	22	18	57	633
Grand Total	55	397	15	467	43	30	37	110	22	423	50	495	26	37	27	90	1162
Apprch %	11.8	85	3.2		39.1	27.3	33.6		4.4	85.5	10.1		28.9	41.1	30		
Total %	4.7	34.2	1.3	40.2	3.7	2.6	3.2	9.5	1.9	36.4	4.3	42.6	2.2	3.2	2.3	7.7	

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	5	46	4	55	3	2	6	11	3	57	14	74	3	8	3	14	154
05:15 PM	10	60	2	72	5	3	8	16	2	61	5	68	3	8	7	18	174
05:30 PM	7	60	2	69	6	7	3	16	3	56	8	67	7	3	1	11	163
05:45 PM	7	52	1	60	3	1	4	8	3	52	5	60	4	3	7	14	142
Total Volume	29	218	9	256	17	13	21	51	11	226	32	269	17	22	18	57	633
% App. Total	11.3	85.2	3.5		33.3	25.5	41.2		4.1	84	11.9		29.8	38.6	31.6		
PHF	.725	.908	.563	.889	.708	.464	.656	.797	.917	.926	.571	.909	.607	.688	.643	.792	.909

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	5	46	4	55	3	2	6	11	3	57	14	74	3	8	3	14
+15 mins.	10	60	2	72	5	3	8	16	2	61	5	68	3	8	7	18
+30 mins.	7	60	2	69	6	7	3	16	3	56	8	67	7	3	1	11
+45 mins.	7	52	1	60	3	1	4	8	3	52	5	60	4	3	7	14
Total Volume	29	218	9	256	17	13	21	51	11	226	32	269	17	22	18	57
% App. Total	11.3	85.2	3.5		33.3	25.5	41.2		4.1	84	11.9		29.8	38.6	31.6	
PHF	.725	.908	.563	.889	.708	.464	.656	.797	.917	.926	.571	.909	.607	.688	.643	.792

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

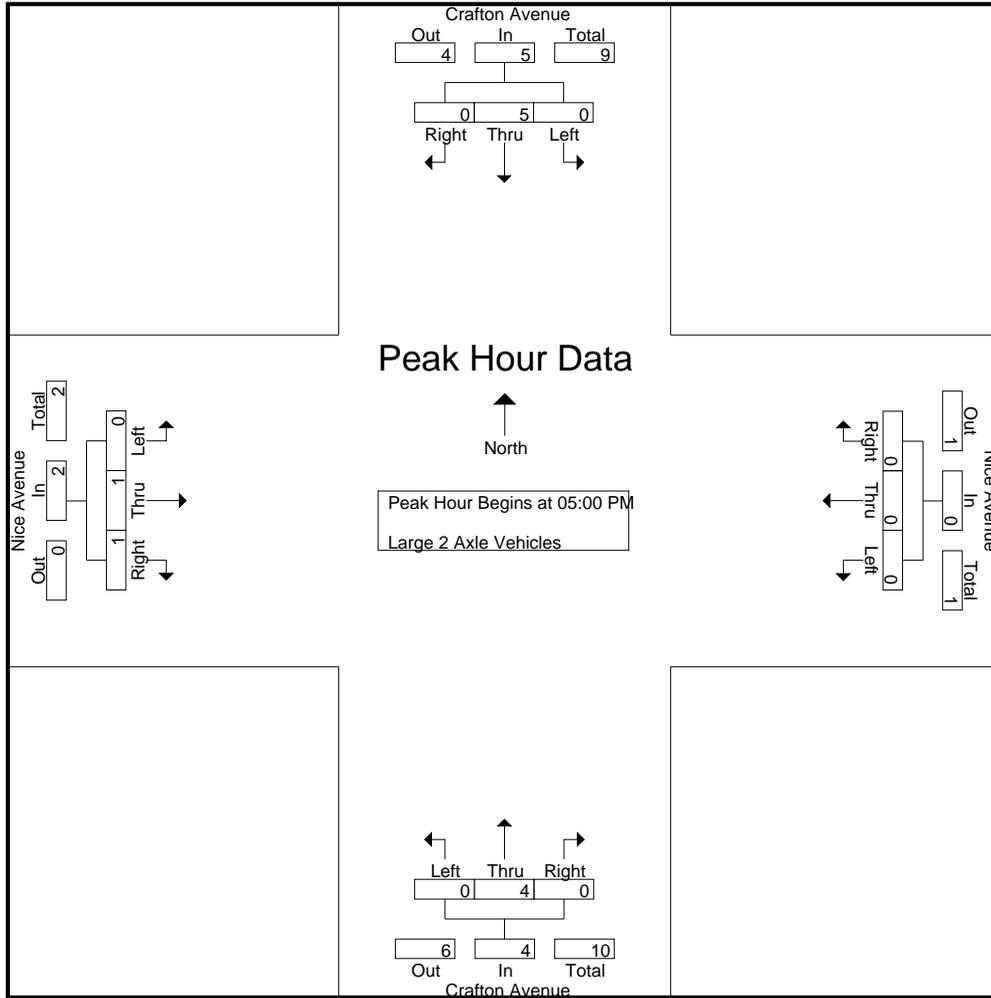
Groups Printed- Large 2 Axle Vehicles

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
04:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:45 PM	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
Total	0	4	0	4	0	0	0	0	0	4	0	4	0	0	0	0	8
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	1	0	1	0	0	0	0	0	2	0	2	0	1	1	2	5
05:30 PM	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
05:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	5	0	5	0	0	0	0	0	4	0	4	0	1	1	2	11
Grand Total	0	9	0	9	0	0	0	0	0	8	0	8	0	1	1	2	19
Apprch %	0	100	0		0	0	0		0	100	0		0	50	50		
Total %	0	47.4	0	47.4	0	0	0	0	0	42.1	0	42.1	0	5.3	5.3	10.5	

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	1	0	1	0	0	0	0	0	2	0	2	0	1	1	2	5
05:30 PM	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
05:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	5	0	5	0	0	0	0	0	4	0	4	0	1	1	2	11
% App. Total	0	100	0		0	0	0		0	100	0		0	50	50		
PHF	.000	.417	.000	.417	.000	.000	.000	.000	.000	.500	.000	.500	.000	.250	.250	.250	.550

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	2	0	2	0	1	1	2
+30 mins.	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	5	0	5	0	0	0	0	0	4	0	4	0	1	1	2
% App. Total	0	100	0		0	0	0		0	100	0		0	50	50	
PHF	.000	.417	.000	.417	.000	.000	.000	.000	.000	.500	.000	.500	.000	.250	.250	.250

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

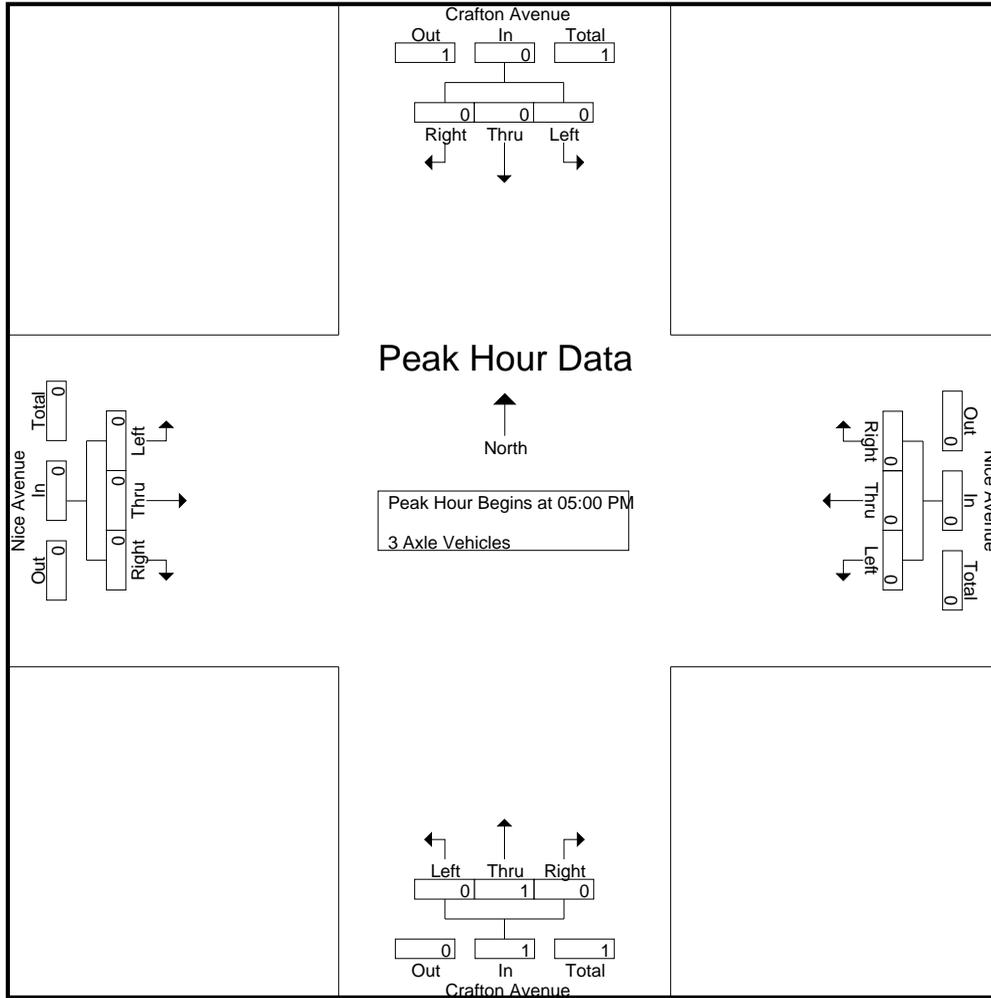
Groups Printed- 3 Axle Vehicles

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Grand Total	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	2
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0			
Total %	0	50	0	50	0	0	0	0	0	50	0	50	0	0	0	0	0	

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 05:00 PM																		
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0			
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

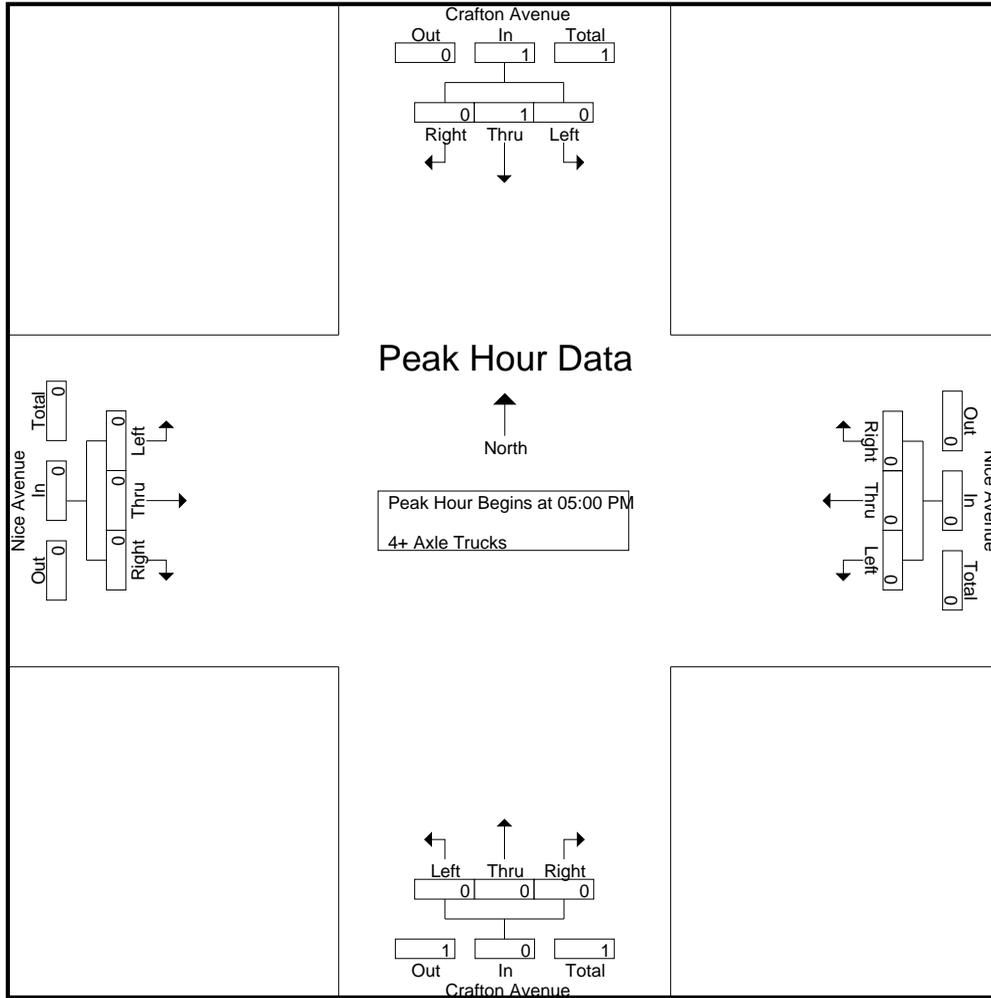
Groups Printed- 4+ Axle Trucks

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	50	0	50	0	0	0	0	0	50	0	50	0	0	0	0	

Start Time	Crafton Avenue Southbound				Nice Avenue Westbound				Crafton Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

County of San Bernardino
 N/S: Crafton Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBCRNIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

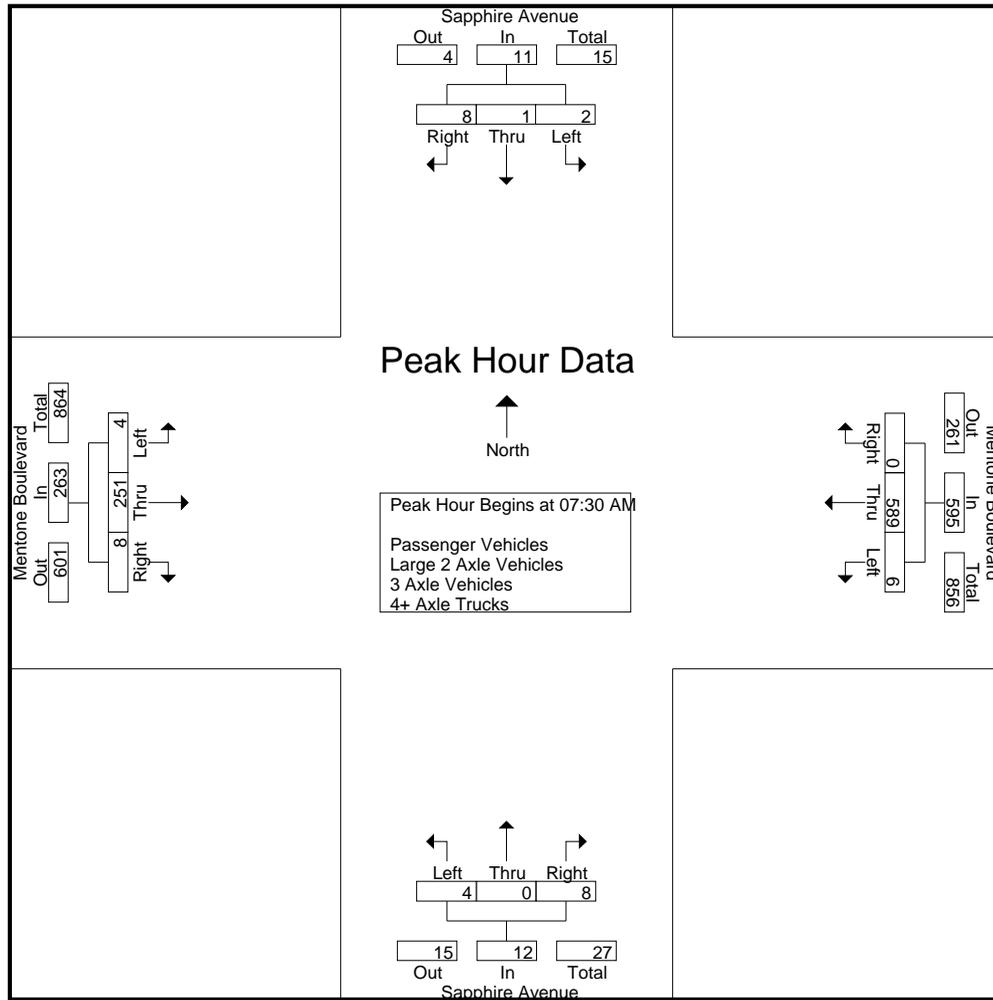
County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Mentone Boulevard
 Weather: Clear

File Name : CSBSAMEAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	2	2	4	121	0	125	5	0	0	5	3	34	3	40	172
07:15 AM	0	0	0	0	4	121	0	125	1	0	3	4	2	50	1	53	182
07:30 AM	0	0	0	0	1	167	0	168	2	0	0	2	1	65	3	69	239
07:45 AM	0	0	3	3	2	164	0	166	1	0	2	3	2	72	1	75	247
Total	0	0	5	5	11	573	0	584	9	0	5	14	8	221	8	237	840
08:00 AM	1	0	4	5	3	130	0	133	1	0	4	5	1	61	1	63	206
08:15 AM	1	1	1	3	0	128	0	128	0	0	2	2	0	53	3	56	189
08:30 AM	1	0	2	3	4	99	0	103	1	0	1	2	3	47	2	52	160
08:45 AM	0	0	3	3	2	87	2	91	2	1	0	3	2	52	3	57	154
Total	3	1	10	14	9	444	2	455	4	1	7	12	6	213	9	228	709
Grand Total	3	1	15	19	20	1017	2	1039	13	1	12	26	14	434	17	465	1549
Apprch %	15.8	5.3	78.9		1.9	97.9	0.2		50	3.8	46.2		3	93.3	3.7		
Total %	0.2	0.1	1	1.2	1.3	65.7	0.1	67.1	0.8	0.1	0.8	1.7	0.9	28	1.1	30	
Passenger Vehicles	3	1	15	19	20	993	2	1015	12	1	12	25	14	419	17	450	1509
% Passenger Vehicles	100	100	100	100	100	97.6	100	97.7	92.3	100	100	96.2	100	96.5	100	96.8	97.4
Large 2 Axle Vehicles	0	0	0	0	0	19	0	19	1	0	0	1	0	11	0	11	31
% Large 2 Axle Vehicles	0	0	0	0	0	1.9	0	1.8	7.7	0	0	3.8	0	2.5	0	2.4	2
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0.4	0.1
4+ Axle Trucks	0	0	0	0	0	5	0	5	0	0	0	0	0	2	0	2	7
% 4+ Axle Trucks	0	0	0	0	0	0.5	0	0.5	0	0	0	0	0	0.5	0	0.4	0.5

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	1	167	0	168	2	0	0	2	1	65	3	69	239
07:45 AM	0	0	3	3	2	164	0	166	1	0	2	3	2	72	1	75	247
08:00 AM	1	0	4	5	3	130	0	133	1	0	4	5	1	61	1	63	206
08:15 AM	1	1	1	3	0	128	0	128	0	0	2	2	0	53	3	56	189
Total Volume	2	1	8	11	6	589	0	595	4	0	8	12	4	251	8	263	881
% App. Total	18.2	9.1	72.7		1	99	0		33.3	0	66.7		1.5	95.4	3		
PHF	.500	.250	.500	.550	.500	.882	.000	.885	.500	.000	.500	.600	.500	.872	.667	.877	.892



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM				07:30 AM				07:00 AM				07:30 AM			
+0 mins.	0	0	3	3	1	167	0	168	5	0	0	5	1	65	3	69
+15 mins.	1	0	4	5	2	164	0	166	1	0	3	4	2	72	1	75
+30 mins.	1	1	1	3	3	130	0	133	2	0	0	2	1	61	1	63
+45 mins.	1	0	2	3	0	128	0	128	1	0	2	3	0	53	3	56
Total Volume	3	1	10	14	6	589	0	595	9	0	5	14	4	251	8	263
% App. Total	21.4	7.1	71.4		1	99	0		64.3	0	35.7		1.5	95.4	3	
PHF	.750	.250	.625	.700	.500	.882	.000	.885	.450	.000	.417	.700	.500	.872	.667	.877

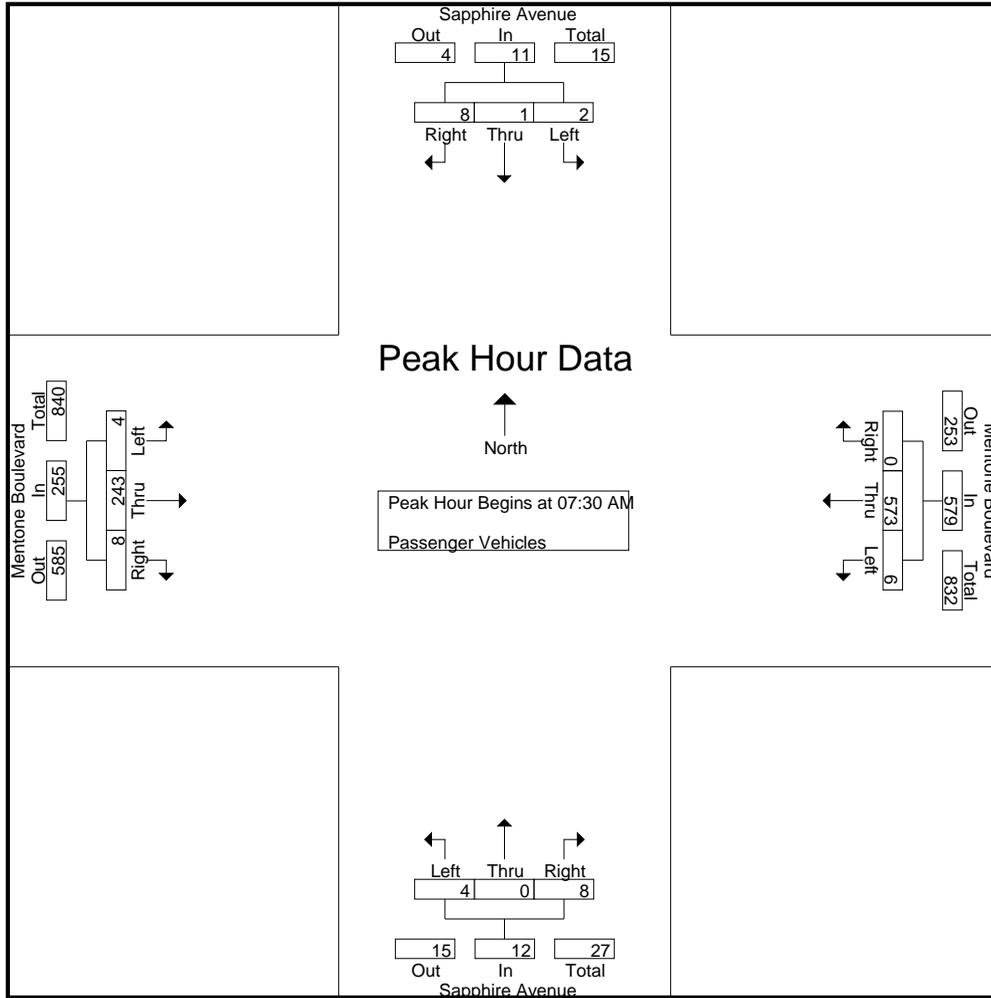
County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Mentone Boulevard
 Weather: Clear

File Name : CSBSAMEAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	2	2	4	120	0	124	4	0	0	4	3	32	3	38	168
07:15 AM	0	0	0	0	4	118	0	122	1	0	3	4	2	47	1	50	176
07:30 AM	0	0	0	0	1	164	0	165	2	0	0	2	1	61	3	65	232
07:45 AM	0	0	3	3	2	161	0	163	1	0	2	3	2	71	1	74	243
Total	0	0	5	5	11	563	0	574	8	0	5	13	8	211	8	227	819
08:00 AM	1	0	4	5	3	124	0	127	1	0	4	5	1	60	1	62	199
08:15 AM	1	1	1	3	0	124	0	124	0	0	2	2	0	51	3	54	183
08:30 AM	1	0	2	3	4	96	0	100	1	0	1	2	3	47	2	52	157
08:45 AM	0	0	3	3	2	86	2	90	2	1	0	3	2	50	3	55	151
Total	3	1	10	14	9	430	2	441	4	1	7	12	6	208	9	223	690
Grand Total	3	1	15	19	20	993	2	1015	12	1	12	25	14	419	17	450	1509
Apprch %	15.8	5.3	78.9		2	97.8	0.2		48	4	48		3.1	93.1	3.8		
Total %	0.2	0.1	1	1.3	1.3	65.8	0.1	67.3	0.8	0.1	0.8	1.7	0.9	27.8	1.1	29.8	

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	1	164	0	165	2	0	0	2	1	61	3	65	232
07:45 AM	0	0	3	3	2	161	0	163	1	0	2	3	2	71	1	74	243
08:00 AM	1	0	4	5	3	124	0	127	1	0	4	5	1	60	1	62	199
08:15 AM	1	1	1	3	0	124	0	124	0	0	2	2	0	51	3	54	183
Total Volume	2	1	8	11	6	573	0	579	4	0	8	12	4	243	8	255	857
% App. Total	18.2	9.1	72.7		1	99	0		33.3	0	66.7		1.6	95.3	3.1		
PHF	.500	.250	.500	.550	.500	.873	.000	.877	.500	.000	.500	.600	.500	.856	.667	.861	.882



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	1	164	0	165	2	0	0	2	1	61	3	65
+15 mins.	0	0	3	3	2	161	0	163	1	0	2	3	2	71	1	74
+30 mins.	1	0	4	5	3	124	0	127	1	0	4	5	1	60	1	62
+45 mins.	1	1	1	3	0	124	0	124	0	0	2	2	0	51	3	54
Total Volume	2	1	8	11	6	573	0	579	4	0	8	12	4	243	8	255
% App. Total	18.2	9.1	72.7		1	99	0		33.3	0	66.7		1.6	95.3	3.1	
PHF	.500	.250	.500	.550	.500	.873	.000	.877	.500	.000	.500	.600	.500	.856	.667	.861

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Mentone Boulevard
 Weather: Clear

File Name : CSBSAMEAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

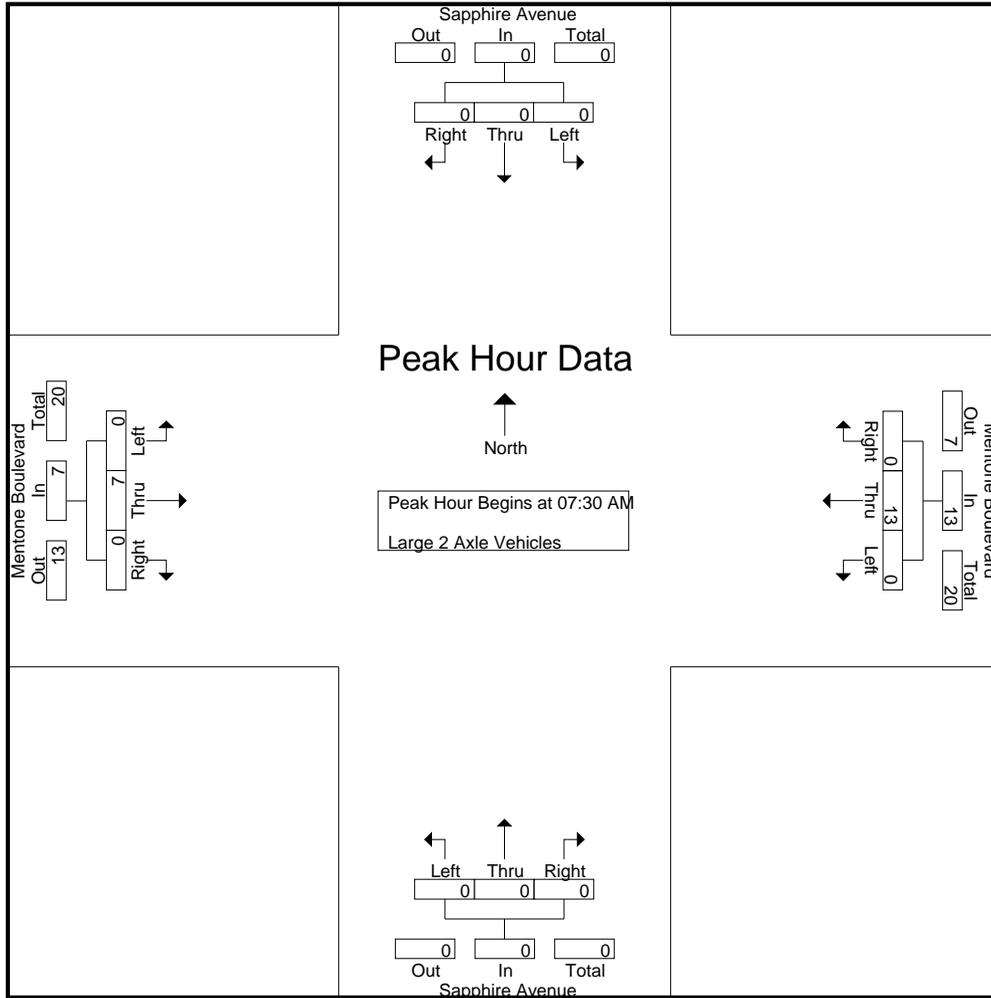
Groups Printed- Large 2 Axle Vehicles

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	1	0	1	1	0	0	1	0	2	0	2	4
07:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	4	0	4	7
07:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
Total	0	0	0	0	0	8	0	8	1	0	0	1	0	7	0	7	16
08:00 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	0	5
08:15 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
08:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
08:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
Total	0	0	0	0	0	11	0	11	0	0	0	0	0	4	0	4	15
Grand Total	0	0	0	0	0	19	0	19	1	0	0	1	0	11	0	11	31
Apprch %	0	0	0		0	100	0		100	0	0		0	100	0		
Total %	0	0	0		0	61.3	0	61.3	3.2	0	0	3.2	0	35.5	0	35.5	

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	4	0	4	7
07:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
08:00 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	0	5
08:15 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
Total Volume	0	0	0	0	0	13	0	13	0	0	0	0	0	7	0	7	20
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.650	.000	.650	.000	.000	.000	.000	.000	.438	.000	.438	.714

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Mentone Boulevard
 Weather: Clear

File Name : CSBSAMEAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	4	0	4
+15 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2
Total Volume	0	0	0	0	0	13	0	13	0	0	0	0	0	7	0	7
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0
PHF	.000	.000	.000	.000	.000	.650	.000	.650	.000	.000	.000	.000	.000	.438	.000	.438

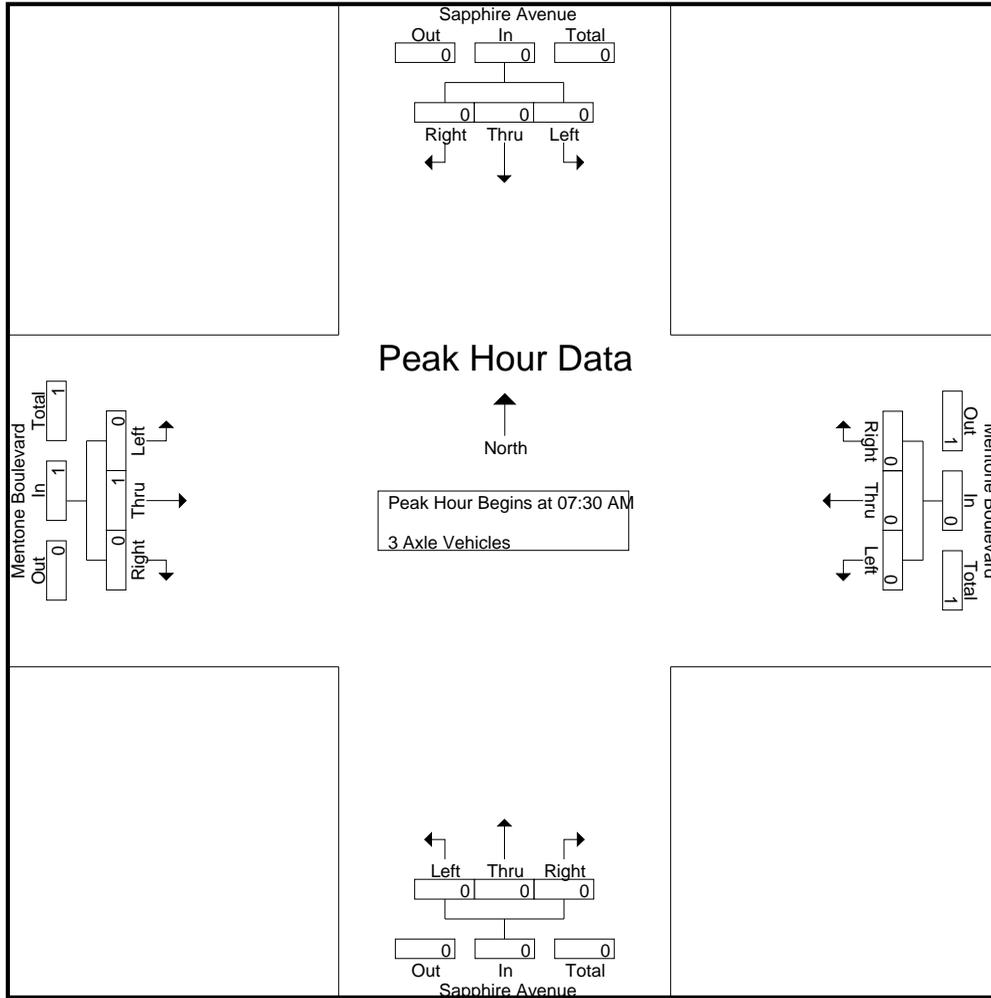
County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Mentone Boulevard
 Weather: Clear

File Name : CSBSAMEAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Apprch %	0	0	0		0	0	0		0	0	0		0	100	0		
Total %	0	0	0		0	0	0		0	0	0		0	100	0	100	

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Mentone Boulevard
 Weather: Clear

File Name : CSBSAMEAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

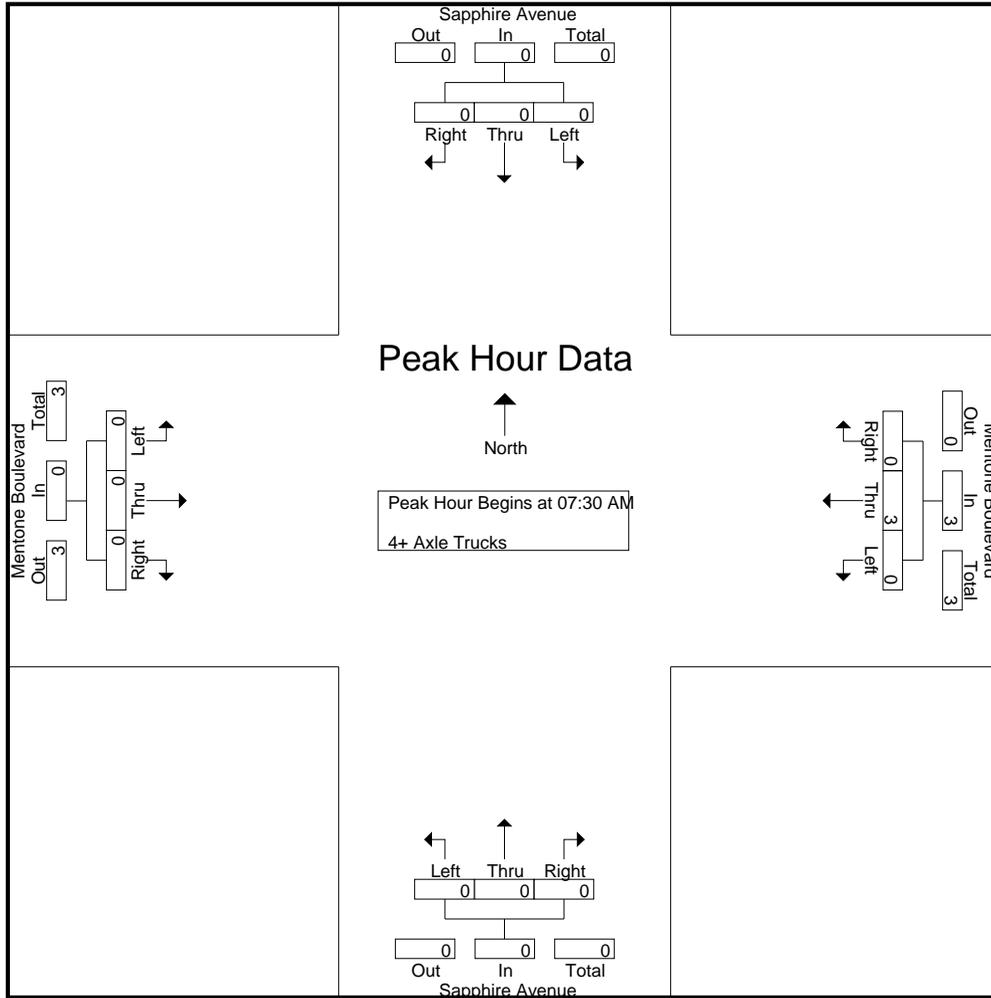
Groups Printed- 4+ Axle Trucks

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
08:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
Grand Total	0	0	0	0	0	5	0	5	0	0	0	0	0	2	0	2	7
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	71.4	0	71.4	0	0	0	0	0	28.6	0	28.6	

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000	.000	.000	.000	.000	.750

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Mentone Boulevard
 Weather: Clear

File Name : CSBSAMEAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000	.000	.000	.000	.000

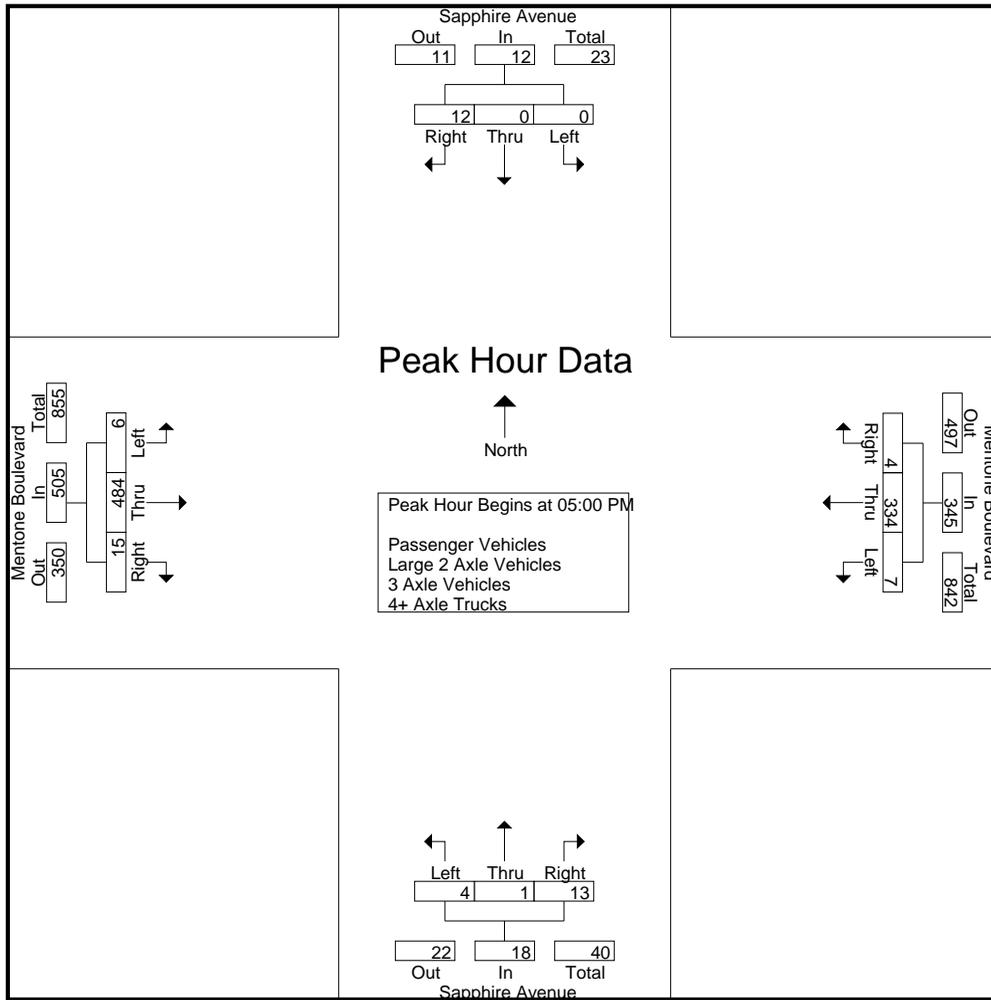
County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Mentone Boulevard
 Weather: Clear

File Name : CSBSAMEPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	1	1	1	69	0	70	2	0	1	3	4	96	4	104	178
04:15 PM	0	0	3	3	2	96	0	98	2	0	1	3	1	97	5	103	207
04:30 PM	0	0	2	2	0	53	0	53	1	0	0	1	1	103	7	111	167
04:45 PM	0	0	0	0	1	74	0	75	1	0	2	3	1	98	2	101	179
Total	0	0	6	6	4	292	0	296	6	0	4	10	7	394	18	419	731
05:00 PM	0	0	1	1	0	73	1	74	1	0	5	6	2	116	5	123	204
05:15 PM	0	0	2	2	1	113	1	115	0	0	1	1	0	120	4	124	242
05:30 PM	0	0	3	3	2	65	1	68	1	0	5	6	3	130	3	136	213
05:45 PM	0	0	6	6	4	83	1	88	2	1	2	5	1	118	3	122	221
Total	0	0	12	12	7	334	4	345	4	1	13	18	6	484	15	505	880
Grand Total	0	0	18	18	11	626	4	641	10	1	17	28	13	878	33	924	1611
Apprch %	0	0	100		1.7	97.7	0.6		35.7	3.6	60.7		1.4	95	3.6		
Total %	0	0	1.1	1.1	0.7	38.9	0.2	39.8	0.6	0.1	1.1	1.7	0.8	54.5	2	57.4	
Passenger Vehicles	0	0	18	18	11	606	4	621	9	1	17	27	13	874	30	917	1583
% Passenger Vehicles	0	0	100	100	100	96.8	100	96.9	90	100	100	96.4	100	99.5	90.9	99.2	98.3
Large 2 Axle Vehicles	0	0	0	0	0	11	0	11	1	0	0	1	0	4	2	6	18
% Large 2 Axle Vehicles	0	0	0	0	0	1.8	0	1.7	10	0	0	3.6	0	0.5	6.1	0.6	1.1
3 Axle Vehicles	0	0	0	0	0	7	0	7	0	0	0	0	0	0	1	1	8
% 3 Axle Vehicles	0	0	0	0	0	1.1	0	1.1	0	0	0	0	0	0	3	0.1	0.5
4+ Axle Trucks	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
% 4+ Axle Trucks	0	0	0	0	0	0.3	0	0.3	0	0	0	0	0	0	0	0	0.1

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	1	1	0	73	1	74	1	0	5	6	2	116	5	123	204
05:15 PM	0	0	2	2	1	113	1	115	0	0	1	1	0	120	4	124	242
05:30 PM	0	0	3	3	2	65	1	68	1	0	5	6	3	130	3	136	213
05:45 PM	0	0	6	6	4	83	1	88	2	1	2	5	1	118	3	122	221
Total Volume	0	0	12	12	7	334	4	345	4	1	13	18	6	484	15	505	880
% App. Total	0	0	100		2	96.8	1.2		22.2	5.6	72.2		1.2	95.8	3		
PHF	.000	.000	.500	.500	.438	.739	1.00	.750	.500	.250	.650	.750	.500	.931	.750	.928	.909



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	1	1	0	73	1	74	1	0	5	6	2	116	5	123
+15 mins.	0	0	2	2	1	113	1	115	0	0	1	1	0	120	4	124
+30 mins.	0	0	3	3	2	65	1	68	1	0	5	6	3	130	3	136
+45 mins.	0	0	6	6	4	83	1	88	2	1	2	5	1	118	3	122
Total Volume	0	0	12	12	7	334	4	345	4	1	13	18	6	484	15	505
% App. Total	0	0	100		2	96.8	1.2		22.2	5.6	72.2		1.2	95.8	3	
PHF	.000	.000	.500	.500	.438	.739	1.000	.750	.500	.250	.650	.750	.500	.931	.750	.928

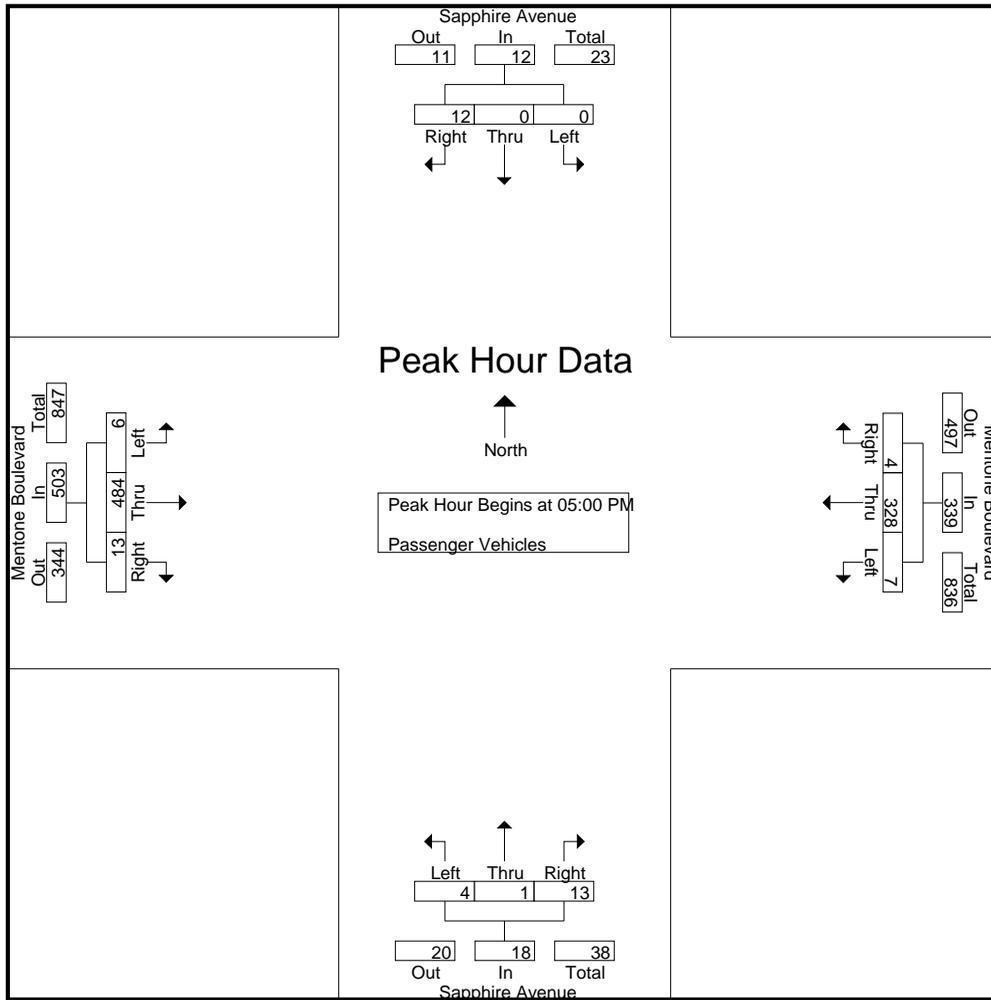
County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Mentone Boulevard
 Weather: Clear

File Name : CSBSAMEPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	1	1	1	64	0	65	2	0	1	3	4	95	4	103	172
04:15 PM	0	0	3	3	2	92	0	94	1	0	1	2	1	96	4	101	200
04:30 PM	0	0	2	2	0	52	0	52	1	0	0	1	1	102	7	110	165
04:45 PM	0	0	0	0	1	70	0	71	1	0	2	3	1	97	2	100	174
Total	0	0	6	6	4	278	0	282	5	0	4	9	7	390	17	414	711
05:00 PM	0	0	1	1	0	73	1	74	1	0	5	6	2	116	5	123	204
05:15 PM	0	0	2	2	1	111	1	113	0	0	1	1	0	120	2	122	238
05:30 PM	0	0	3	3	2	64	1	67	1	0	5	6	3	130	3	136	212
05:45 PM	0	0	6	6	4	80	1	85	2	1	2	5	1	118	3	122	218
Total	0	0	12	12	7	328	4	339	4	1	13	18	6	484	13	503	872
Grand Total	0	0	18	18	11	606	4	621	9	1	17	27	13	874	30	917	1583
Apprch %	0	0	100		1.8	97.6	0.6		33.3	3.7	63		1.4	95.3	3.3		
Total %	0	0	1.1	1.1	0.7	38.3	0.3	39.2	0.6	0.1	1.1	1.7	0.8	55.2	1.9	57.9	

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	1	1	0	73	1	74	1	0	5	6	2	116	5	123	204
05:15 PM	0	0	2	2	1	111	1	113	0	0	1	1	0	120	2	122	238
05:30 PM	0	0	3	3	2	64	1	67	1	0	5	6	3	130	3	136	212
05:45 PM	0	0	6	6	4	80	1	85	2	1	2	5	1	118	3	122	218
Total Volume	0	0	12	12	7	328	4	339	4	1	13	18	6	484	13	503	872
% App. Total	0	0	100		2.1	96.8	1.2		22.2	5.6	72.2		1.2	96.2	2.6		
PHF	.000	.000	.500	.500	.438	.739	1.00	.750	.500	.250	.650	.750	.500	.931	.650	.925	.916



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	1	1	0	73	1	74	1	0	5	6	2	116	5	123
+15 mins.	0	0	2	2	1	111	1	113	0	0	1	1	0	120	2	122
+30 mins.	0	0	3	3	2	64	1	67	1	0	5	6	3	130	3	136
+45 mins.	0	0	6	6	4	80	1	85	2	1	2	5	1	118	3	122
Total Volume	0	0	12	12	7	328	4	339	4	1	13	18	6	484	13	503
% App. Total	0	0	100		2.1	96.8	1.2		22.2	5.6	72.2		1.2	96.2	2.6	
PHF	.000	.000	.500	.500	.438	.739	1.000	.750	.500	.250	.650	.750	.500	.931	.650	.925

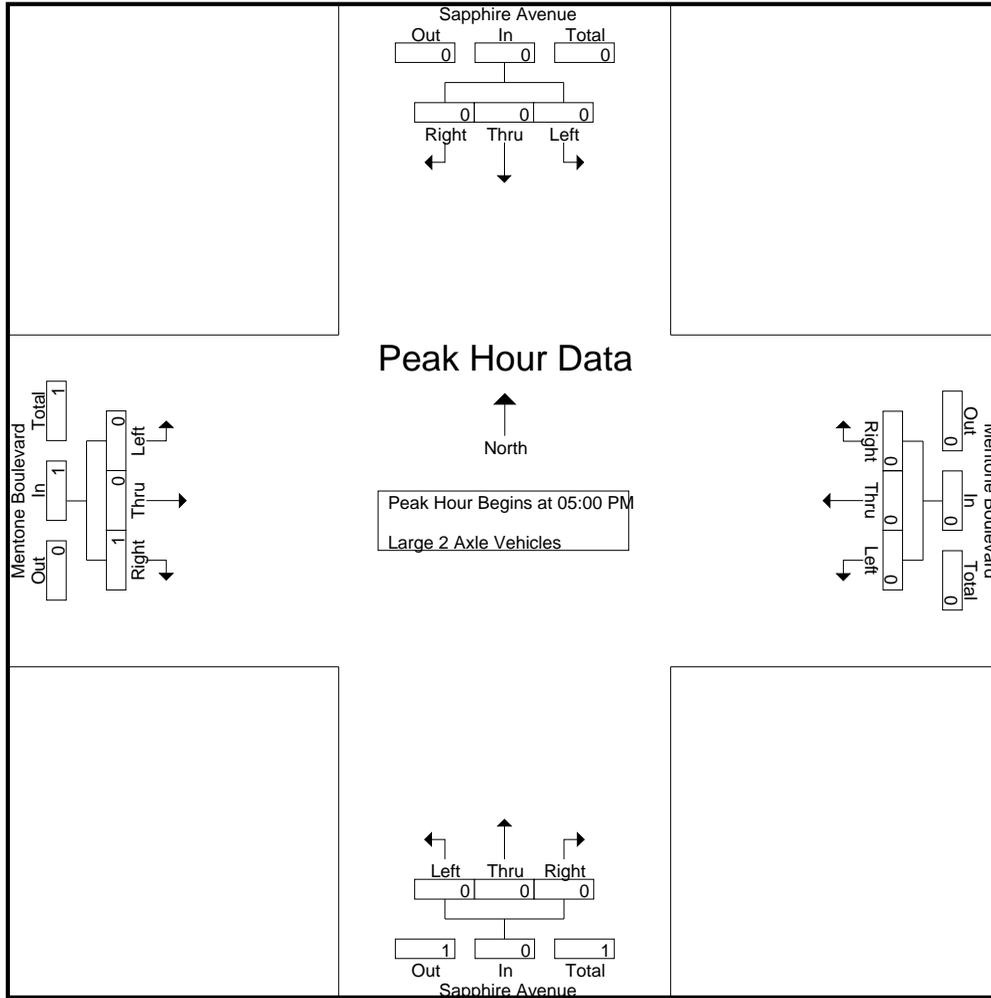
County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Mentone Boulevard
 Weather: Clear

File Name : CSBSAMEPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	1	0	1	5
04:15 PM	0	0	0	0	0	3	0	3	1	0	0	1	0	1	1	2	6
04:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
04:45 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1	4
Total	0	0	0	0	0	11	0	11	1	0	0	1	0	4	1	5	17
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Grand Total	0	0	0	0	0	11	0	11	1	0	0	1	0	4	2	6	18
Apprch %	0	0	0		0	100	0		100	0	0		0	66.7	33.3		
Total %	0	0	0		0	61.1	0	61.1	5.6	0	0	5.6	0	22.2	11.1	33.3	

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
% App. Total	0	0	0		0	0	0		0	0	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.250



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250

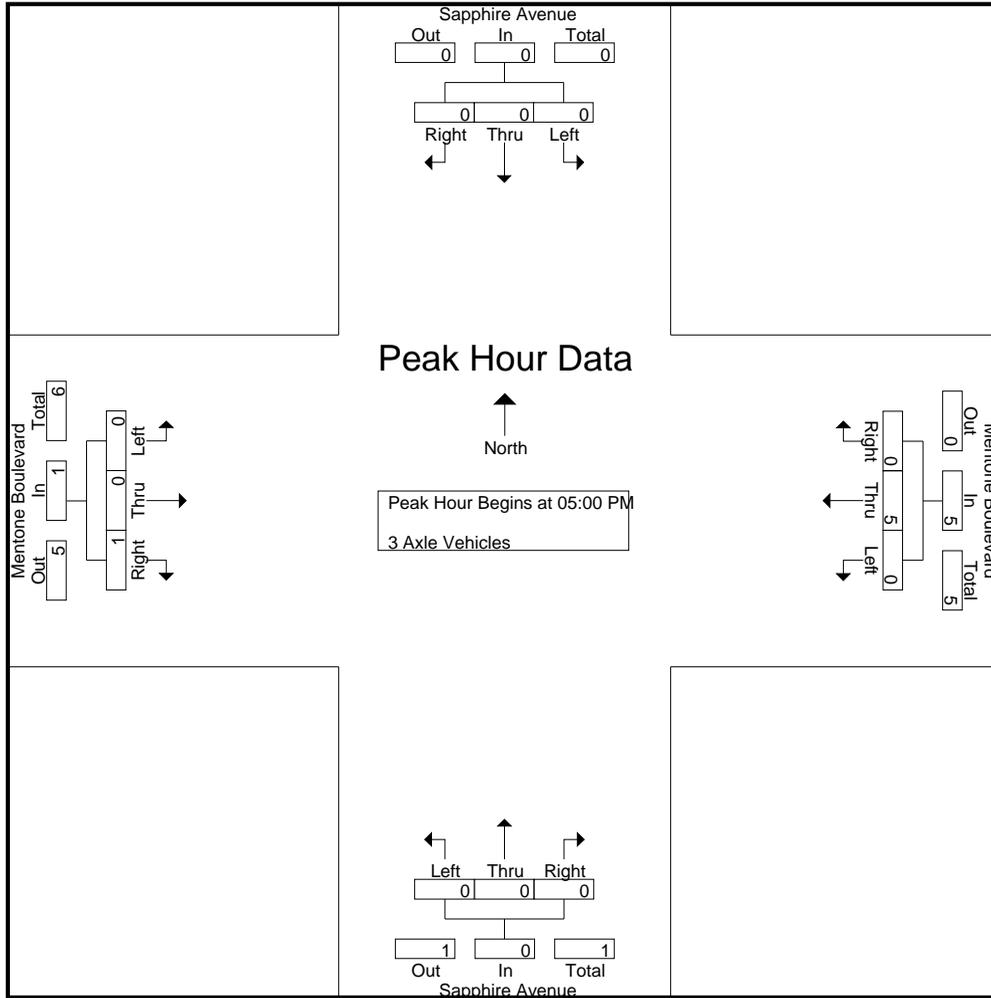
County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Mentone Boulevard
 Weather: Clear

File Name : CSBSAMEPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	1	1	1	3
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	5	0	5	0	0	0	0	0	0	1	1	1	6
Grand Total	0	0	0	0	0	7	0	7	0	0	0	0	0	0	1	1	1	8
Apprch %	0	0	0		0	100	0		0	0	0		0	0	100			
Total %	0	0	0		0	87.5	0	87.5	0	0	0		0	0	12.5	12.5		

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 05:00 PM																		
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	1	1	1	3
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	5	0	5	0	0	0	0	0	0	1	1	1	6
% App. Total	0	0	0		0	100	0		0	0	0		0	0	100			
PHF	.000	.000	.000	.000	.000	.625	.000	.625	.000	.000	.000	.000	.000	.000	.250	.250	.500	



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	1
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	5	0	5	0	0	0	0	0	0	1	1
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	0	100	100
PHF	.000	.000	.000	.000	.000	.625	.000	.625	.000	.000	.000	.000	.000	.000	.250	.250

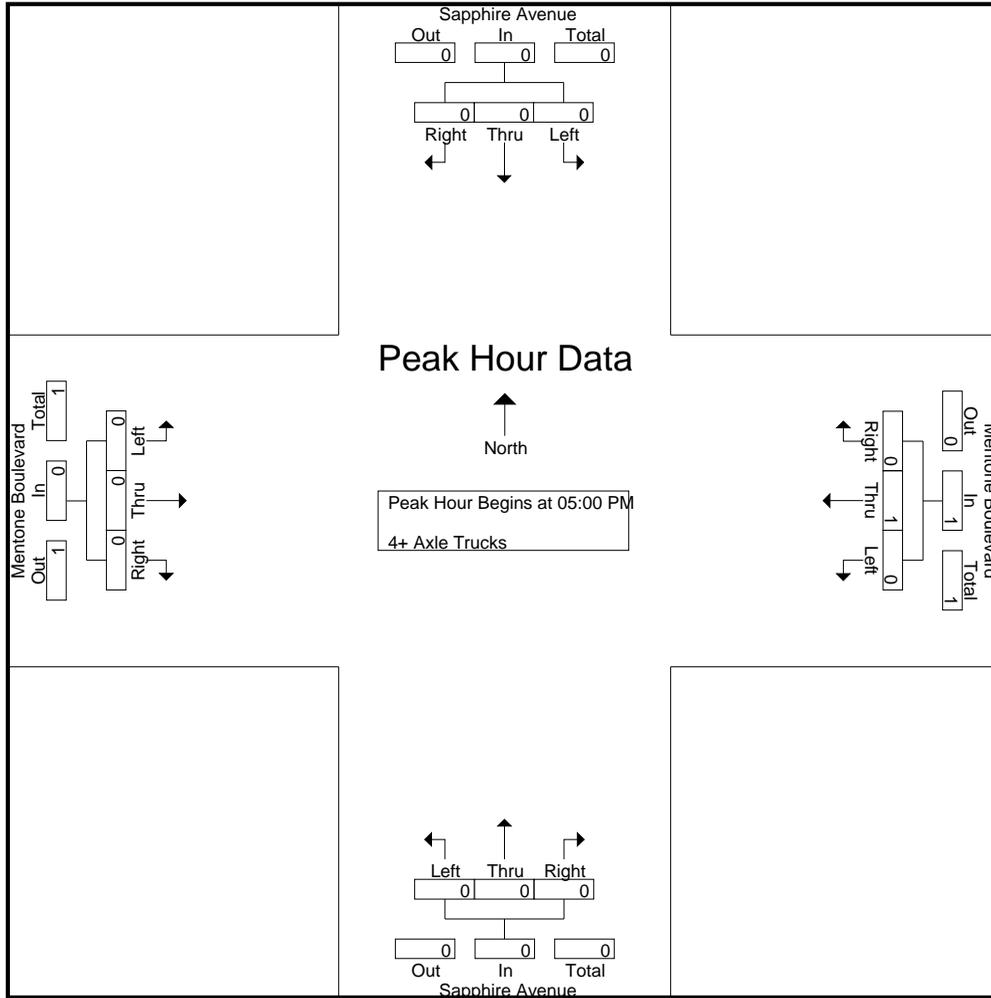
County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Mentone Boulevard
 Weather: Clear

File Name : CSBSAMEPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
Apprch %	0	0	0		0	100	0		0	0	0		0	0	0		
Total %	0	0	0		0	100	0	100	0	0	0		0	0	0		

Start Time	Sapphire Avenue Southbound				Mentone Boulevard Westbound				Sapphire Avenue Northbound				Mentone Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

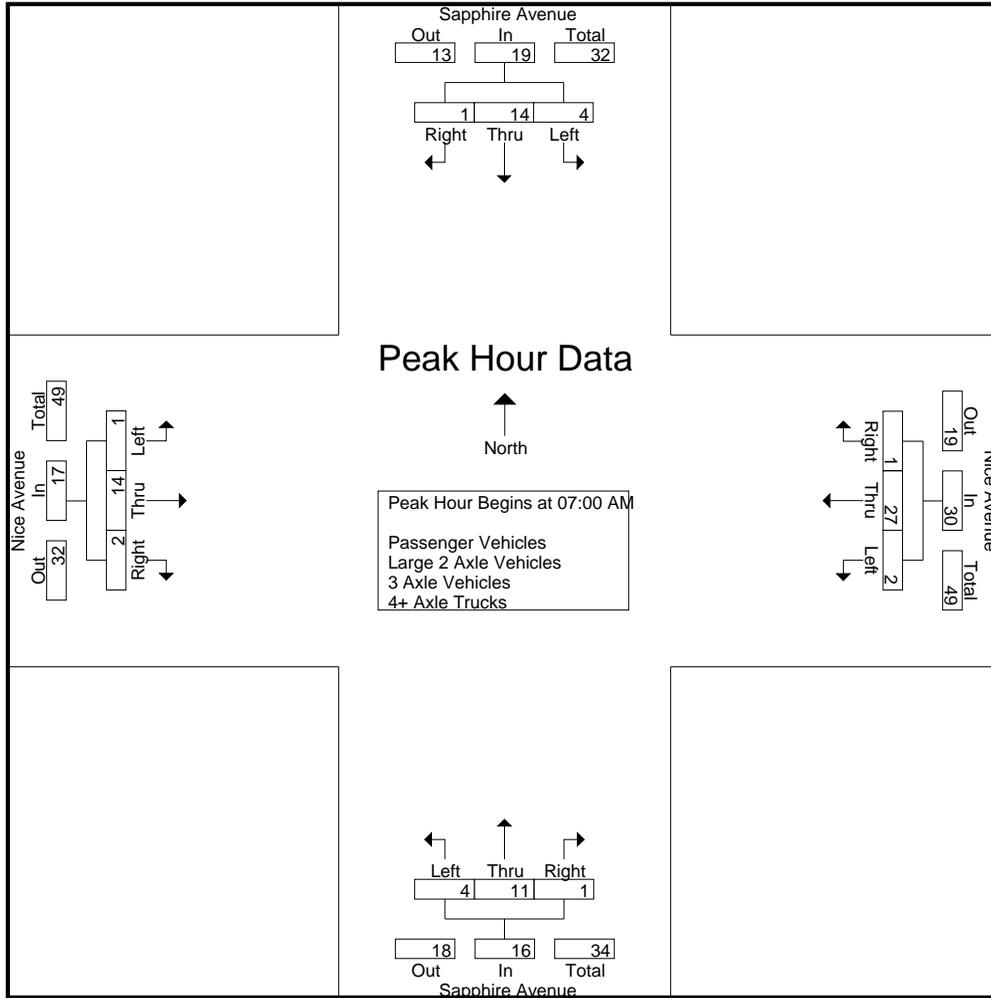
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	1	6	0	7	0	6	1	7	0	3	0	3	0	3	1	4	21
07:15 AM	0	4	1	5	0	8	0	8	2	4	1	7	0	6	0	6	26
07:30 AM	3	1	0	4	2	9	0	11	1	2	0	3	0	2	0	2	20
07:45 AM	0	3	0	3	0	4	0	4	1	2	0	3	1	3	1	5	15
Total	4	14	1	19	2	27	1	30	4	11	1	16	1	14	2	17	82
08:00 AM	0	1	0	1	1	6	1	8	2	2	0	4	0	4	0	4	17
08:15 AM	1	3	0	4	2	4	0	6	1	1	1	3	0	4	0	4	17
08:30 AM	1	4	0	5	2	3	0	5	0	2	0	2	0	1	0	1	13
08:45 AM	0	3	0	3	0	3	0	3	0	1	0	1	0	4	1	5	12
Total	2	11	0	13	5	16	1	22	3	6	1	10	0	13	1	14	59
Grand Total	6	25	1	32	7	43	2	52	7	17	2	26	1	27	3	31	141
Apprch %	18.8	78.1	3.1		13.5	82.7	3.8		26.9	65.4	7.7		3.2	87.1	9.7		
Total %	4.3	17.7	0.7	22.7	5	30.5	1.4	36.9	5	12.1	1.4	18.4	0.7	19.1	2.1	22	
Passenger Vehicles	6	25	1	32	6	42	2	50	7	17	1	25	1	26	3	30	137
% Passenger Vehicles	100	100	100	100	85.7	97.7	100	96.2	100	100	50	96.2	100	96.3	100	96.8	97.2
Large 2 Axle Vehicles	0	0	0	0	1	0	0	1	0	0	1	1	0	1	0	1	3
% Large 2 Axle Vehicles	0	0	0	0	14.3	0	0	1.9	0	0	50	3.8	0	3.7	0	3.2	2.1
3 Axle Vehicles	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
% 3 Axle Vehicles	0	0	0	0	0	2.3	0	1.9	0	0	0	0	0	0	0	0	0.7
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	6	0	7	0	6	1	7	0	3	0	3	0	3	1	4	21
07:15 AM	0	4	1	5	0	8	0	8	2	4	1	7	0	6	0	6	26
07:30 AM	3	1	0	4	2	9	0	11	1	2	0	3	0	2	0	2	20
07:45 AM	0	3	0	3	0	4	0	4	1	2	0	3	1	3	1	5	15
Total Volume	4	14	1	19	2	27	1	30	4	11	1	16	1	14	2	17	82
% App. Total	21.1	73.7	5.3		6.7	90	3.3		25	68.8	6.2		5.9	82.4	11.8		
PHF	.333	.583	.250	.679	.250	.750	.250	.682	.500	.688	.250	.571	.250	.583	.500	.708	.788

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:15 AM				07:15 AM				07:00 AM			
+0 mins.	1	6	0	7	0	8	0	8	2	4	1	7	0	3	1	4
+15 mins.	0	4	1	5	2	9	0	11	1	2	0	3	0	6	0	6
+30 mins.	3	1	0	4	0	4	0	4	1	2	0	3	0	2	0	2
+45 mins.	0	3	0	3	1	6	1	8	2	2	0	4	1	3	1	5
Total Volume	4	14	1	19	3	27	1	31	6	10	1	17	1	14	2	17
% App. Total	21.1	73.7	5.3		9.7	87.1	3.2		35.3	58.8	5.9		5.9	82.4	11.8	
PHF	.333	.583	.250	.679	.375	.750	.250	.705	.750	.625	.250	.607	.250	.583	.500	.708

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

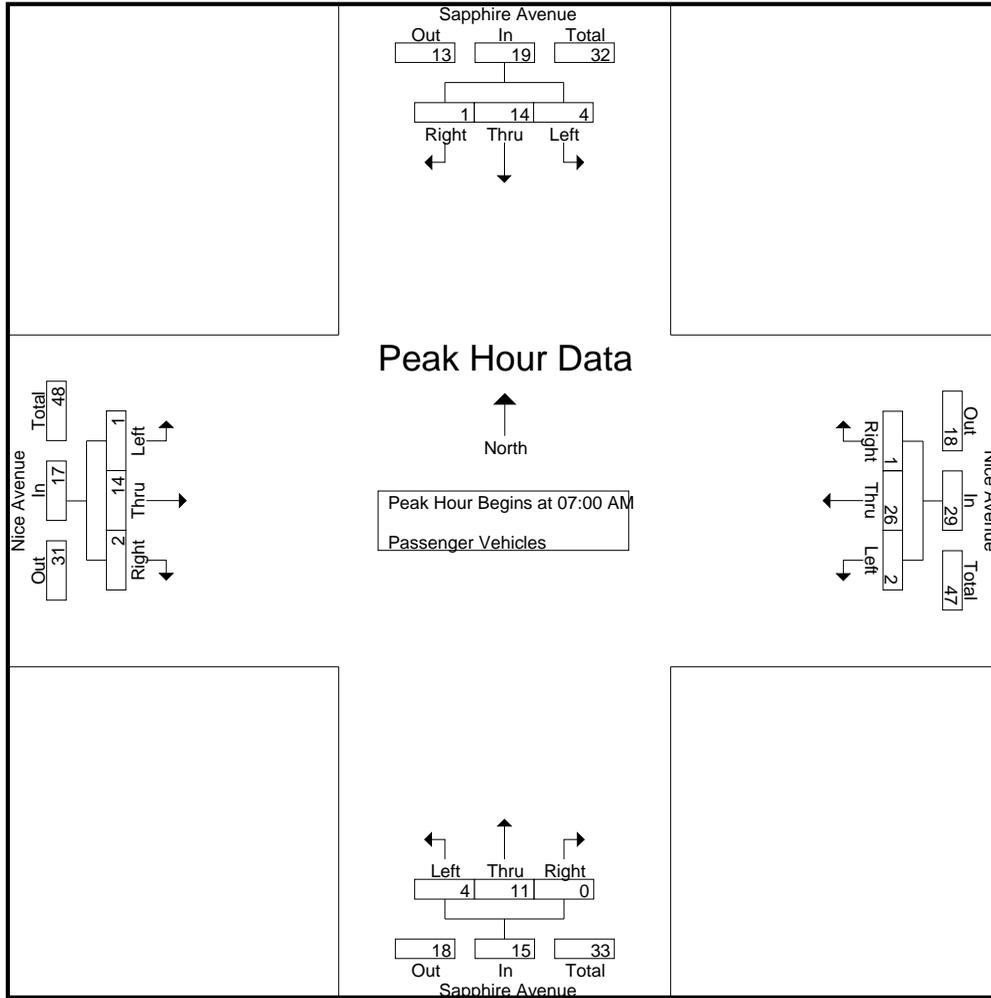
Groups Printed- Passenger Vehicles

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	1	6	0	7	0	6	1	7	0	3	0	3	0	3	1	4	21
07:15 AM	0	4	1	5	0	8	0	8	2	4	0	6	0	6	0	6	25
07:30 AM	3	1	0	4	2	8	0	10	1	2	0	3	0	2	0	2	19
07:45 AM	0	3	0	3	0	4	0	4	1	2	0	3	1	3	1	5	15
Total	4	14	1	19	2	26	1	29	4	11	0	15	1	14	2	17	80
08:00 AM	0	1	0	1	1	6	1	8	2	2	0	4	0	3	0	3	16
08:15 AM	1	3	0	4	2	4	0	6	1	1	1	3	0	4	0	4	17
08:30 AM	1	4	0	5	1	3	0	4	0	2	0	2	0	1	0	1	12
08:45 AM	0	3	0	3	0	3	0	3	0	1	0	1	0	4	1	5	12
Total	2	11	0	13	4	16	1	21	3	6	1	10	0	12	1	13	57
Grand Total	6	25	1	32	6	42	2	50	7	17	1	25	1	26	3	30	137
Apprch %	18.8	78.1	3.1		12	84	4		28	68	4		3.3	86.7	10		
Total %	4.4	18.2	0.7	23.4	4.4	30.7	1.5	36.5	5.1	12.4	0.7	18.2	0.7	19	2.2	21.9	

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	6	0	7	0	6	1	7	0	3	0	3	0	3	1	4	21
07:15 AM	0	4	1	5	0	8	0	8	2	4	0	6	0	6	0	6	25
07:30 AM	3	1	0	4	2	8	0	10	1	2	0	3	0	2	0	2	19
07:45 AM	0	3	0	3	0	4	0	4	1	2	0	3	1	3	1	5	15
Total Volume	4	14	1	19	2	26	1	29	4	11	0	15	1	14	2	17	80
% App. Total	21.1	73.7	5.3		6.9	89.7	3.4		26.7	73.3	0		5.9	82.4	11.8		
PHF	.333	.583	.250	.679	.250	.813	.250	.725	.500	.688	.000	.625	.250	.583	.500	.708	.800

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	1	6	0	7	0	6	1	7	0	3	0	3	0	3	1	4
+15 mins.	0	4	1	5	0	8	0	8	2	4	0	6	0	6	0	6
+30 mins.	3	1	0	4	2	8	0	10	1	2	0	3	0	2	0	2
+45 mins.	0	3	0	3	0	4	0	4	1	2	0	3	1	3	1	5
Total Volume	4	14	1	19	2	26	1	29	4	11	0	15	1	14	2	17
% App. Total	21.1	73.7	5.3		6.9	89.7	3.4		26.7	73.3	0		5.9	82.4	11.8	
PHF	.333	.583	.250	.679	.250	.813	.250	.725	.500	.688	.000	.625	.250	.583	.500	.708

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

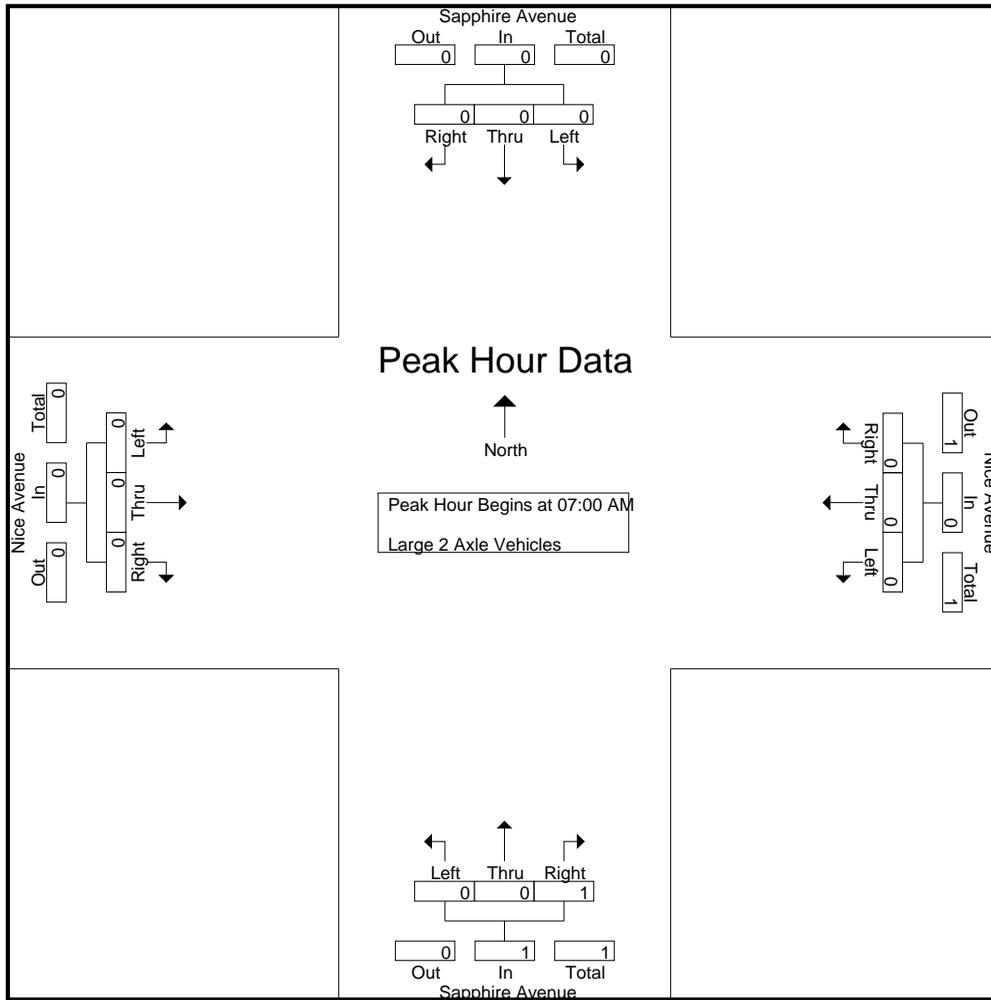
Groups Printed- Large 2 Axle Vehicles

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
Grand Total	0	0	0	0	1	0	0	1	0	0	1	1	0	1	0	1	3
Apprch %	0	0	0		100	0	0		0	0	100		0	100	0		
Total %	0	0	0	0	33.3	0	0	33.3	0	0	33.3	33.3	0	33.3	0	33.3	

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	0	100		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.250

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	100	100	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

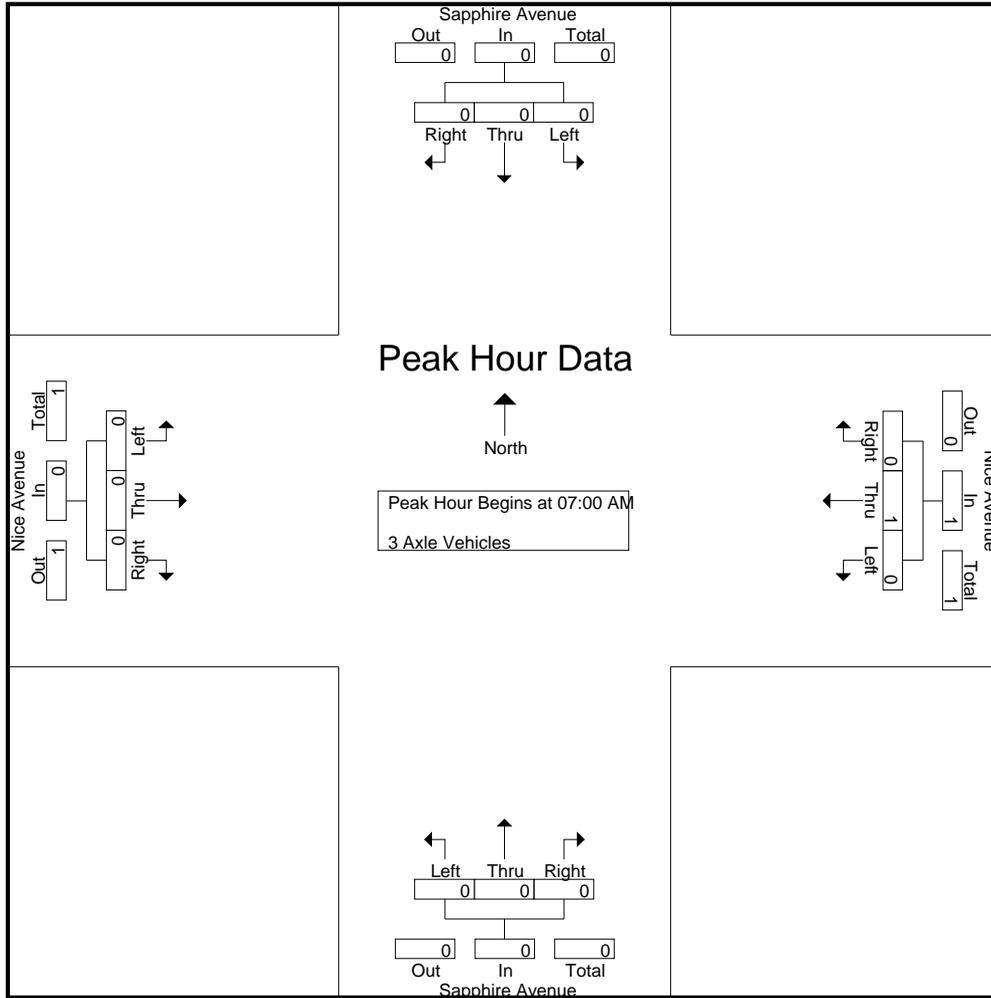
Groups Printed- 3 Axle Vehicles

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Apprch %	0	0	0		0	100	0		0	0	0		0	0	0		
Total %	0	0	0		0	100	0	100	0	0	0		0	0	0		

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

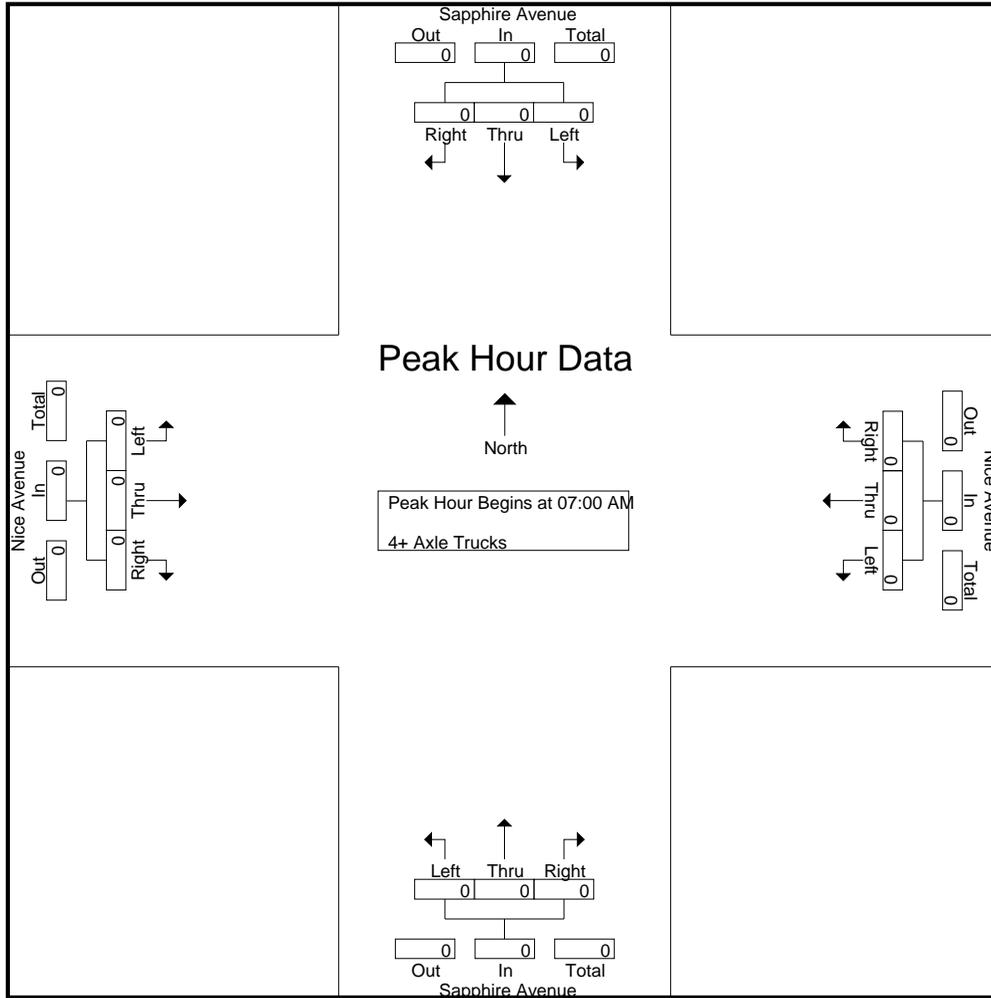
Groups Printed- 4+ Axle Trucks

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIAM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

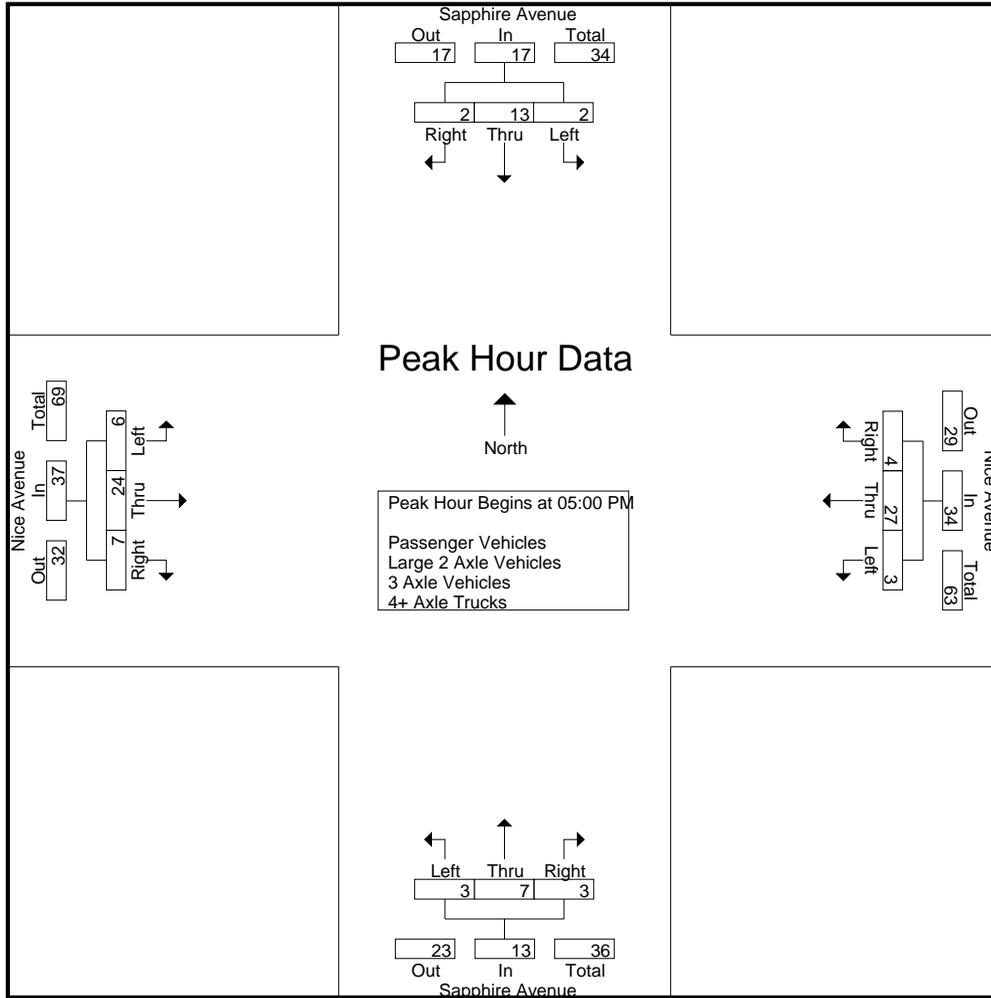
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	3	0	3	0	11	0	11	1	3	1	5	1	9	0	10	29
04:15 PM	0	4	1	5	1	7	0	8	1	3	1	5	0	4	1	5	23
04:30 PM	3	4	1	8	0	7	0	7	0	1	2	3	0	6	0	6	24
04:45 PM	0	2	0	2	1	5	0	6	2	3	1	6	0	7	1	8	22
Total	3	13	2	18	2	30	0	32	4	10	5	19	1	26	2	29	98
05:00 PM	0	2	0	2	1	5	2	8	1	1	1	3	3	7	2	12	25
05:15 PM	0	2	0	2	1	9	0	10	0	1	2	3	0	6	3	9	24
05:30 PM	1	4	0	5	1	6	1	8	0	1	0	1	2	6	1	9	23
05:45 PM	1	5	2	8	0	7	1	8	2	4	0	6	1	5	1	7	29
Total	2	13	2	17	3	27	4	34	3	7	3	13	6	24	7	37	101
Grand Total	5	26	4	35	5	57	4	66	7	17	8	32	7	50	9	66	199
Apprch %	14.3	74.3	11.4		7.6	86.4	6.1		21.9	53.1	25		10.6	75.8	13.6		
Total %	2.5	13.1	2	17.6	2.5	28.6	2	33.2	3.5	8.5	4	16.1	3.5	25.1	4.5	33.2	
Passenger Vehicles	5	25	4	34	5	57	4	66	7	16	8	31	7	49	9	65	196
% Passenger Vehicles	100	96.2	100	97.1	100	100	100	100	100	94.1	100	96.9	100	98	100	98.5	98.5
Large 2 Axle Vehicles	0	1	0	1	0	0	0	0	0	1	0	1	0	1	0	1	3
% Large 2 Axle Vehicles	0	3.8	0	2.9	0	0	0	0	0	5.9	0	3.1	0	2	0	1.5	1.5
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	2	0	2	1	5	2	8	1	1	1	3	3	7	2	12	25
05:15 PM	0	2	0	2	1	9	0	10	0	1	2	3	0	6	3	9	24
05:30 PM	1	4	0	5	1	6	1	8	0	1	0	1	2	6	1	9	23
05:45 PM	1	5	2	8	0	7	1	8	2	4	0	6	1	5	1	7	29
Total Volume	2	13	2	17	3	27	4	34	3	7	3	13	6	24	7	37	101
% App. Total	11.8	76.5	11.8		8.8	79.4	11.8		23.1	53.8	23.1		16.2	64.9	18.9		
PHF	.500	.650	.250	.531	.750	.750	.500	.850	.375	.438	.375	.542	.500	.857	.583	.771	.871

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				04:00 PM				04:45 PM			
+0 mins.	0	3	0	3	1	5	2	8	1	3	1	5	0	7	1	8
+15 mins.	0	4	1	5	1	9	0	10	1	3	1	5	3	7	2	12
+30 mins.	3	4	1	8	1	6	1	8	0	1	2	3	0	6	3	9
+45 mins.	0	2	0	2	0	7	1	8	2	3	1	6	2	6	1	9
Total Volume	3	13	2	18	3	27	4	34	4	10	5	19	5	26	7	38
% App. Total	16.7	72.2	11.1		8.8	79.4	11.8		21.1	52.6	26.3		13.2	68.4	18.4	
PHF	.250	.813	.500	.563	.750	.750	.500	.850	.500	.833	.625	.792	.417	.929	.583	.792

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

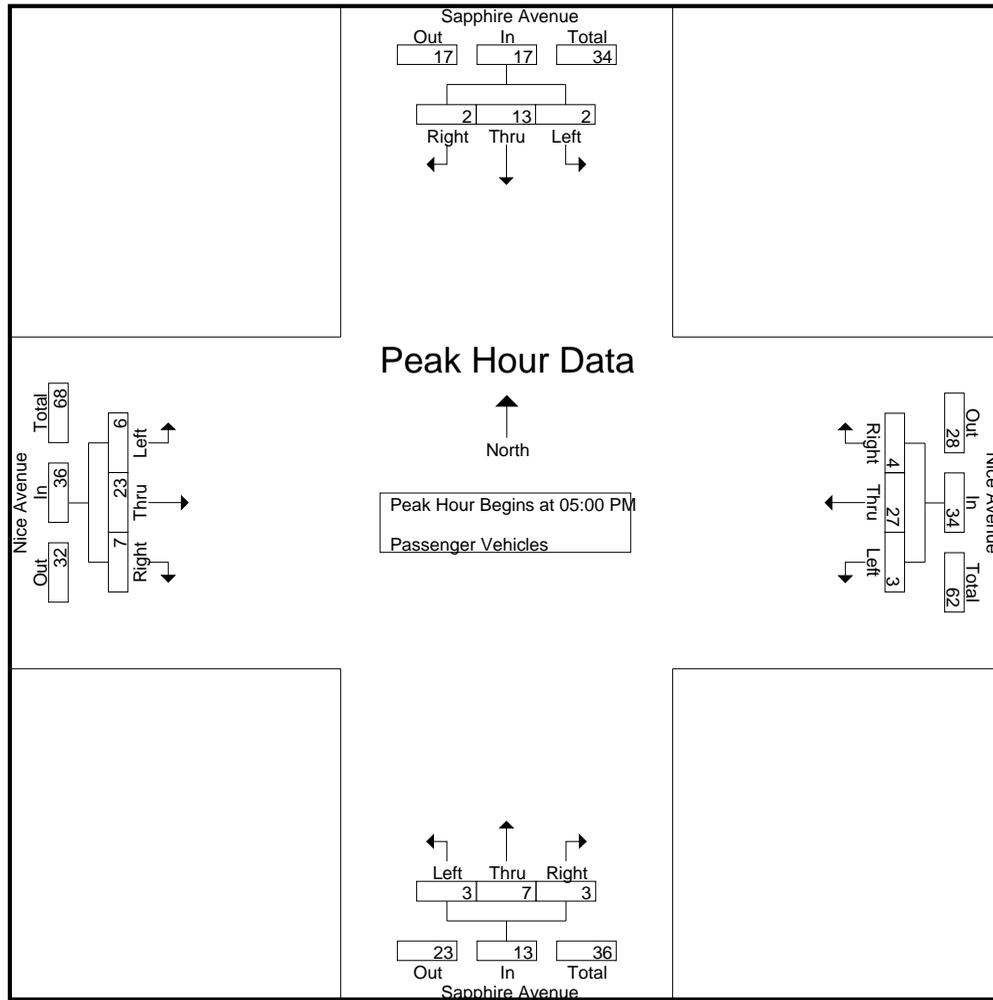
Groups Printed- Passenger Vehicles

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	3	0	3	0	11	0	11	1	3	1	5	1	9	0	10	29
04:15 PM	0	3	1	4	1	7	0	8	1	2	1	4	0	4	1	5	21
04:30 PM	3	4	1	8	0	7	0	7	0	1	2	3	0	6	0	6	24
04:45 PM	0	2	0	2	1	5	0	6	2	3	1	6	0	7	1	8	22
Total	3	12	2	17	2	30	0	32	4	9	5	18	1	26	2	29	96
05:00 PM	0	2	0	2	1	5	2	8	1	1	1	3	3	7	2	12	25
05:15 PM	0	2	0	2	1	9	0	10	0	1	2	3	0	5	3	8	23
05:30 PM	1	4	0	5	1	6	1	8	0	1	0	1	2	6	1	9	23
05:45 PM	1	5	2	8	0	7	1	8	2	4	0	6	1	5	1	7	29
Total	2	13	2	17	3	27	4	34	3	7	3	13	6	23	7	36	100
Grand Total	5	25	4	34	5	57	4	66	7	16	8	31	7	49	9	65	196
Apprch %	14.7	73.5	11.8		7.6	86.4	6.1		22.6	51.6	25.8		10.8	75.4	13.8		
Total %	2.6	12.8	2	17.3	2.6	29.1	2	33.7	3.6	8.2	4.1	15.8	3.6	25	4.6	33.2	

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	2	0	2	1	5	2	8	1	1	1	3	3	7	2	12	25
05:15 PM	0	2	0	2	1	9	0	10	0	1	2	3	0	5	3	8	23
05:30 PM	1	4	0	5	1	6	1	8	0	1	0	1	2	6	1	9	23
05:45 PM	1	5	2	8	0	7	1	8	2	4	0	6	1	5	1	7	29
Total Volume	2	13	2	17	3	27	4	34	3	7	3	13	6	23	7	36	100
% App. Total	11.8	76.5	11.8		8.8	79.4	11.8		23.1	53.8	23.1		16.7	63.9	19.4		
PHF	.500	.650	.250	.531	.750	.750	.500	.850	.375	.438	.375	.542	.500	.821	.583	.750	.862

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	2	0	2	1	5	2	8	1	1	1	3	3	7	2	12
+15 mins.	0	2	0	2	1	9	0	10	0	1	2	3	0	5	3	8
+30 mins.	1	4	0	5	1	6	1	8	0	1	0	1	2	6	1	9
+45 mins.	1	5	2	8	0	7	1	8	2	4	0	6	1	5	1	7
Total Volume	2	13	2	17	3	27	4	34	3	7	3	13	6	23	7	36
% App. Total	11.8	76.5	11.8		8.8	79.4	11.8		23.1	53.8	23.1		16.7	63.9	19.4	
PHF	.500	.650	.250	.531	.750	.750	.500	.850	.375	.438	.375	.542	.500	.821	.583	.750

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

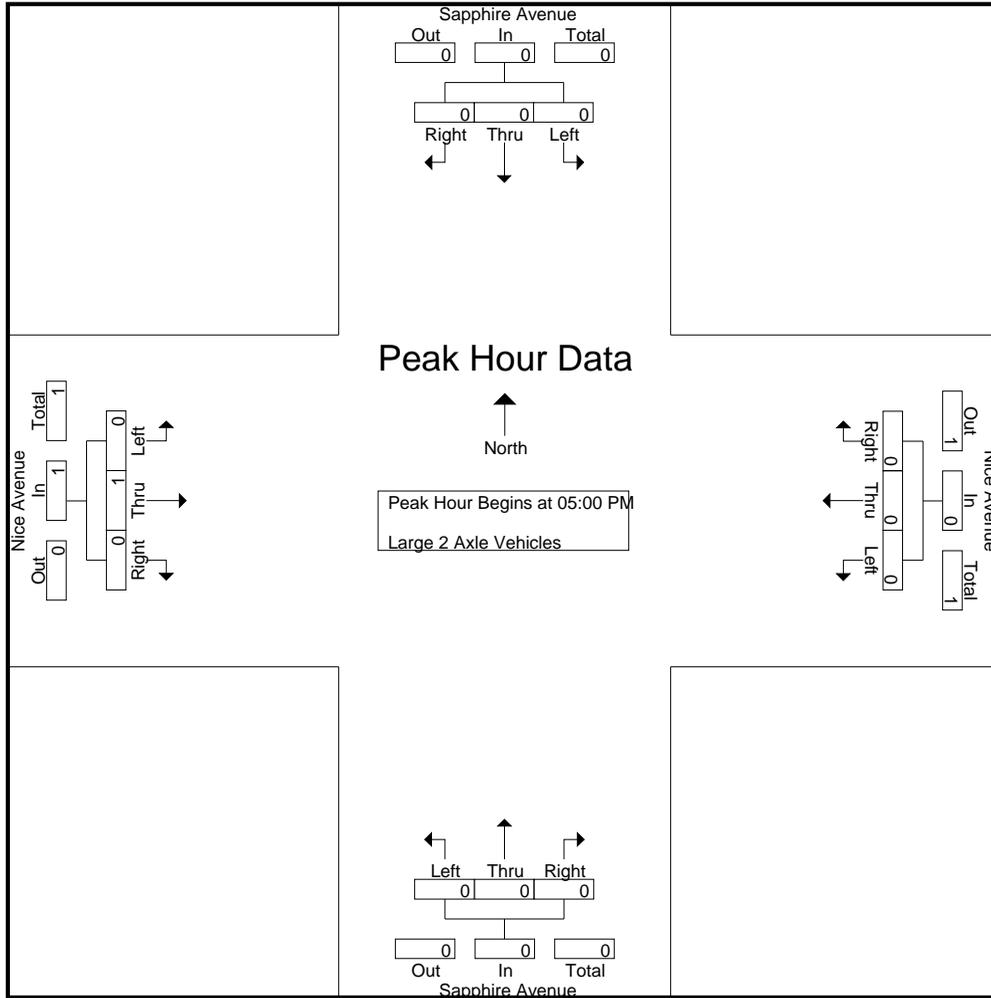
Groups Printed- Large 2 Axle Vehicles

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	0	1	0	1	0	0	0	0	0	1	0	1	0	1	0	1	3
Apprch %	0	100	0		0	0	0		0	100	0		0	100	0		
Total %	0	33.3	0	33.3	0	0	0	0	0	33.3	0	33.3	0	33.3	0	33.3	

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

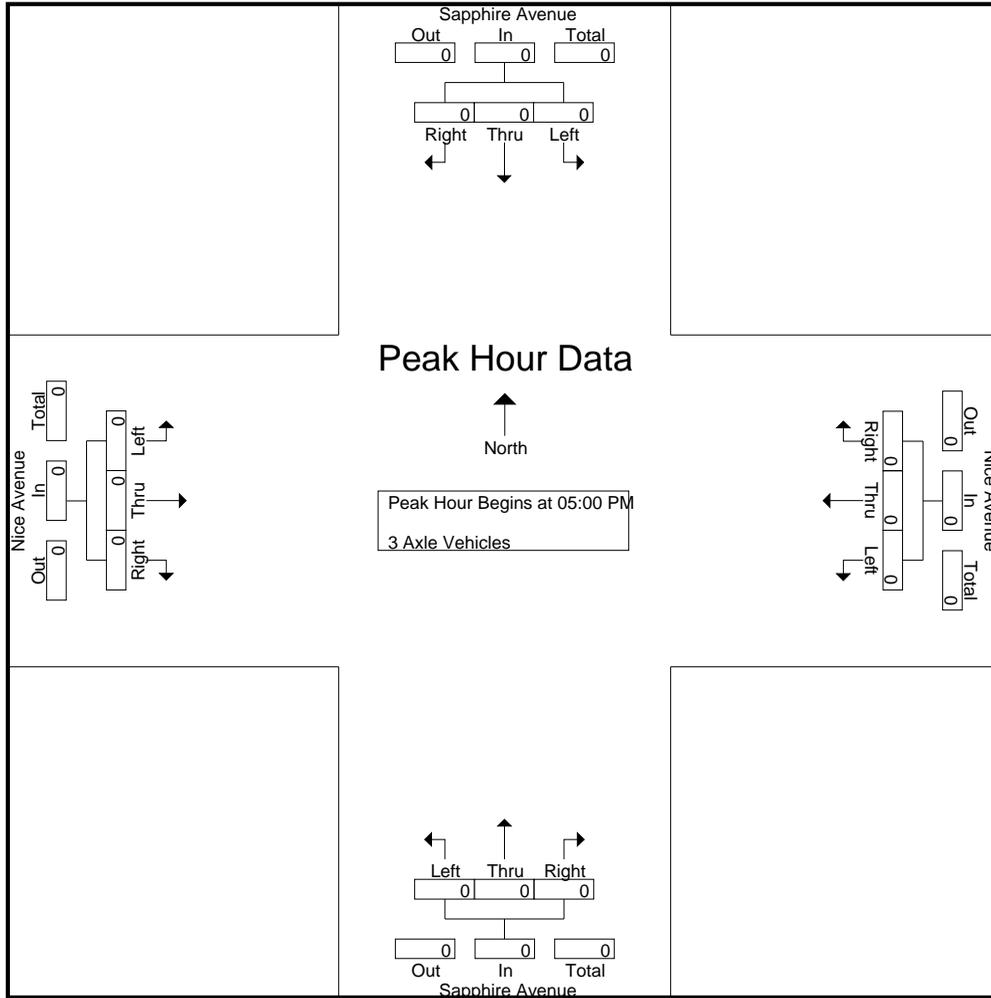
Groups Printed- 3 Axle Vehicles

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 1

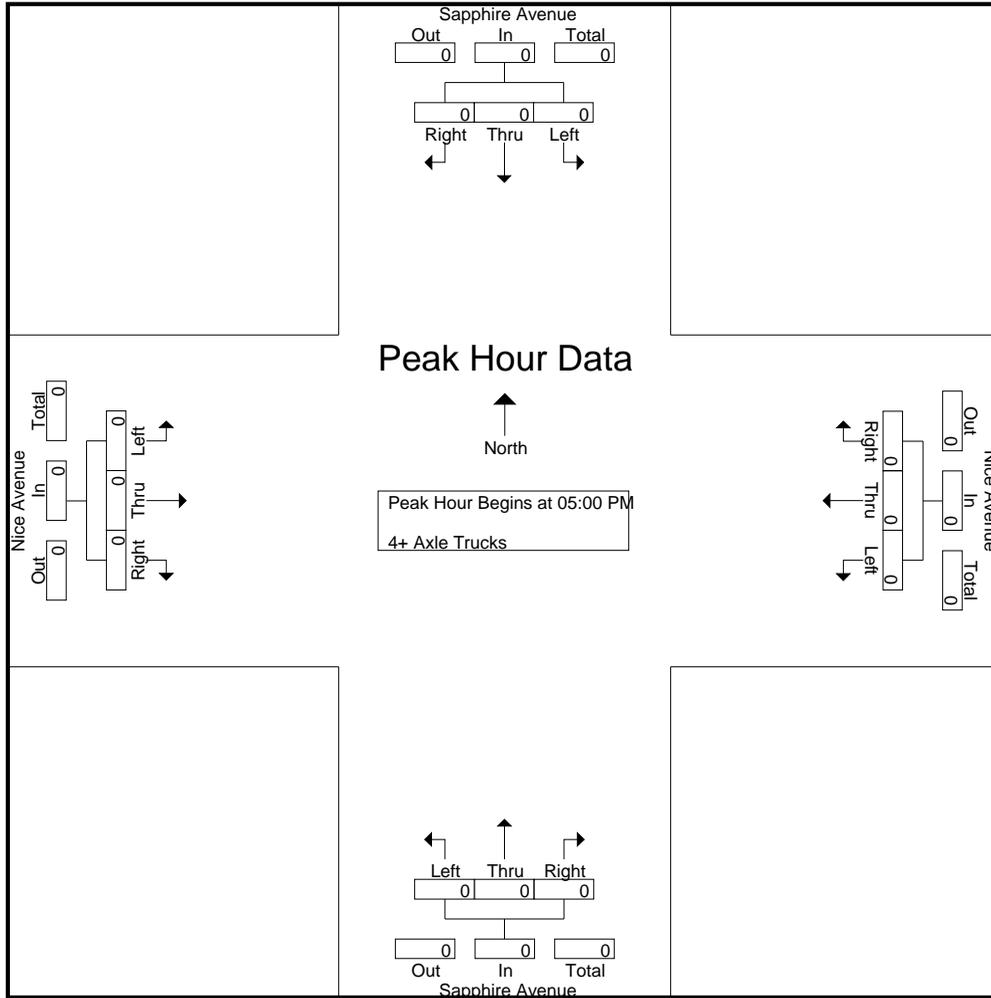
Groups Printed- 4+ Axle Trucks

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

Start Time	Sapphire Avenue Southbound				Nice Avenue Westbound				Sapphire Avenue Northbound				Nice Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of San Bernardino
 N/S: Sapphire Avenue
 E/W: Nice Avenue
 Weather: Clear

File Name : CSBSANIPM
 Site Code : 07516132
 Start Date : 3/1/2016
 Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

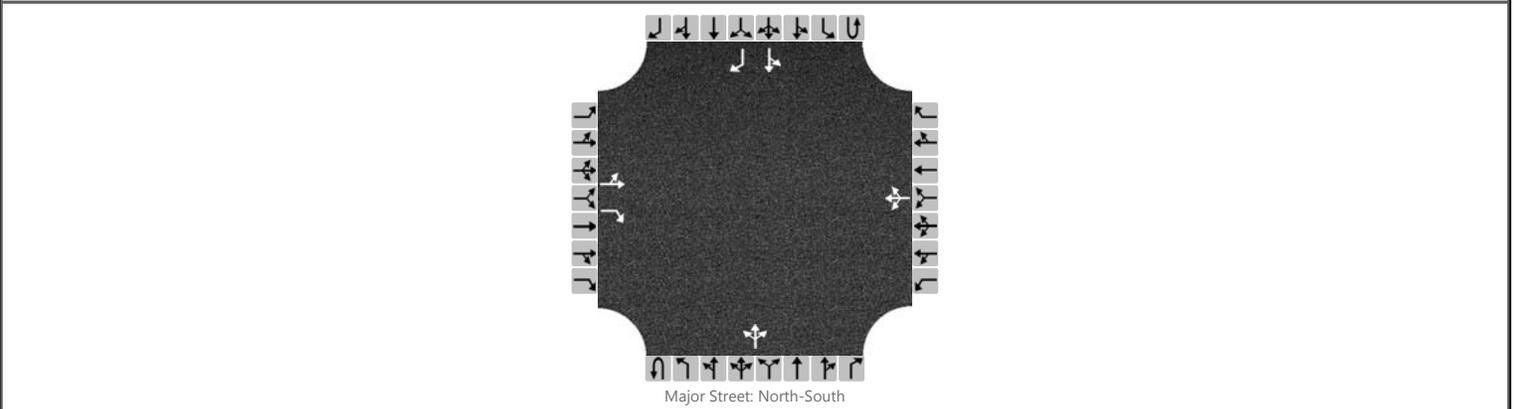
APPENDIX D

**Existing Intersection Delay and
Level of Service Worksheets**

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#1 - Crafton/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing	East/West Street	Nice Avenue
Analysis Year	2016	North/South Street	Crafton Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	0		0	1	0		0	1	1
Configuration		LT		R			LTR				LTR			LT		R
Volume (veh/h)		13	9	7		33	9	39		8	225	15		16	228	16
Percent Heavy Vehicles		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

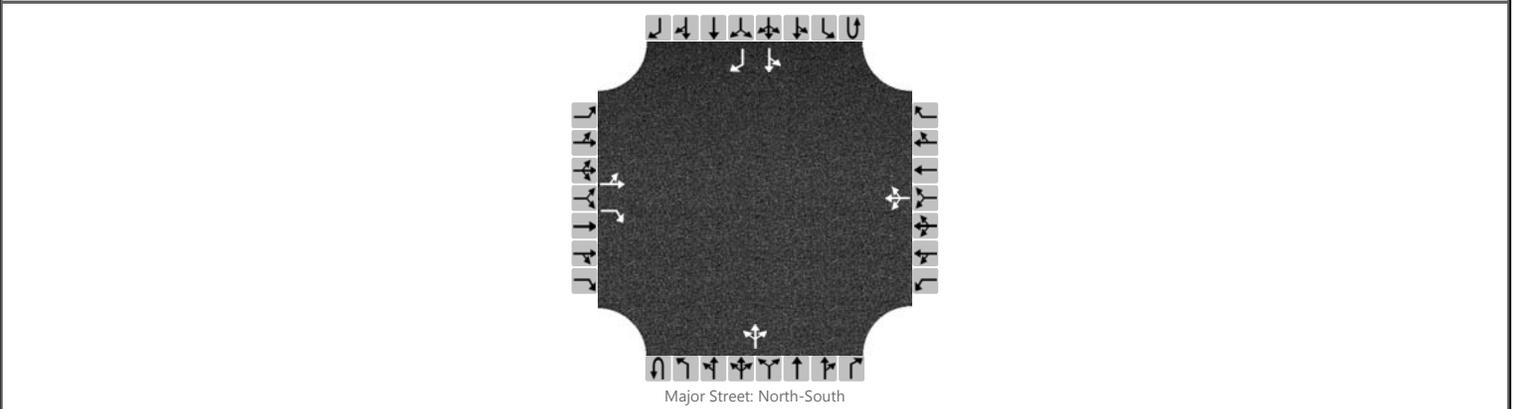
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		24		8			88			9				17		
Capacity		407		796			544			1311				1315		
v/c Ratio		0.06		0.01			0.16			0.01				0.01		
95% Queue Length		0.2		0.0			0.6			0.0				0.0		
Control Delay (s/veh)		14.4		9.6			12.9			7.8				7.8		
Level of Service (LOS)		B		A			B			A				A		
Approach Delay (s/veh)	13.2				12.9				0.3				0.6			
Approach LOS	B				B											

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#1 - Crafton/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing	East/West Street	Nice Avenue
Analysis Year	2016	North/South Street	Crafton Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.90
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	0	0	0	1	0	0	0	1	1
Configuration		LT		R			LTR				LTR			LT		R
Volume (veh/h)		17	24	20		17	13	21		11	234	32		29	229	9
Percent Heavy Vehicles		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

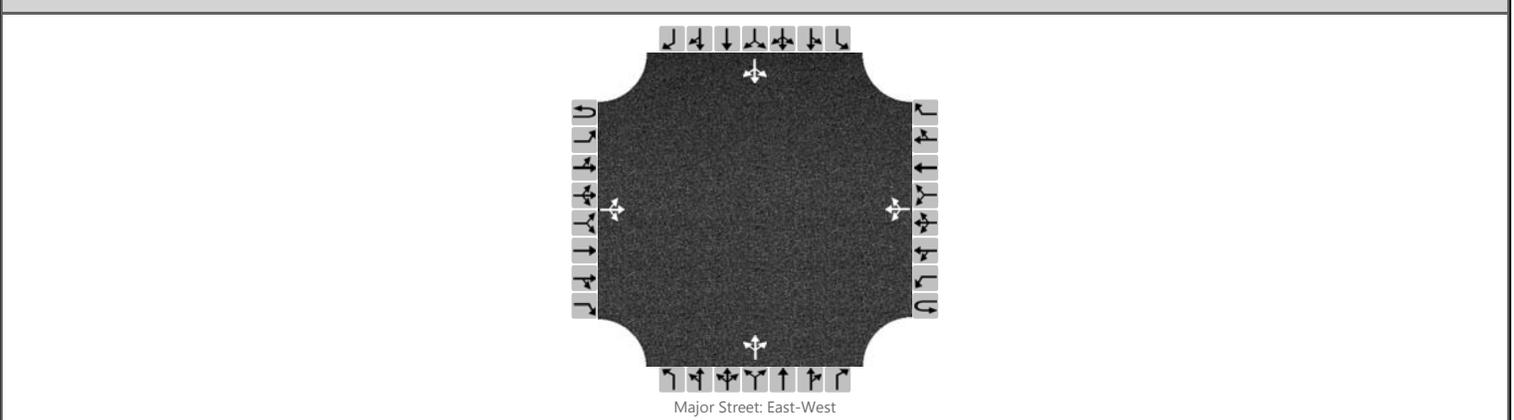
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		46		22			56			12				32		
Capacity		372		790			464			1312				1277		
v/c Ratio		0.12		0.03			0.12			0.01				0.03		
95% Queue Length		0.4		0.1			0.4			0.0				0.1		
Control Delay (s/veh)		16.0		9.7			13.8			7.8				7.9		
Level of Service (LOS)		C		A			B			A				A		
Approach Delay (s/veh)	14.0				13.8				0.4				1.1			
Approach LOS	B				B											

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#2 - Sapphire/Mentone
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing	East/West Street	Mentone Boulevard (SR-38)
Analysis Year	2016	North/South Street	Sapphire Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.89
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	256	8		6	602	0		4	0	8		2	1	8
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

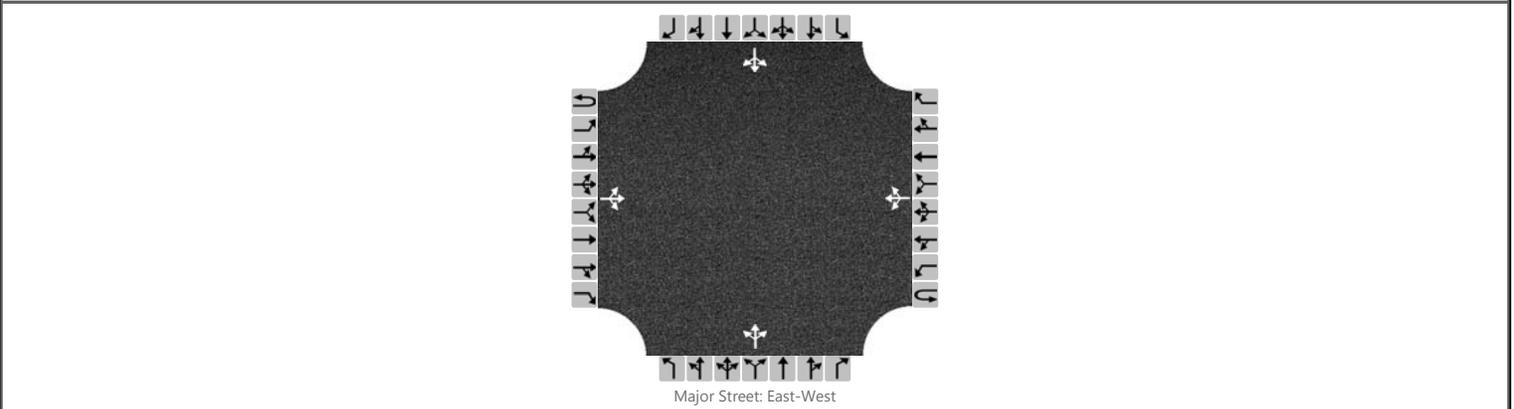
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		4				7					13				12		
Capacity		925				1276					429				365		
v/c Ratio		0.00				0.01					0.03				0.03		
95% Queue Length		0.0				0.0					0.1				0.1		
Control Delay (s/veh)		8.9				7.8					13.7				15.2		
Level of Service (LOS)		A				A					B				C		
Approach Delay (s/veh)		0.2				0.1				13.7				15.2			
Approach LOS										B				C			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#2 - Sapphire/Mentone
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing	East/West Street	Mentone Boulevard (SR-38)
Analysis Year	2016	North/South Street	Sapphire Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.91
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		6	484	17		7	341	4		4	1	13		0	0	12
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

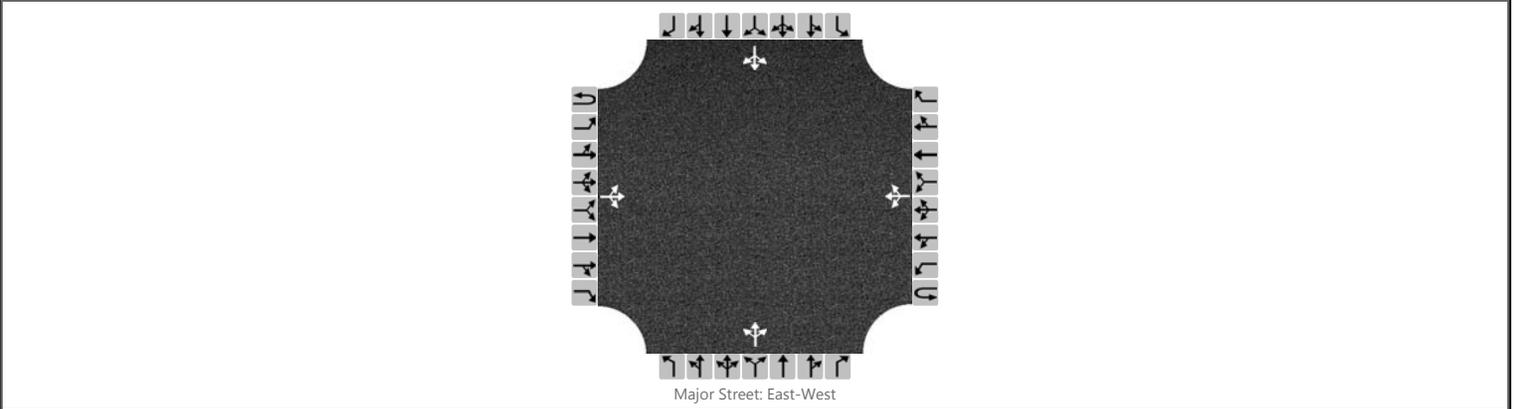
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		7				8					19				13	
Capacity		1191				1029					406				674	
v/c Ratio		0.01				0.01					0.05				0.02	
95% Queue Length		0.0				0.0					0.1				0.1	
Control Delay (s/veh)		8.0				8.5					14.3				10.4	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	0.2				0.3				14.3				10.4			
Approach LOS									B				B			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#3 - Sapphire/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing	East/West Street	Nice Avenue
Analysis Year	2016	North/South Street	Sapphire Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.79
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12	
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	14	2		2	28	1		4	11	2		4	14	1
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

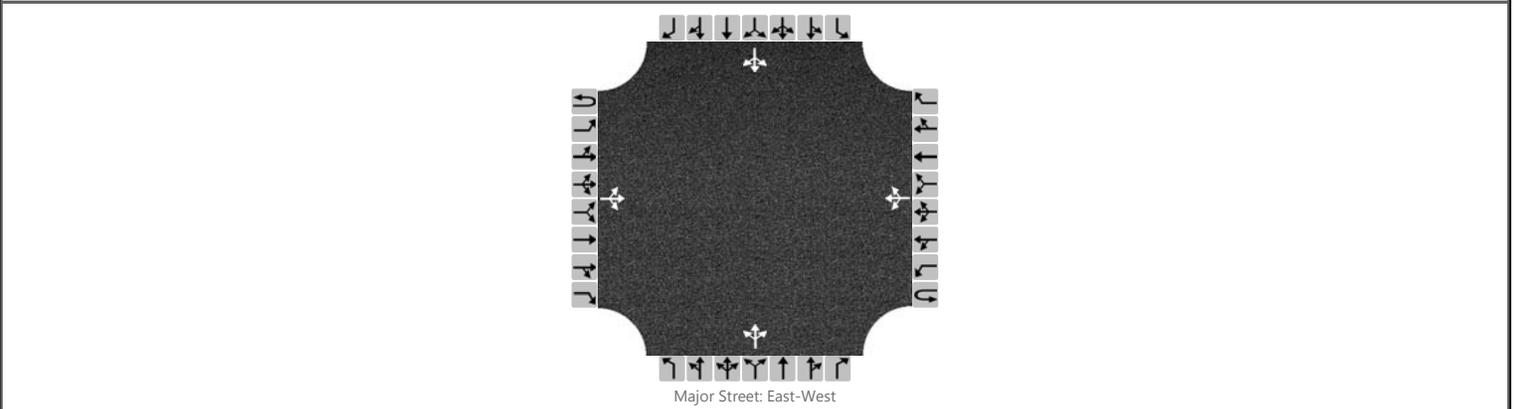
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		1				3					22				24	
Capacity		1588				1608					872				851	
v/c Ratio		0.00				0.00					0.03				0.03	
95% Queue Length		0.0				0.0					0.1				0.1	
Control Delay (s/veh)		7.3				7.2					9.2				9.4	
Level of Service (LOS)		A				A					A				A	
Approach Delay (s/veh)	0.3				0.6				9.2				9.4			
Approach LOS	A				A				A				A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#3 - Sapphire/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing	East/West Street	Nice Avenue
Analysis Year	2016	North/South Street	Sapphire Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.87
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		6	25	7		3	27	4		3	7	3		2	13	2
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		7				3					14				19	
Capacity		1588				1587					859				828	
v/c Ratio		0.00				0.00					0.02				0.02	
95% Queue Length		0.0				0.0					0.0				0.1	
Control Delay (s/veh)		7.3				7.3					9.3				9.5	
Level of Service (LOS)		A				A					A				A	
Approach Delay (s/veh)	1.2				0.6				9.3				9.5			
Approach LOS	A				A				A				A			

APPENDIX E

Other Development Information

Table E-1

Other Development Trip Generation

ID	Project Name	Land Use	Quantity	Units ²	Trips Generated ¹						
					Morning Peak Hour			Evening Peak Hour			Daily
					In	Out	Total	In	Out	Total	
1	MA3980 (TTM18600)	Single-Family Detached Residential	32	DU	6	18	24	20	12	32	305
2	Walden Residential	Single-Family Detached Residential	131	DU	25	73	98	83	48	131	1,247
		Existing Building Driveway Counts	34	TSF	9	2	11	2	5	7	18
		Subtotal			16	71	87	81	43	124	1,229
3	Redlands Crossing	Free-Standing Discount Superstore	215.000	TSF	183	140	323	437	456	894	10,281
		Specialty Retail	25.700	TSF	75	82	158	28	36	64	1,025
		High-Turnover (Sit-Down) Restaurant	9.000	TSF	49	45	94	31	21	53	587
		Fast-Food Rest. Without Drive Through	12.300	TSF	297	189	486	84	81	165	4,518
		Fast-Food Rest. With Drive Through	10.500	TSF	124	114	238	84	77	161	2,344
		Gas Station With Conv. Market & Car Wash	12.000	FP	26	23	49	34	32	66	726
		Subtotal			754	593	1,348	698	703	1,403	19,481
Total					776	682	1,459	799	758	1,559	21,015

¹ Sources:

[1] Traffic Contribution Analysis for Tentative Tract Map No. 18600, Kunzman Associates, February 25, 2008.

[2] Walden Structures Residential Project, LSA Associates, November 19, 2014.

[3] Redlands Crossing Traffic Impact Analysis (Revised), Urban Crossroads, November 2, 2011.

² DU = Dwelling Units; TSF = Thousand Square Feet; FP= Fueling Position

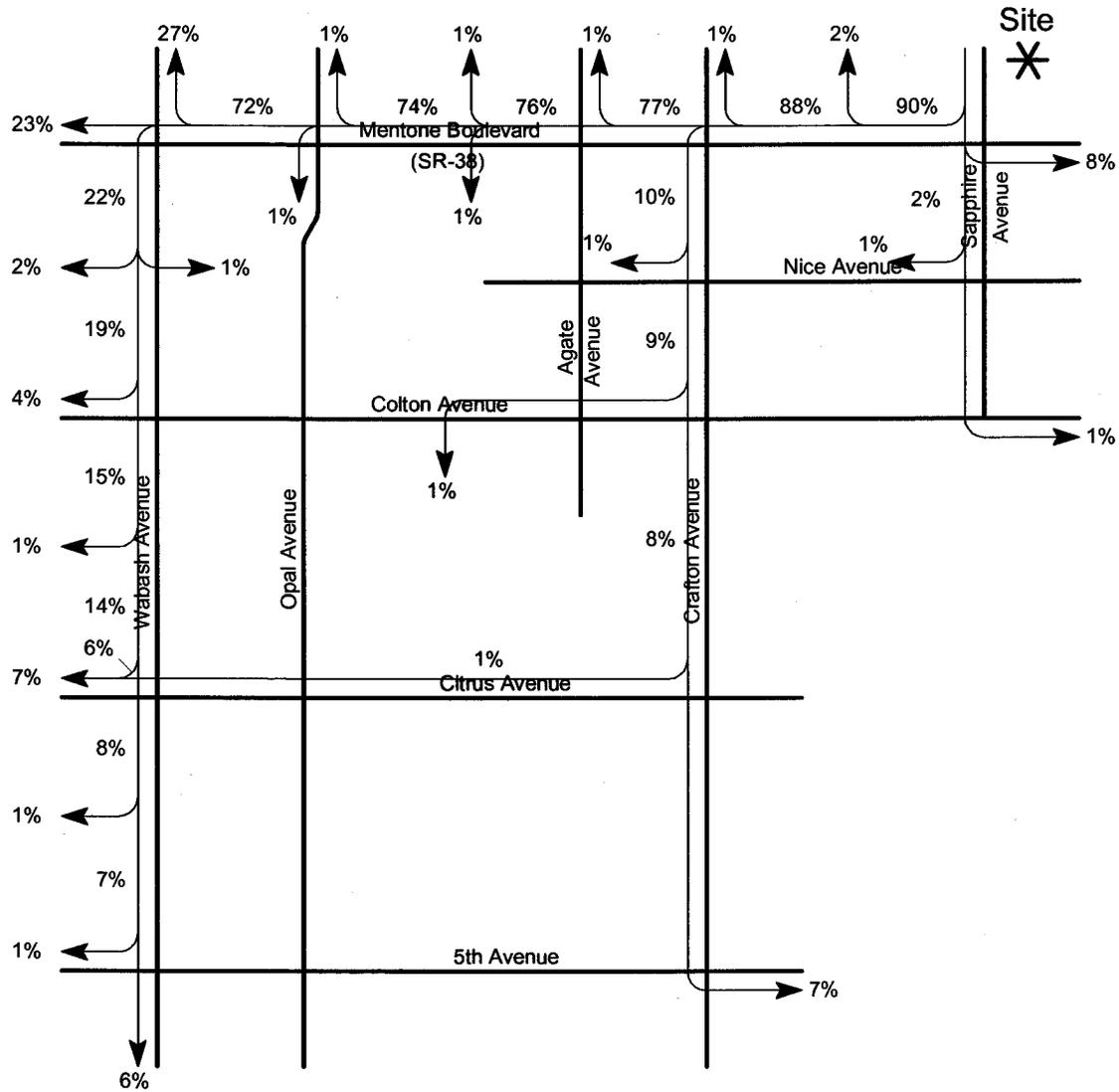
Table 1
Project Traffic Generation¹

Time Period	Trips Generated per DU ²	Trips Generated by 32 DU
Morning Peak Hour		
Inbound	0.19	6
Outbound	0.56	18
Total	0.75	24
Evening Peak Hour		
Inbound	0.64	20
Outbound	0.37	12
Total	1.01	32
Daily	9.57	306

¹ Source: Institute of Transportation Engineers, Trip Generation, 7th Edition, 2003, Land Use Category 210.

² DU = Dwelling Units

Figure 3
Project Traffic Distribution



Legend

10% = Percent To/From Project



TRAFFIC STUDY

WALDEN STRUCTURES RESIDENTIAL PROJECT
SAN BERNARDINO COUNTY, CALIFORNIA

This traffic study has been prepared under the supervision of
Leslie E. Card, P.E.

Signed Leslie E. Card

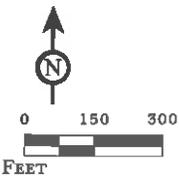


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November 19, 2014



LSA



- Project Location
- Study Area Intersections**
- Existing Intersection
- Existing Driveway
- Future Intersection

FIGURE 3

*Walden Structures
Single-Family Homes
Traffic Study*
Study Area Intersections

Table A - Cumulative Project Trip Generation

Proj. No.	Land Use	Units	A.M. Peak Hour			P.M. Peak Hour			Daily
			In	Out	Total	In	Out	Total	
1	Stater Brothers Shopping Center								
	Shopping Center ¹	45.3 TSF							
		Trips/Unit	0.60	0.36	0.96	1.78	1.93	3.71	42.70
		Trip Generation	27	17	44	81	87	168	1,933
		Pass By Trips ²	0	0	0	(29)	(29)	(57)	(57)
		Net Trip Generation	27	17	44	52	58	111	1,876
		Shopping Center ¹	12.0 TSF						
		Trips/Unit	0.60	0.36	0.96	1.78	1.93	3.71	42.70
		Trip Generation	7	4	11	21	23	44	511
		Pass By Trips ²	0	0	0	(7)	(7)	(15)	(15)
		Net Trip Generation	7	4	11	14	16	29	496
		Pharmacy/Drugstore with Drive-Through Window ³	14.6 TSF						
		Trips/Unit	1.79	1.66	3.45	4.96	4.96	9.91	96.91
		Trip Generation	26	24	50	72	72	144	1,413
		Pass By Trips ⁴	0	0	0	(35)	(35)	(71)	(71)
		Net Trip Generation	26	24	50	37	37	73	1,342
		Fast-Food With Drive Through Window ⁵	5.2 TSF						
	Trips/Unit	23.16	22.26	45.42	16.98	15.67	32.65	496.12	
	Trip Generation	120	115	235	88	81	169	2,563	
	Pass By Trips ⁶	(58)	(58)	(115)	(42)	(42)	(85)	(85)	
	Net Trip Generation	62	57	120	46	39	85	2,478	
	Project 1 Total Net Trip Generation		122	102	225	148	149	298	6193
2	Redlands Crossing								
	Free-Standing Discount Superstore ⁷	215.0 TSF							
		Trips/Unit	0.94	0.73	1.67	-	-	-	-
		Trip Generation	201	158	359	-	-	-	-
		Internal Trips (10%)	(18)	(18)	(36)	-	-	-	-
		Net Trip Generation	183	140	323	-	-	-	-
		Specialty Retail ⁸	25.7 TSF						
		Trips/Unit	3.28	3.56	6.84	-	-	-	-
		Trip Generation	84	91	175	-	-	-	-
		Internal Trips (10%)	(9)	(9)	(18)	-	-	-	-
		Net Trip Generation	75	82	158	-	-	-	-
		High-Turnover Sit-Down Restaurant ⁹	9.0 TSF						
		Trips/Unit	5.99	5.53	11.52	-	-	-	-
		Trip Generation	54	50	104	-	-	-	-
		Internal Trips (10%)	(5)	(5)	(10)	-	-	-	-
		Net Trip Generation	49	45	94	-	-	-	-
		Fast-Food Without Drive Through ¹⁰	12.3 TSF						
	Trips/Unit	26.32	17.55	43.87	-	-	-	-	
	Trip Generation	324	216	540	-	-	-	-	
	Internal Trips (10%)	(27)	(27)	(54)	-	-	-	-	
	Net Trip Generation	297	189	486	-	-	-	-	

Table A - Cumulative Project Trip Generation

Proj. No.	Land Use	Units	A.M. Peak Hour			P.M. Peak Hour			Daily
			In	Out	Total	In	Out	Total	
	Fast-Food With Drive Through ¹¹	10.5 TSF							
	Trips/Unit		25.17	24.18	49.35	-	-	-	-
	Trip Generation		264	254	518	-	-	-	-
	Internal Trips (10%)		(26)	(26)	(52)	-	-	-	-
	Pass-By Trips		(114)	(114)	(228)	-	-	-	-
	Net Trip Generation		124	114	238	-	-	-	-
	Gas Service Station W/ Market & Car Wash ¹²	12.0 VFP							
	Trips/Unit		6.08	5.85	11.93	-	-	-	-
	Trip Generation		73	70	143	-	-	-	-
	Internal Trips (10%)		(7)	(7)	(14)	-	-	-	-
	Pass-By Trips		(40)	(40)	(80)	-	-	-	-
	Net Trip Generation		26	23	49	-	-	-	-
	Project 2 Total Net Trip Generation¹³		754	593	1,347	698	703	1402	19481
3	Single-Family Homes ¹⁴	32.0 DU							
	Trips/Unit		0.19	0.56	0.75	0.63	0.37	1.00	9.52
	Project 3 Total Trip Generation		6	18	24	20	12	32	305
	Total Net Trip Generation		882	713	1,596	866	864	1,732	25,978

Notes: TSF = thousand square feet, DU=Dwelling Units, VFP=Vehicle Fueling Positions

1 Rates based on Land Use 820 - "Shopping Center" from ITE Trip Generation, 9th Edition.

2 Pass-by rates based on rates for Land Use 820 - "Shopping Center" from ITE Trip Generation Handbook. Because there are no data available on a.m. and daily pass-by trips, no reductions have been taken for the a.m. trips, and only the p.m. peak hour pass-by trips have been subtracted from the daily trip generation.

3 Rates based on Land Use 881 - "Pharmacy/Drugstore With Drive Through" from ITE Trip Generation, 9th Edition.

4 Pass-by rates based on rates for Land Use 881 - "Pharmacy/Drugstore With Drive Through" from ITE Trip Generation Handbook. Because there are no data available on a.m. and daily pass-by trips, no reductions have been taken for the a.m. trips, and only the p.m. peak hour pass-by trips have been subtracted from the daily trip generation.

5 Rates based on Land Use 934 - "Fast-Food With Drive Through" from ITE Trip Generation, 9th Edition.

6 Pass-by rates based on rates for Land Use 934 - "Pharmacy/Drugstore With Drive Through" from ITE Trip Generation Handbook. Because there are no data available on daily pass-by trips, no reductions have been taken for the the a.m. and p.m. peak hour pass-by trips have been subtracted from the daily trip generation.

7 Since there is no data available for the a.m.peak hour for the Redlands Crossing TIA by Urban Crossroads (November 2011), the a.m. peak hour is based on rates for Land Use 813 - "Free-Standing Discount Superstore" from ITE Trip Generation, 8th Edition. Internal trip percentage is from the Redlands Crossing TIA.

8 Since there is no data available for the a.m.peak hour for the Redlands Crossing TIA by Urban Crossroads (November 2011), the a.m. peak hour is based on rates for Land Use 814 - "Specialty Retail Center" from ITE Trip Generation, 8th Edition. Internal Trip percentage is from the Redlands Crossing TIA.

9 Since there is no data available for the a.m.peak hour for the Redlands Crossing TIA by Urban Crossroads (November 2011), the a.m. peak hour is based on rates for Land Use 932 - "High-Turnover (Sit-Down) Restaurant" from ITE Trip Generation, 8th Edition. Internal Trip percentage is from the Redlands Crossing TIA.

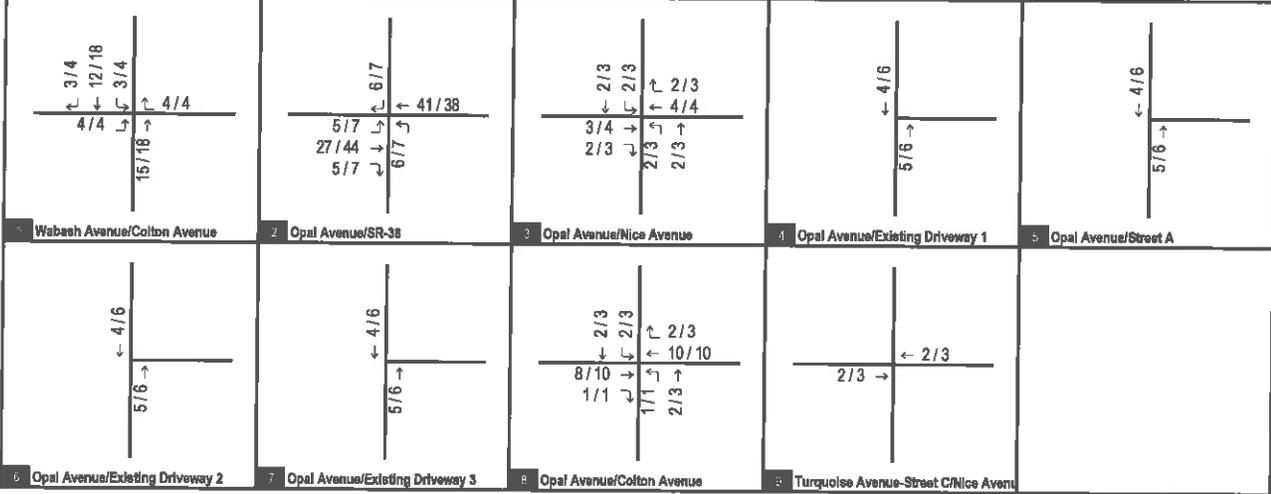
10 Since there is no data available for the a.m.peak hour for the Redlands Crossing TIA by Urban Crossroads (November 2011), the a.m. peak hour is based on rates for Land Use 933 - "Fast-Food Without Drive Through from ITE Trip Generation, 8th Edition. Internal Trip percentage is from the Redlands Crossing TIA.

11 Since there is no data available for the a.m.peak hour for the Redlands Crossing TIA by Urban Crossroads (November 2011), the a.m. peak hour is based on rates for Land Use 934 - "Fast-Food With Drive Through from ITE Trip Generation, 8th Edition. Internal trip percentage is from the Redlands Crossing TIA.

12 Since there is no data available for the a.m.peak hour for the Redlands Crossing TIA by Urban Crossroads (November 2011), the a.m. peak hour is based on rates for Land Use 946 - "Gasoline/Service Station with Convenience Market and Car Wash" from ITE Trip Generation, 8th Edition. Internal trip percentage is from the Redlands Crossing TIA.

13 The p.m. peak hour and daily net trip generation are based on the Redlands Crossing TIA by Urban Crossroads (November 2011).

14 Rates based on Land Use 210 - "Single-Family Detached Housing" from ITE Trip Generation, 9th Edition.



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FIGURE 5

XXX / YYY AM / PM Peak Hour Traffic Volumes

Walden Structures Single-Family Homes
Cumulative Projects Trip Assignment

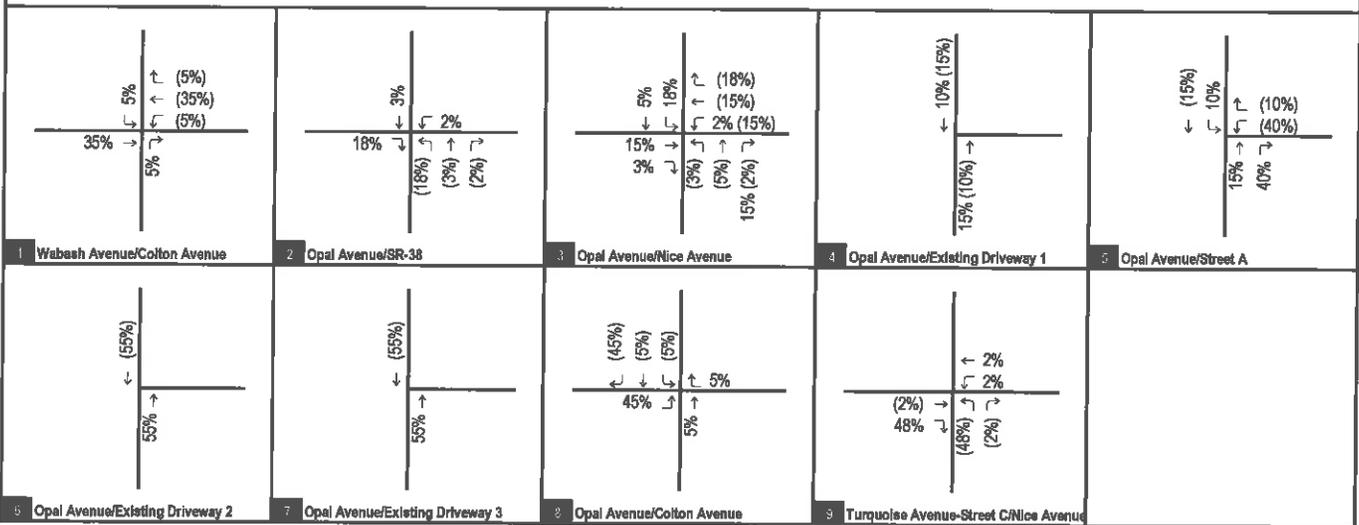
Table D - Project Trip Generation

Land Use	Units		A.M. Peak Hour			P.M. Peak Hour			Daily
	In	Out	In	Out	Total	In	Out	Total	
Proposed Single-Family Residential	131	DU	0.19	0.56	0.75	0.63	0.37	1.00	9.52
		Rate ¹ Trips	25	73	98	83	48	131	1,247
Existing Building Driveway Counts	34	TSF	0	0	0	0	0	0	-
		Rate ²	9	2	11	2	5	7	18
		Gross Trip Generation	25	73	98	83	48	131	1,247
		Trip Reduction for Existing Building	(9)	(2)	(11)	(2)	(5)	(7)	(18)
		Net New Trip Generation	16	71	87	81	43	124	1,229

DU = Dwelling Units

¹ Trip generation based on rates from Land Use 210 - "Single-Family Detached Housing" from ITE, *Trip Generation*, 9th Edition.

² Trip Generation based on the counts conducted by NDS in January 2014.



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FIGURE 6

XX% (YY%) Inbound% (Outbound%) Distribution

Walden Structures Single-Family Homes
 Traffic Impact Study
 Project Distribution

TABLE 4-2

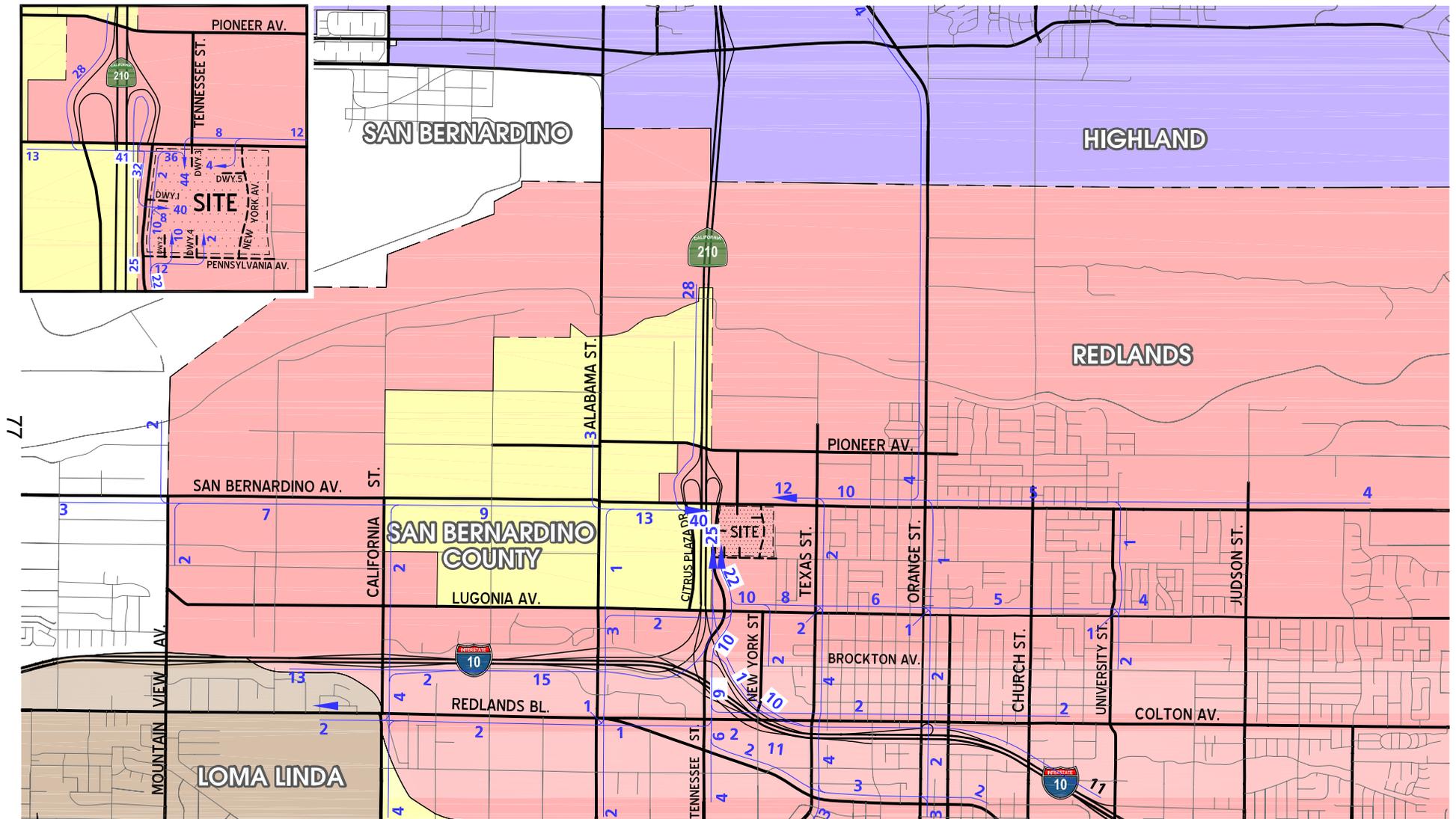
PROJECT TRIP GENERATION SUMMARY

LAND USE	QUANTITY	UNITS ¹	WEEKDAY PM PEAK HOUR				SATURDAY PEAK HOUR				SUNDAY
			IN	OUT	TOTAL	DAILY	IN	OUT	TOTAL	DAILY	DAILY
Free-Standing Discount Superstore	215,000	TSF	486	505	991	11,423	606	606	1,213	13,775	12,066
		Internal Capture (10%):	-49	-49	-98	-1,142	-61	-61	-121	-1,378	-1,207
		Net Trips:	437	456	894	10,281	546	546	1,091	12,398	10,859
Specialty Retail	25,700	TSF	31	39	70	1,139	31	39	70	1,080	525
		Internal Capture (10%):	-3	-3	-6	-114	-3	-3	-6	-108	-53
		Net Trips:	28	36	64	1,025	28	36	64	972	473
High-Turnover Sit Down Restaurant	9,000	TSF	59	41	100	1,144	67	59	127	1,425	1,187
		Internal Capture (10%):	-4	-4	-8	-114	-6	-6	-12	-143	-119
		External Trips:	55	37	92	1,030	61	54	115	1,283	1,068
		Pass-by Reduction (43%):	-24	-16	-40	-443	-26	-23	-49	-552	-459
		Net Trips:	31	21	53	587	35	31	65	731	609
Fast-Food Without Drive-Through	12,300	TSF	164	158	322	8,807	329	342	671	8,561	6,849
		Internal Capture (10%):	-16	-16	-32	-881	-33	-33	-66	-856	-685
		External Trips:	148	142	289	7,926	296	309	605	7,705	6,164
		Pass-by Reduction (43%):	-63	-61	-124	-3,408	-127	-133	-260	-3,313	-2,650
		Net Trips:	84	81	165	4,518	169	176	345	4,392	3,513
Fast-Food With Drive-Through	10,500	TSF	185	171	355	5,209	318	306	624	7,581	5,699
		Internal Capture (10%):	-17	-17	-34	-521	-32	-32	-64	-758	-570
		External Trips:	168	153	321	4,688	286	274	560	6,823	5,129
		Pass-by Reduction (50%):	-84	-77	-161	-2,344	-143	-137	-280	-3,412	-2,564
		Net Trips:	84	77	161	2,344	143	137	280	3,412	2,564
Gas/Service Station w/ Market & Car Wash	12,000	VFP	85	82	167	1,834	121	121	243	2,532	2,026
		Internal Capture (10%):	-8	-8	-16	-183	-12	-12	-24	-253	-203
		External Trips:	77	74	151	1,651	109	109	218	2,279	1,823
		Pass-by Reduction (56%):	-43	-41	-85	-924	-61	-61	-122	-1,276	-1,021
		Net Trips:	34	32	66	726	48	48	96	1,003	802
TOTAL NET TRIPS			698	703	1,402	19,481	968	973	1,941	22,907	18,820

¹TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions

Pass-by reduction percentages are from the ITE Trip Generation Handbook (2nd Edition, 2004): Tables 5.2, 5.4, 5.22, 5.24 & 5.30.

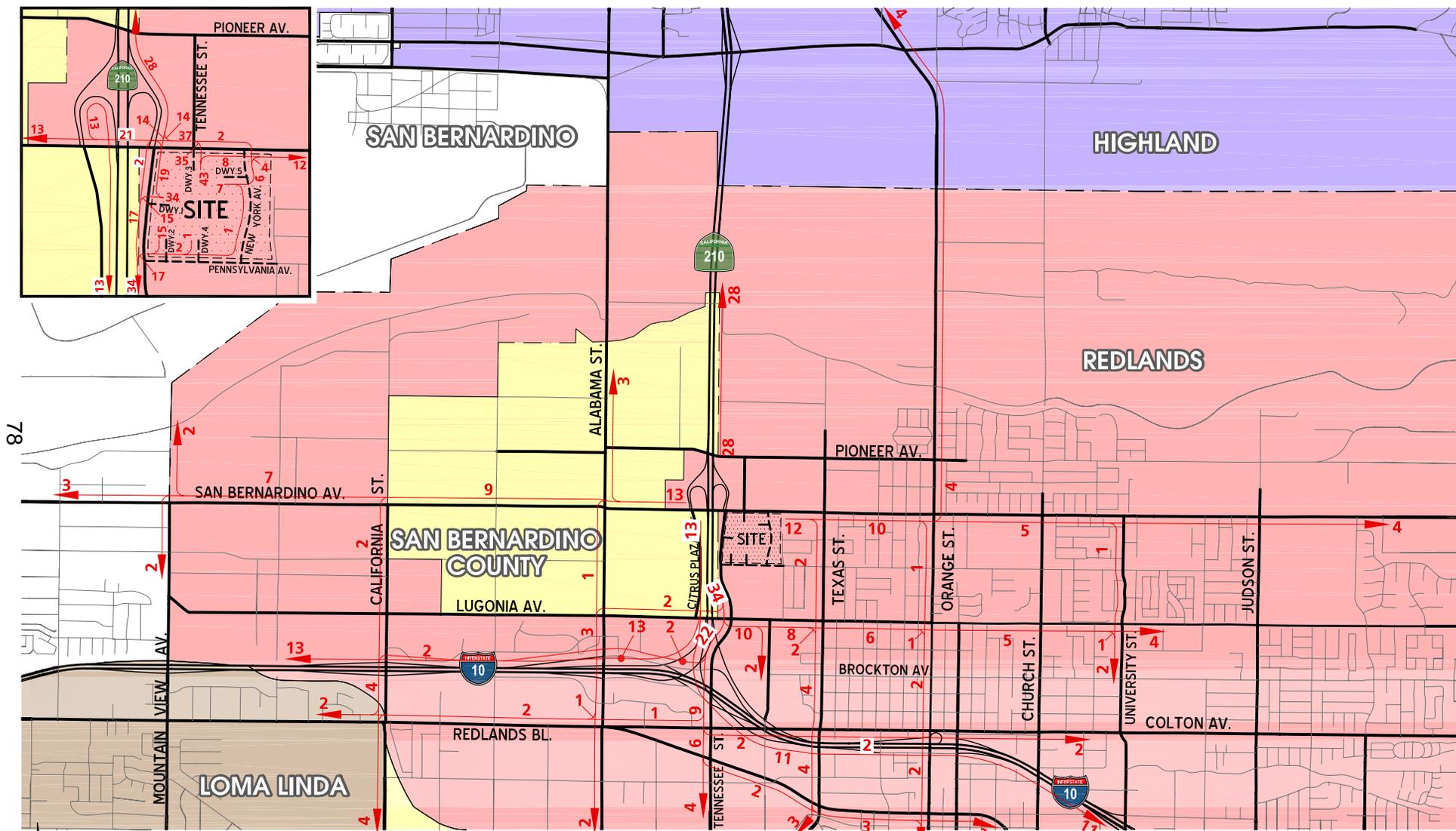
EXHIBIT 4-1
PROJECT INBOUND TRIP DISTRIBUTION



LEGEND:

10 = PERCENT TO PROJECT

PROJECT OUTBOUND TRIP DISTRIBUTION



LEGEND:

10 = PERCENT FROM PROJECT

APPENDIX F

Model Plots and Post-Processing Worksheets

SBTAM 2012
Mentone Project Site
AM Peak Period Flow

PIONEER ROAD

WABASH AVE

SAN BERNARDINO AVE

GARNET AVE

N DEARBORN ST

OPAL AVE

E LUGONIA AVE

MENTONE BLVD

Project Site

E COLTON AVE

CRAFTON AVE

E CITRUS AVE

Map layers

Node

— Base Year Links

Node selection sets

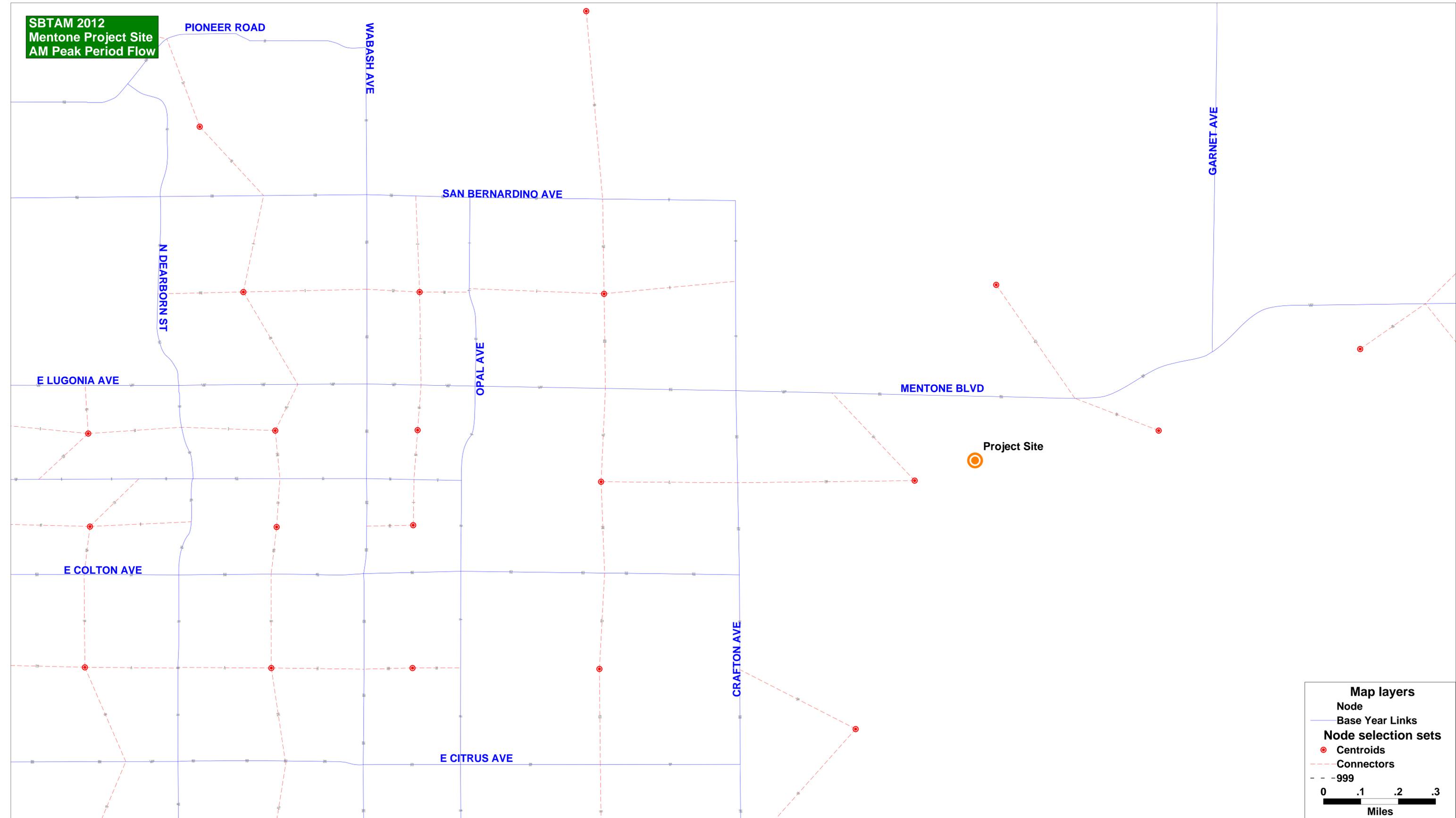
● Centroids

- - Connectors

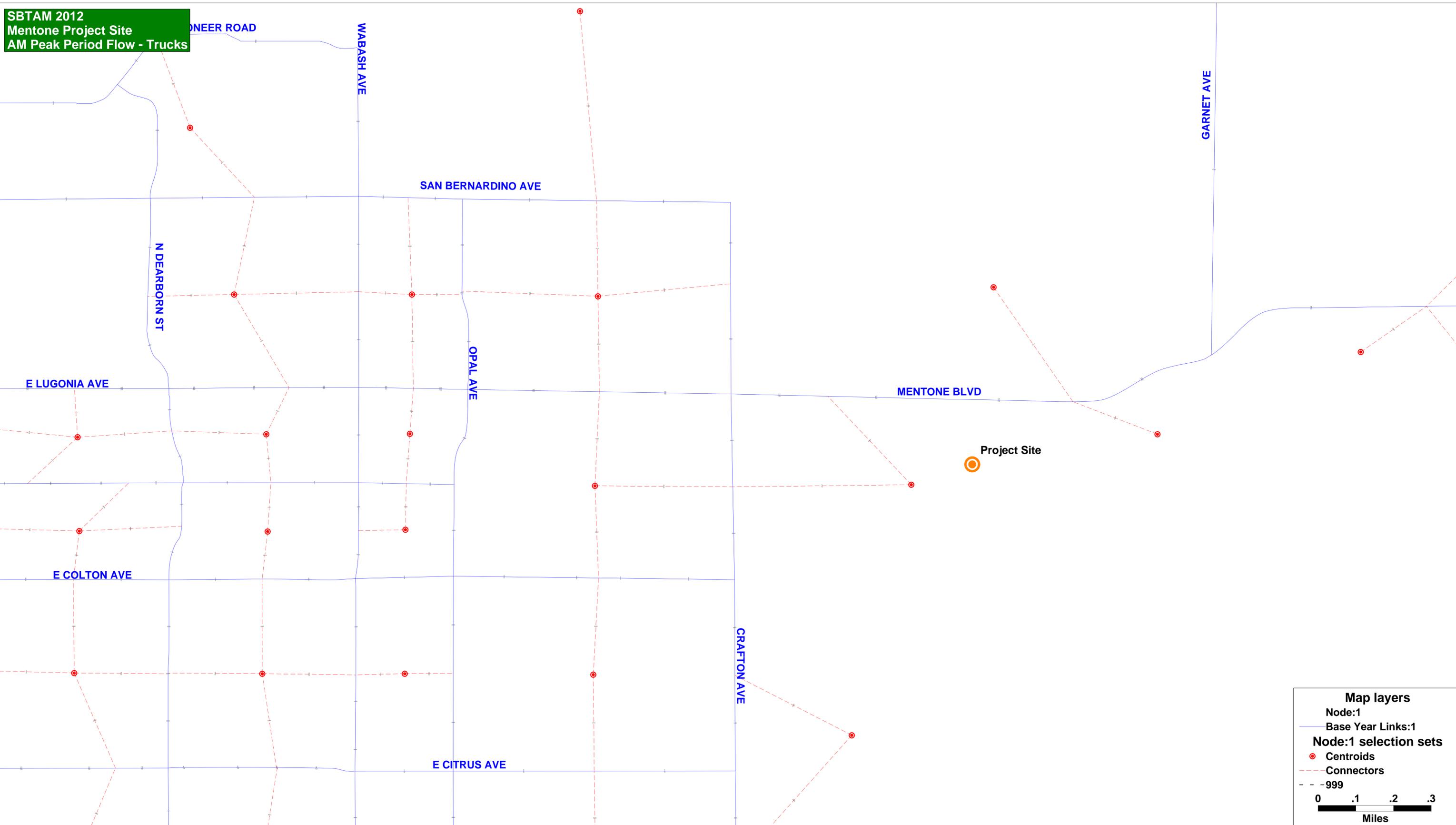
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0 .1 .2 .3

Miles



SBTAM 2012
Mentone Project Site
AM Peak Period Flow - Trucks



Map layers

- Node:1
- Base Year Links:1
- Node:1 selection sets
- Centroids
- Connectors
- 999

0 .1 .2 .3
Miles

SBTAM 2012
Mentone Project Site
PM Peak Period Flow

PIONEER ROAD

WABASH AVE

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E COLTON AVE

CRAFTON AVE

E CITRUS AVE

Map layers

Node

— Base Year Links

Node selection sets

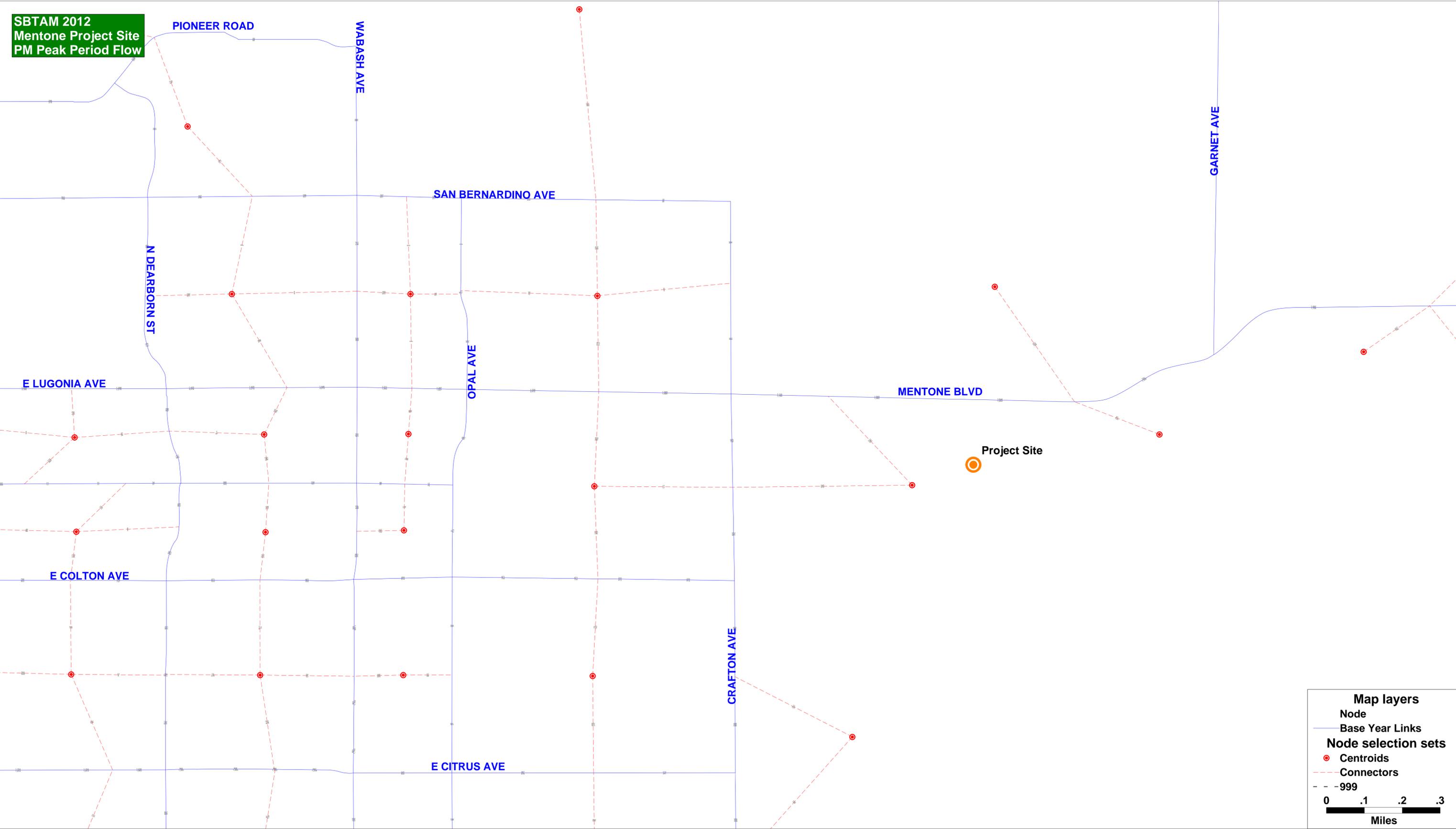
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- - Connectors

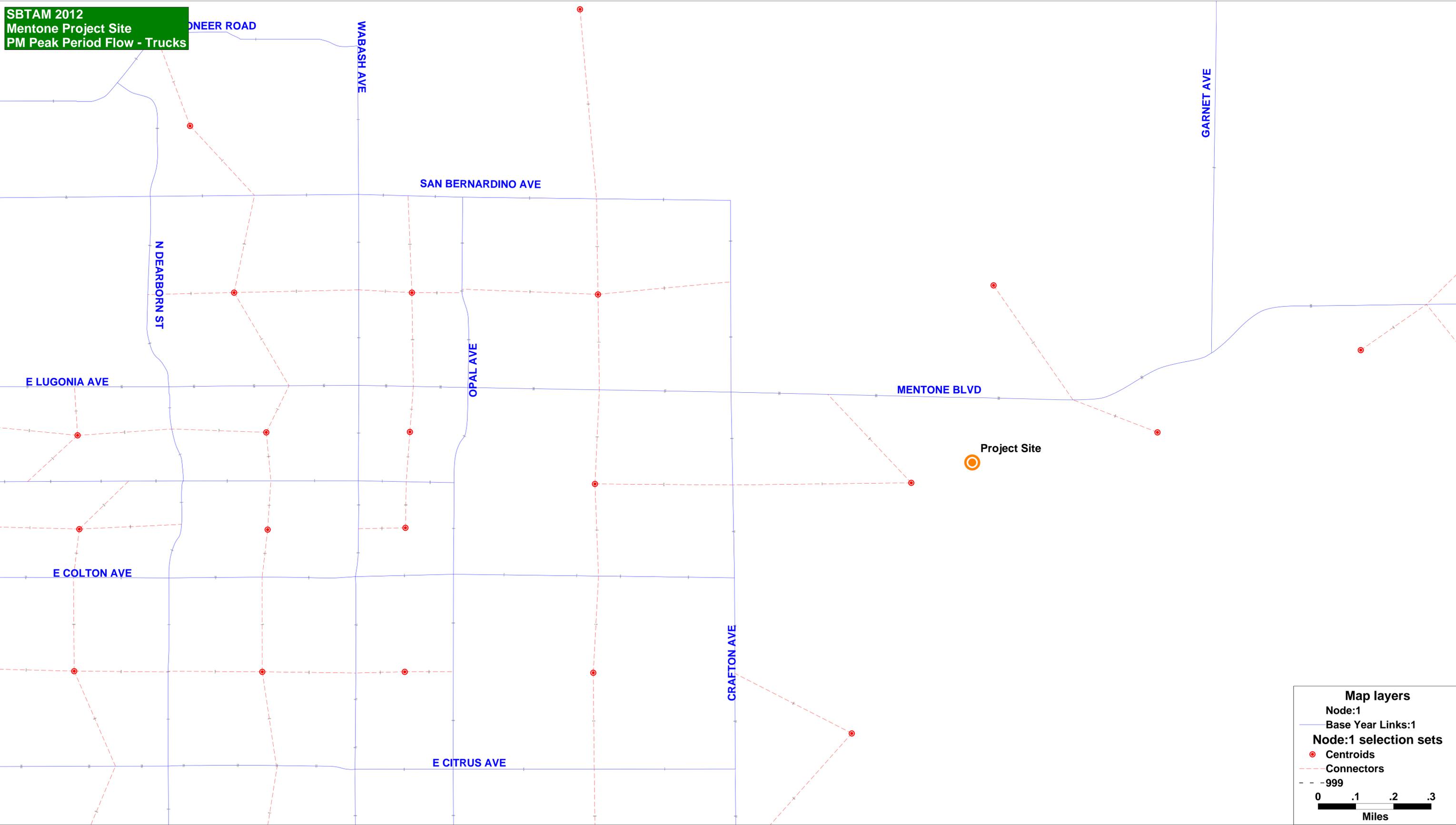
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Miles



SBTAM 2012
Mentone Project Site
PM Peak Period Flow - Trucks

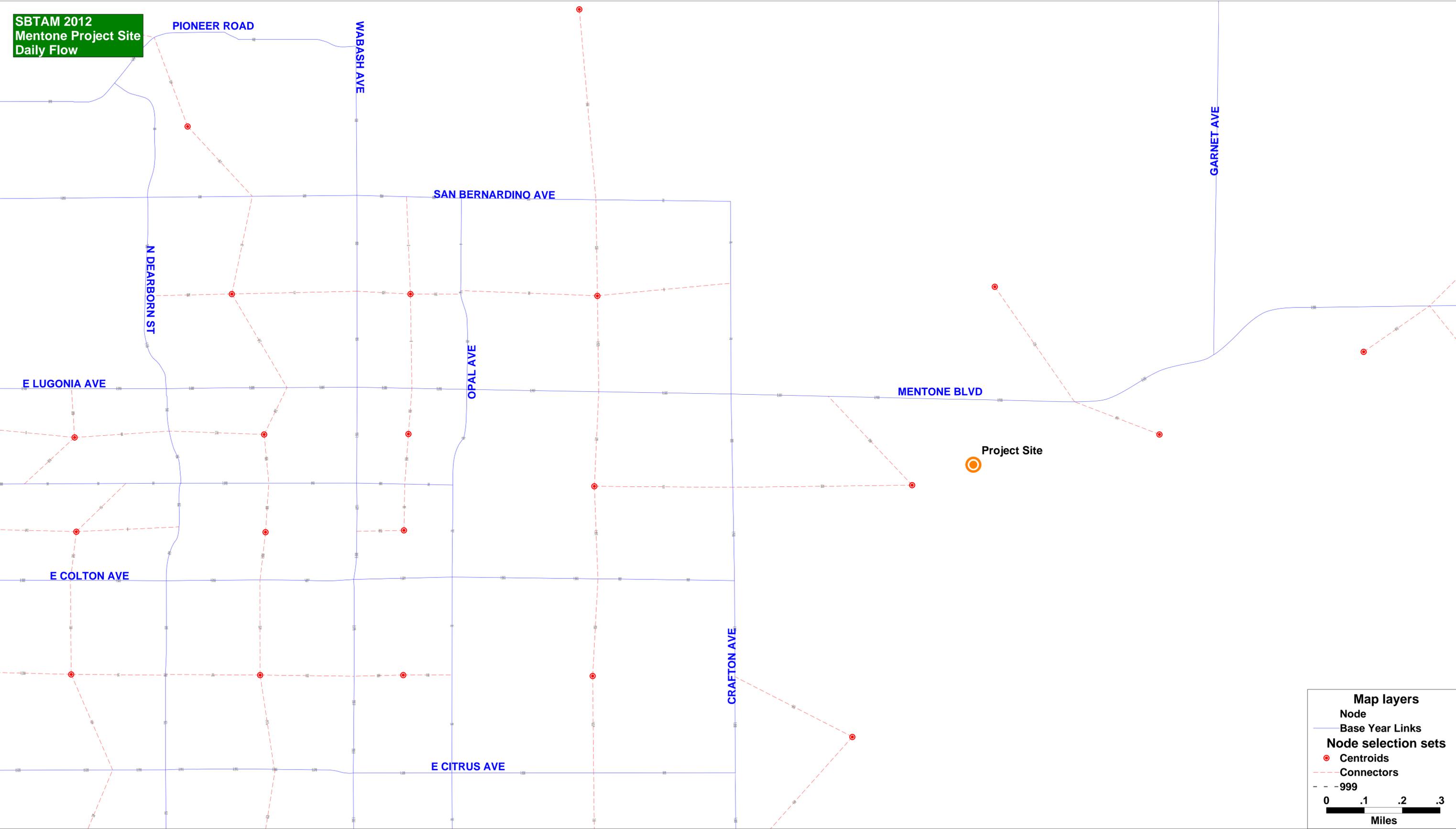


Map layers

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- Base Year Links:1
- Node:1 selection sets
- Centroids
- Connectors
- - -999

0 .1 .2 .3
Miles

SBTAM 2012
Mentone Project Site
Daily Flow



Map layers

- Node
- Base Year Links

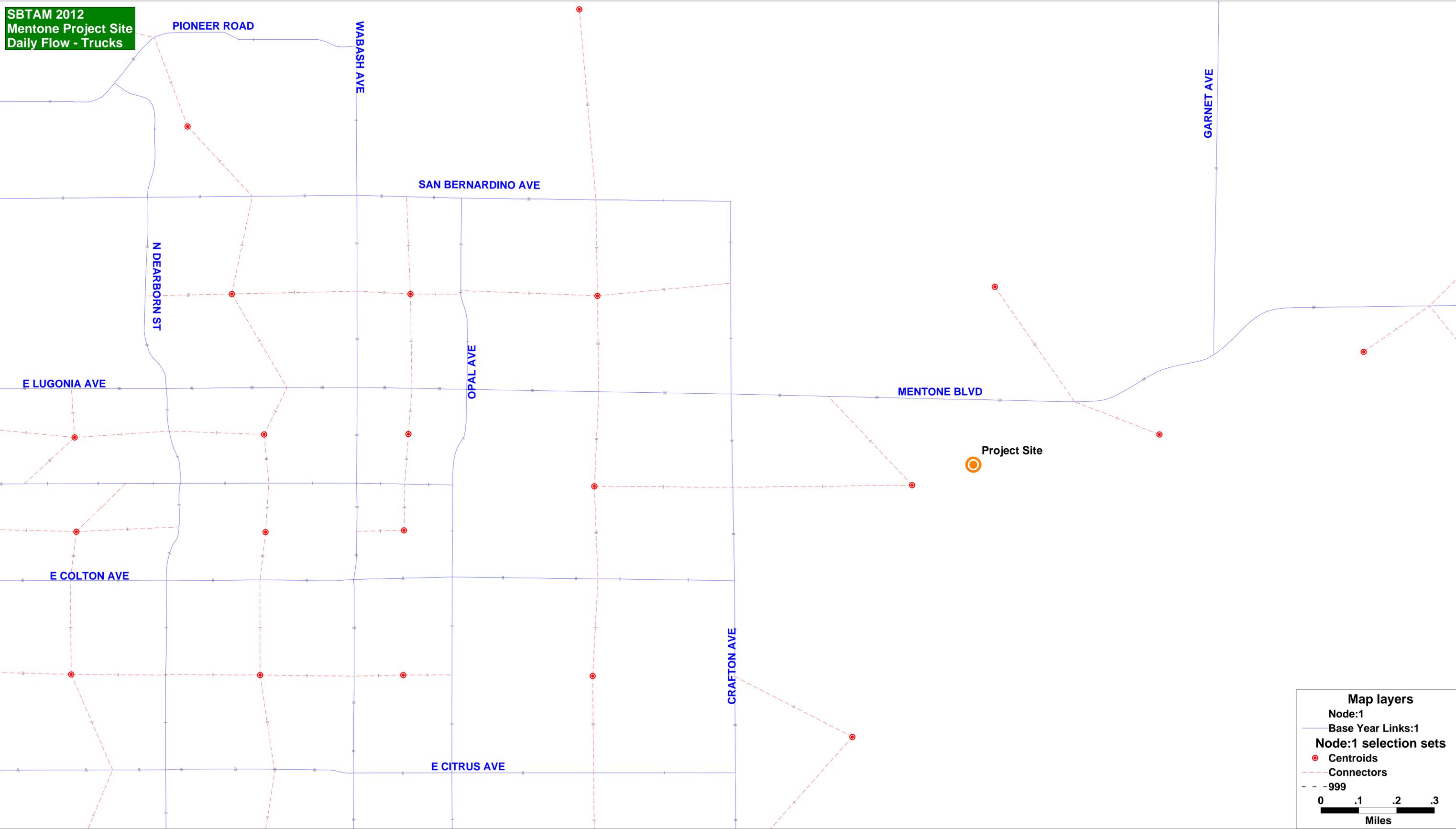
Node selection sets

- Centroids
- Connectors

- - -999

0 .1 .2 .3
Miles

SBTAM 2012
Mentone Project Site
Daily Flow - Trucks



Map layers

- Node:1
- Base Year Links:1
- Node:1 selection sets
- Centroids
- Connectors
- - -999

0 .1 .2 .3
Miles

SBTAM 2040
Mentone Project Site
AM Peak Period Flow

PIONEER ROAD

WABASH AVE

SAN BERNARDINO AVE

GARNET AVE

N DEARBORN ST

OPAL AVE

E LUGONIA AVE

MENTONE BLVD

Project Site

E COLTON AVE

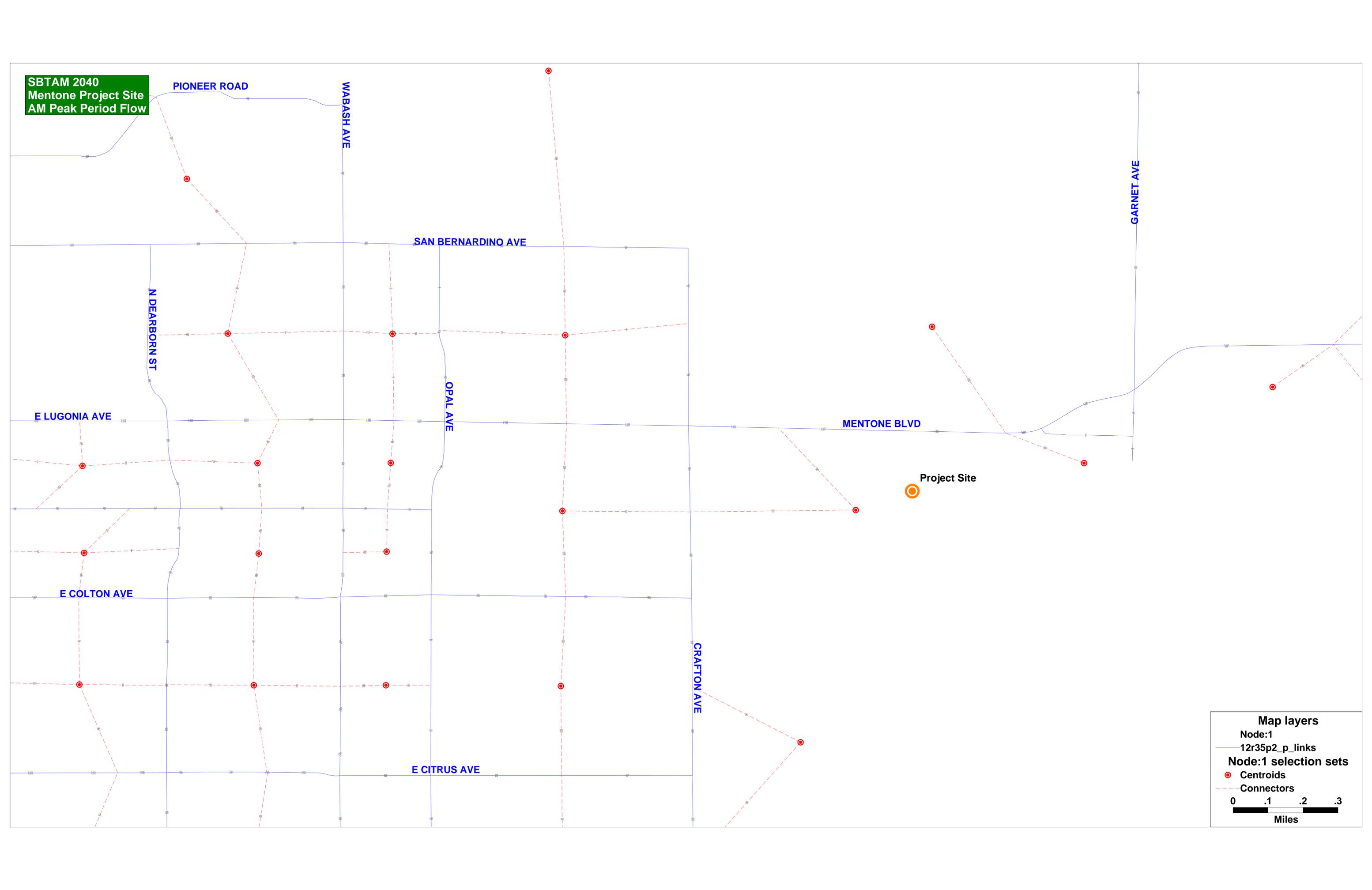
CRAFTON AVE

E CITRUS AVE

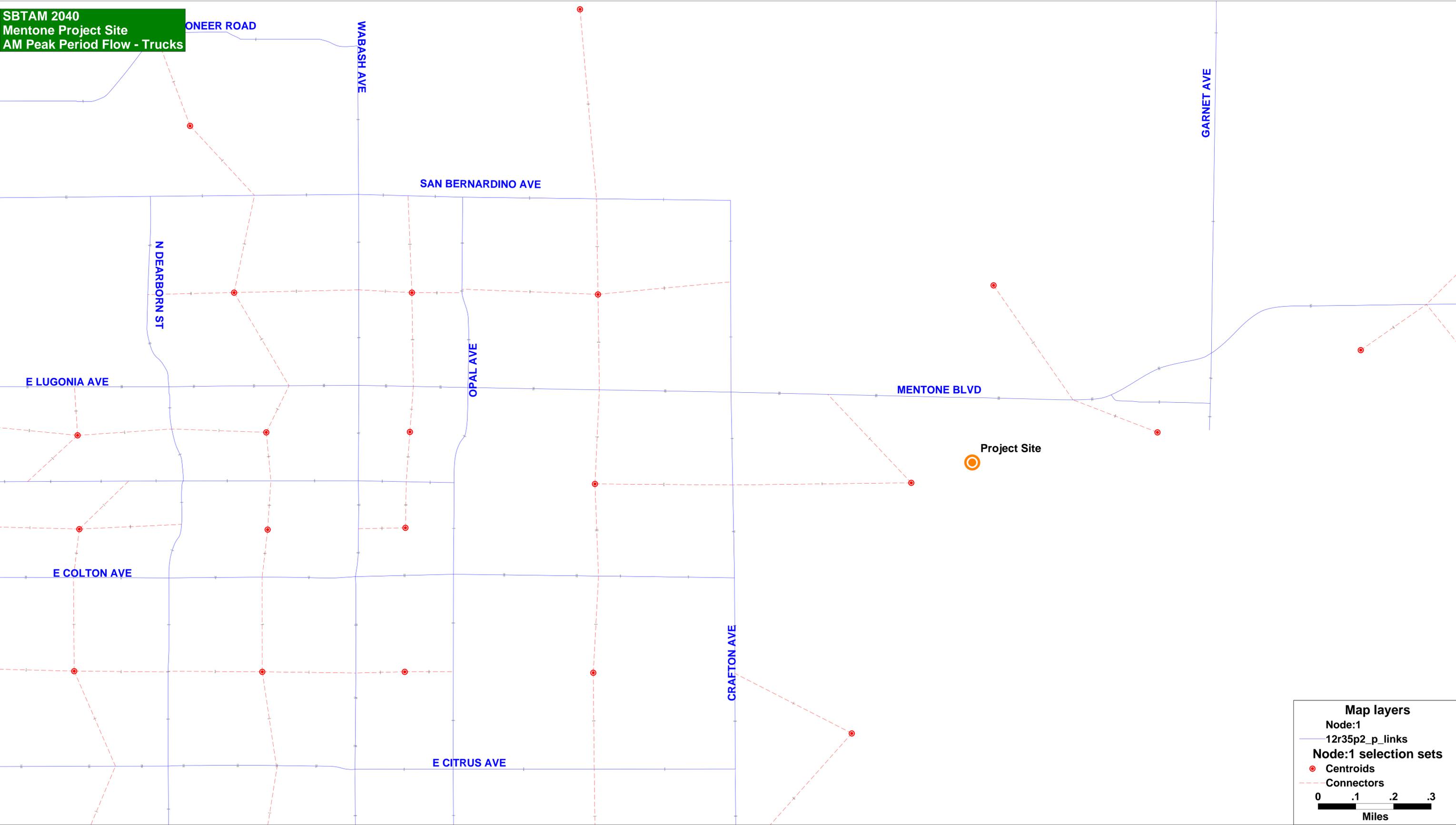
Map layers

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- 12r35p2_p_links
- Node:1 selection sets
- Centroids
- Connectors

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Miles



SBTAM 2040
Mentone Project Site
AM Peak Period Flow - Trucks



Map layers

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- 12r35p2_p_links
- Node:1 selection sets
- Centroids
- Connectors

0 .1 .2 .3
Miles

SBTAM 2040
Mentone Project Site
PM Peak Period Flow

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Project Site

E COLTON AVE

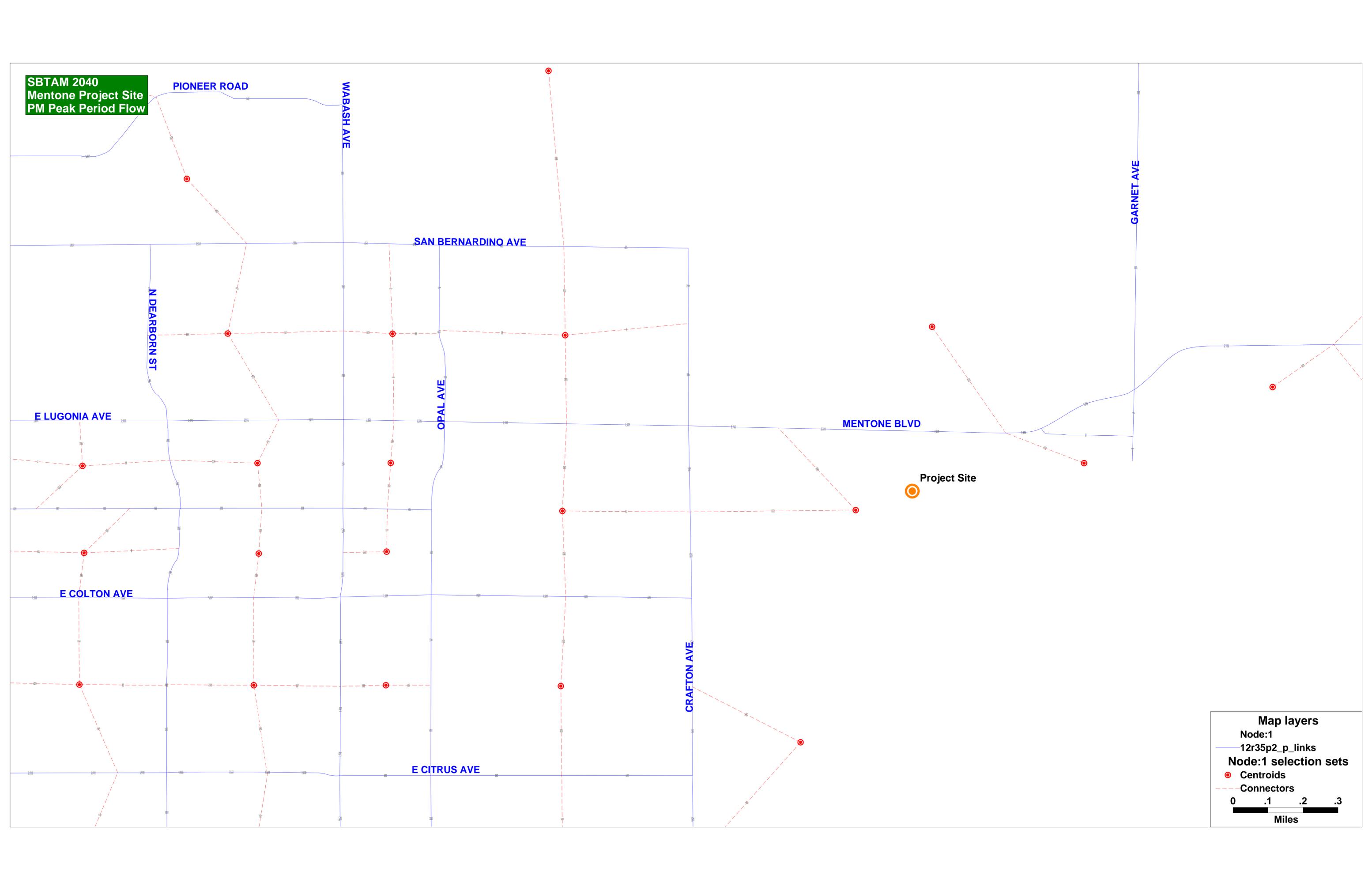
CRAFTON AVE

E CITRUS AVE

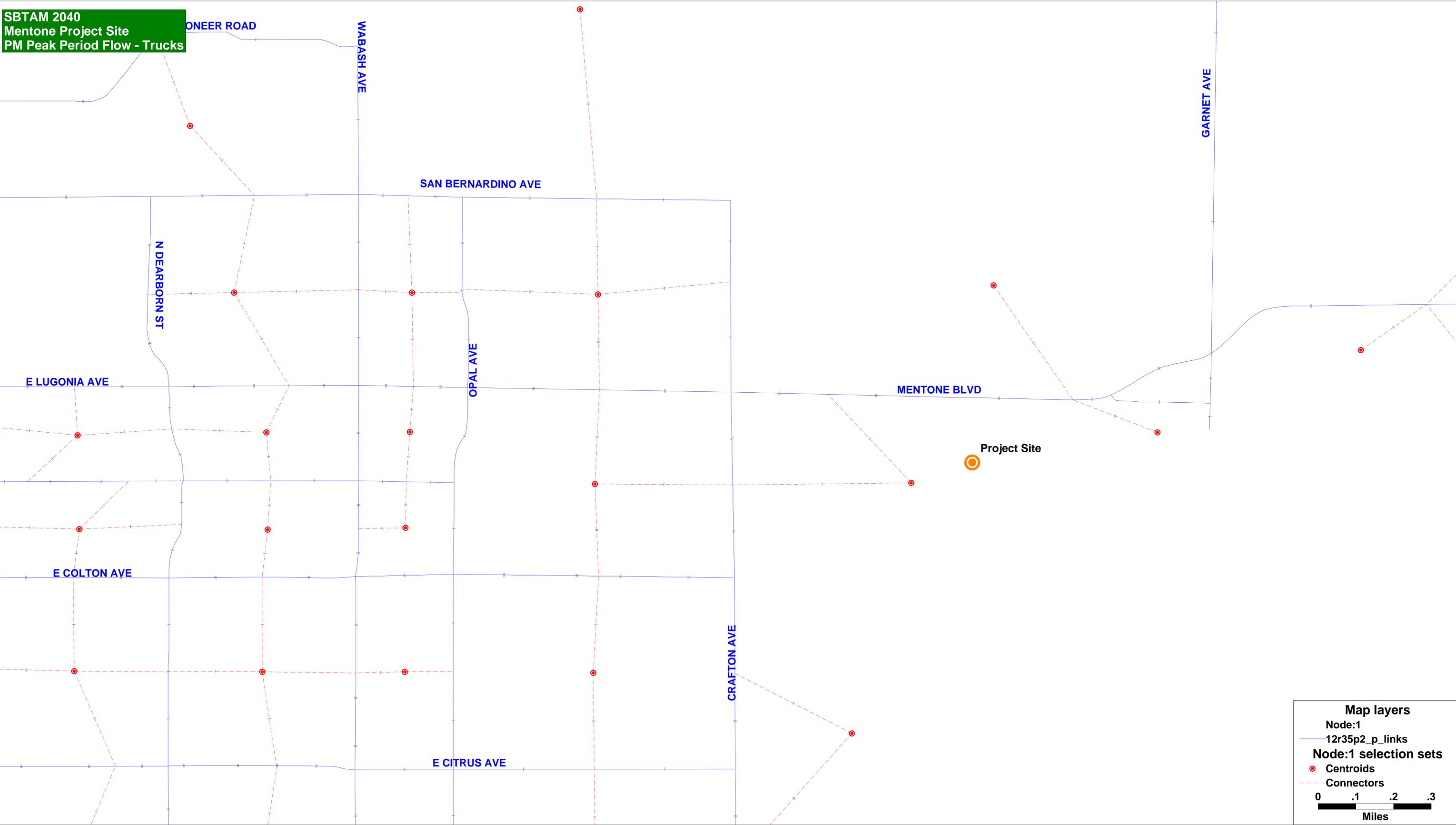
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Miles



SBTAM 2040
Mentone Project Site
PM Peak Period Flow - Trucks



Map layers

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- 12r35p2_p_links
- Node:1 selection sets
- Centroids
- Connectors

0 .1 .2 .3
Miles

SBTAM 2040
Mentone Project Site
Daily Flow

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E CITRUS AVE

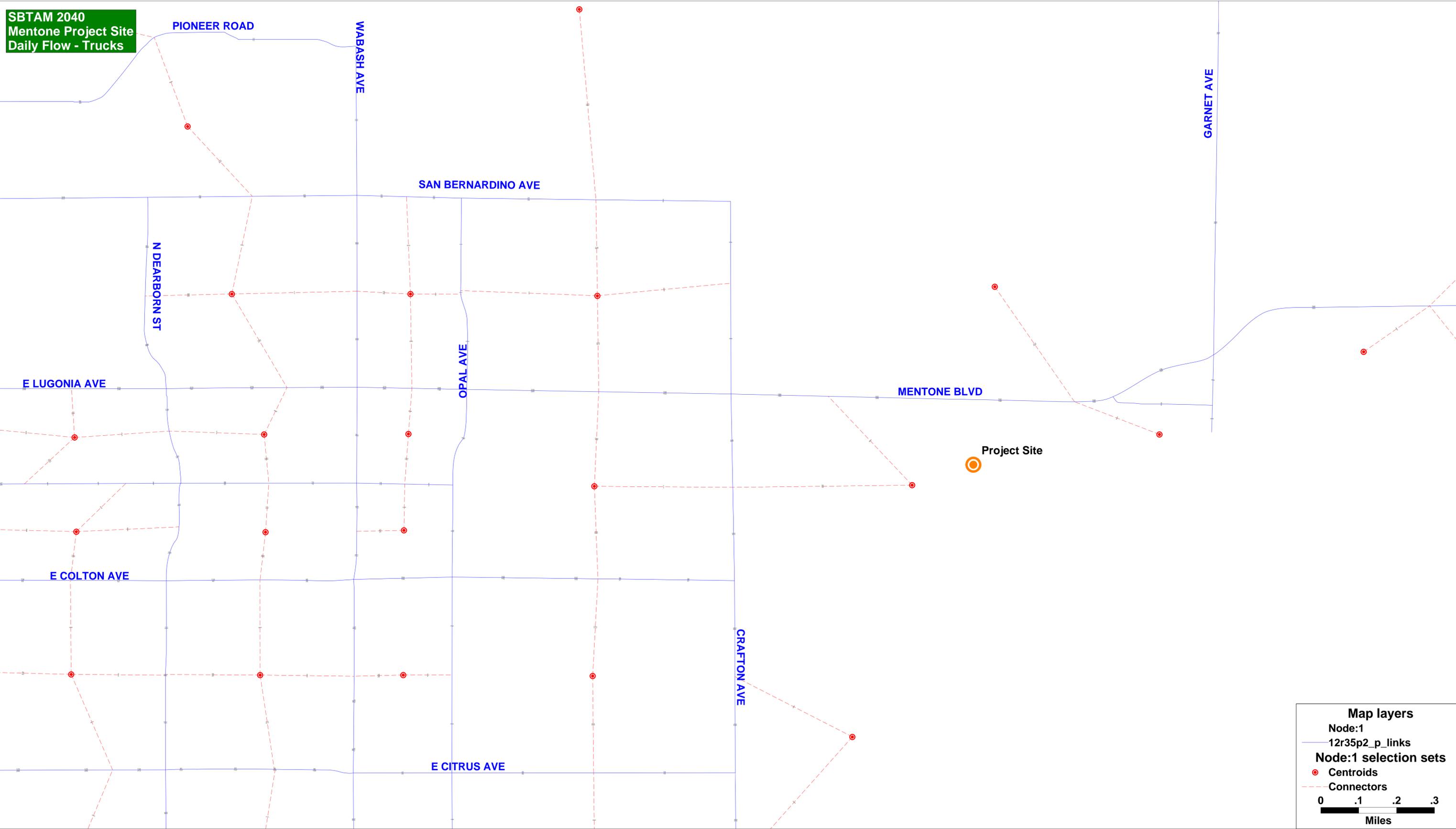
Map layers

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- Node:1 selection sets
- Centroids
- Connectors

0 .1 .2 .3
Miles



SBTAM 2040
Mentone Project Site
Daily Flow - Trucks



Map layers

- Node:1
- 12r35p2_p_links
- Node:1 selection sets
- Centroids
- Connectors

0 .1 .2 .3
Miles

INTERSECTION	LEG	MODEL 2012 ADT	EXISTING 2016 ADT	MODEL 2040 ADT	FUTURE 2040 ADT ¹
Crafton Ave (NS) / Nice Avenue (EW) - #1	North	1,947	6,200	5,381	9,100
	South	1,947	6,200	5,381	9,100
	East	-	1,600	-	2,300
	West	-	1,100	-	1,600
Sapphire Ave (NS) / Mentone Blvd (EW) - #2	North	-	300	-	300
	South	-	500	-	600
	East	8,444	11,400	15,925	12,500
	West	8,444	11,400	15,925	12,500
Sapphire Avenue (NS) / Nice Avenue (EW) - #3	North	-	400	-	500
	South	-	400	-	500
	East	-	700	-	900
	West	-	800	-	1,000

CRAFTON AVENUE (NS) / NICE AVENUE (EW)											
MORNING PEAK HOUR					EVENING PEAK HOUR						
EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):					EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):						
2016					2016						
			16	220	16			9	218	29	
		<	v	>			<	v	>		
	13	^					17	^			
	7	>					22	>			
	7	v					18	v			
			<	^	>				<	^	>
			6	217	15				11	226	32
EXISTING PEAK HOUR COUNT YEAR (AUTOS):					EXISTING PEAK HOUR COUNT YEAR (AUTOS):						
2016					2016						
			252	267				256	264		
		v	^				v	^			
	31	<	IN =	594	<		33	<	IN =	633	<
	27	>	OUT =	594	>		57	>	OUT =	633	>
			v	^					v	^	
			258	238					253	269	
EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCE'S):					EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCE'S):						
2016					2016						
			0	8	0			0	11	0	
		<	v	>			<	v	>		
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	2	>					2	>			
	0	v					2	v			
PCE FACTORS BY AXLE:					PCE FACTORS BY AXLE:						
2:	1.5	3:	2.0	4+:	3.0	2:	1.5	3:	2	4+:	3.0
					2	8	0				0
TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCE'S):					TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCE'S):						
2016					2016						
			16	228	16			9	229	29	
		<	v	>			<	v	>		
	13	^					17	^			
	9	>					24	>			
	7	v					20	v			
			<	^	>				<	^	>
			8	225	15				11	234	32
EXISTING PEAK PERIOD MODEL YEAR (AUTO):					EXISTING PEAK PERIOD MODEL YEAR (AUTO):						
2012					2012						
			294	123				281	436		
		v	^				v	^			
	0	<	IN =	417	<		0	<	IN =	717	<
	0	>	OUT =	417	>		0	>	OUT =	717	>
			v	^					v	^	
			294	123					281	436	
EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):					EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):						
2012					2012						
			6	5				8	9		
		v	^				v	^			
	0	<	IN =	11	<		0	<	IN =	18	<
	0	>	OUT =	11	>		0	>	OUT =	17	>
			v	^					v	^	
			6	5					8	10	
EXISTING PEAK HOUR MODEL YEAR (PCE'S):					EXISTING PEAK HOUR MODEL YEAR (PCE'S):						
PHF FOR CARS: 0.38					PHF FOR CARS: 0.28						
PHF FOR TRUCKS: 0.333					PHF FOR TRUCKS: 0.25						
			114	48				81	124		
		v	^				v	^			
	0	<	IN =	162	<		0	<	IN =	205	<
	0	>	OUT =	162	>		0	>	OUT =	205	>
			v	^					v	^	
			114	48					81	125	
FUTURE PEAK PERIOD MODEL YEAR (AUTO):					FUTURE PEAK PERIOD MODEL YEAR (AUTO):						
2040					2040						
			525	562				1076	883		
		v	^				v	^			
	0	<	IN =	1087	<		0	<	IN =	1959	<
	0	>	OUT =	1087	>		0	>	OUT =	1959	>
			v	^					v	^	
			525	562					1076	883	
FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):					FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):						
2040					2040						
			7	9				15	12		
		v	^				v	^			
	0	<	IN =	16	<		0	<	IN =	27	<
	0	>	OUT =	16	>		0	>	OUT =	27	>
			v	^					v	^	
			7	9					15	12	
FUTURE PEAK HOUR MODEL YEAR (PCE'S):					FUTURE PEAK HOUR MODEL YEAR (PCE'S):						
PHF FOR CARS: 0.38					PHF FOR CARS: 0.28						
PHF FOR TRUCKS: 0.333					PHF FOR TRUCKS: 0.25						
			202	217				305	250		
		v	^				v	^			
	0	<	IN =	418	<		0	<	IN =	555	<
	0	>	OUT =	418	>		0	>	OUT =	555	>
			v	^					v	^	
			202	217					305	250	
RAW GROWTH (PCE'S): 2012 TO 2040					RAW GROWTH (PCE'S): 2012 TO 2040						
CONVERSION OF TRUCKS TO: 2040					CONVERSION OF TRUCKS TO: 2040						
FACTOR = 1.50					FACTOR = 1.50						
			88	169				225	126		
		v	^				v	^			
	0	<					0	<			
	0	>					0	>			
			v	^					v	^	
			88	169					225	126	
ADJUSTED GROWTH (PCE'S): 2012 TO 2040					ADJUSTED GROWTH (PCE'S): 2012 TO 2040						
10 MINIMUM GROWTH %					10 MINIMUM GROWTH %						
			90	170				230	130		
		v	^				v	^			
	0	<	IN =	270	<		10	<	IN =	380	<
	0	>	OUT =	260	>		10	>	OUT =	370	>
			v	^					v	^	
			90	170					230	130	
PRORATED GROWTH (PCE'S): 2016 TO 2040					PRORATED GROWTH (PCE'S): 2016 TO 2040						
24 YEARS					24 YEARS						
			80	150				200	110		
		v	^				v	^			
	0	<					0	<			
	0	>					10	>			
			v	^					v	^	
			80	150					200	110	
NEW PROJECTED VOLUMES (PCE'S): 2040					NEW PROJECTED VOLUMES (PCE'S): 2040						
			340	430				470	380		
		v	^				v	^			
	30	<					30	<			
	30	>					70	>			
			v	^					v	^	
			350	400					470	390	

CRAFTON AVENUE (NS) / NICE AVENUE (EW)
FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL
NORTH BOUND	LEFT	8	SOUTH LEG	400	NORTH BOUND	LEFT	11	SOUTH LEG	390
	THRU	225				THRU	234		
	RIGHT	15				RIGHT	32		
SOUTH BOUND	LEFT	16	NORTH LEG	340	SOUTH BOUND	LEFT	29	NORTH LEG	470
	THRU	228				THRU	229		
	RIGHT	16				RIGHT	9		
EAST BOUND	LEFT	13	WEST LEG	30	EAST BOUND	LEFT	17	WEST LEG	70
	THRU	9				THRU	24		
	RIGHT	7				RIGHT	20		
WEST BOUND	LEFT	33	EAST LEG	90	WEST BOUND	LEFT	17	EAST LEG	60
	THRU	9				THRU	13		
	RIGHT	39				RIGHT	21		

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH BOUND	LEFT	8	9	NORTH LEG RATIO 8.5% ADT 9,100	NORTH BOUND	LEFT	11	12	NORTH LEG RATIO 9.3% ADT 9,100
	THRU	225	370			THRU	234	335	
	RIGHT	15	17			RIGHT	32	39	
SOUTH BOUND	LEFT	16	18	SOUTH LEG RATIO 8.2% ADT 9,100	SOUTH BOUND	LEFT	29	38	SOUTH LEG RATIO 9.4% ADT 9,100
	THRU	228	305			THRU	229	419	
	RIGHT	16	18			RIGHT	9	10	
EAST BOUND	LEFT	13	15	EAST LEG RATIO 6.0% ADT 2,300	EAST BOUND	LEFT	17	19	EAST LEG RATIO 7.2% ADT 2,300
	THRU	9	10			THRU	24	26	
	RIGHT	7	8			RIGHT	20	27	
WEST BOUND	LEFT	33	37	WEST LEG RATIO 4.4% ADT 1,600	WEST BOUND	LEFT	17	24	WEST LEG RATIO 6.8% ADT 1,600
	THRU	9	10			THRU	13	14	
	RIGHT	39	45			RIGHT	21	25	

SAPPHIRE AVENUE (NS) / MENTONE BOULEVARD (EW)
FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL
NORTH BOUND	LEFT	4	SOUTH LEG		NORTH BOUND	LEFT	4	SOUTH LEG	
	THRU	0	IN ...	10		THRU	1	IN ...	20
	RIGHT	8	OUT ...	20		RIGHT	13	OUT ...	20
SOUTH BOUND	LEFT	2	NORTH LEG		SOUTH BOUND	LEFT	0	NORTH LEG	
	THRU	1	IN ...	10		THRU	0	IN ...	10
	RIGHT	8	OUT ...	0		RIGHT	12	OUT ...	10
EAST BOUND	LEFT	4	WEST LEG		EAST BOUND	LEFT	6	WEST LEG	
	THRU	256	IN ...	550		THRU	484	IN ...	770
	RIGHT	8	OUT ...	810		RIGHT	17	OUT ...	680
WEST BOUND	LEFT	6	EAST LEG		WEST BOUND	LEFT	7	EAST LEG	
	THRU	602	IN ...	810		THRU	341	IN ...	670
	RIGHT	0	OUT ...	550		RIGHT	4	OUT ...	760

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH BOUND	LEFT	4	4	NORTH LEG	NORTH BOUND	LEFT	4	5	NORTH LEG
	THRU	0	0	RATIO 5.3%		THRU	1	1	RATIO 8.3%
	RIGHT	8	9	ADT 300		RIGHT	13	14	ADT 300
SOUTH BOUND	LEFT	2	2	SOUTH LEG	SOUTH BOUND	LEFT	0	0	SOUTH LEG
	THRU	1	1	RATIO 5.7%		THRU	0	0	RATIO 7.8%
	RIGHT	8	9	ADT 600		RIGHT	12	13	ADT 600
EAST BOUND	LEFT	4	4	EAST LEG	EAST BOUND	LEFT	6	7	EAST LEG
	THRU	256	541	RATIO 10.9%		THRU	484	746	RATIO 11.5%
	RIGHT	8	13	ADT 12,500		RIGHT	17	19	ADT 12,500
WEST BOUND	LEFT	6	7	WEST LEG	WEST BOUND	LEFT	7	8	WEST LEG
	THRU	602	800	RATIO 11.0%		THRU	341	665	RATIO 11.6%
	RIGHT	0	0	ADT 12,500		RIGHT	4	4	ADT 12,500

APPENDIX G

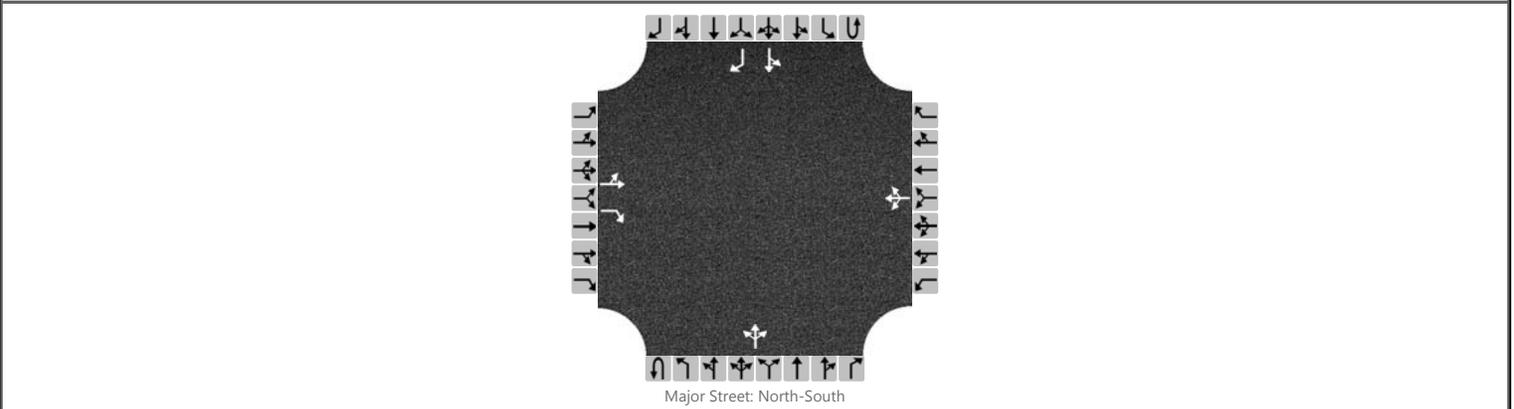
**Future Intersection Delay and
Level of Service Worksheets**

Existing Plus Project

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#1 - Crafton/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing Plus Project	East/West Street	Nice Avenue
Analysis Year	2016	North/South Street	Crafton Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	0	0	0	1	0	0	0	1	1
Configuration		LT		R			LTR				LTR			LT		R
Volume (veh/h)		13	13	7		35	20	39		8	225	16		16	228	16
Percent Heavy Vehicles		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

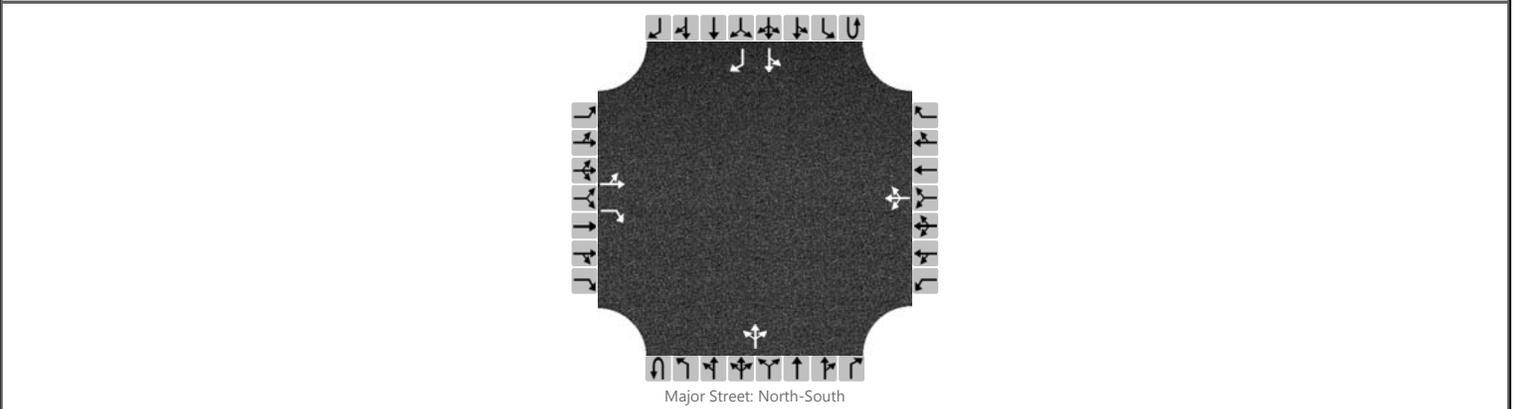
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		28		8			102			9				17		
Capacity		403		796			523			1311				1314		
v/c Ratio		0.07		0.01			0.20			0.01				0.01		
95% Queue Length		0.2		0.0			0.7			0.0				0.0		
Control Delay (s/veh)		14.6		9.6			13.6			7.8				7.8		
Level of Service (LOS)		B		A			B			A				A		
Approach Delay (s/veh)	13.5				13.6				0.3				0.6			
Approach LOS	B				B											

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#1 - Crafton/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing Plus Project	East/West Street	Nice Avenue
Analysis Year	2016	North/South Street	Crafton Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.90
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	0	0	0	1	0	0	0	1	1
Configuration		LT		R			LTR				LTR			LT		R
Volume (veh/h)		17	36	20		18	20	21		11	234	34		29	229	9
Percent Heavy Vehicles		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

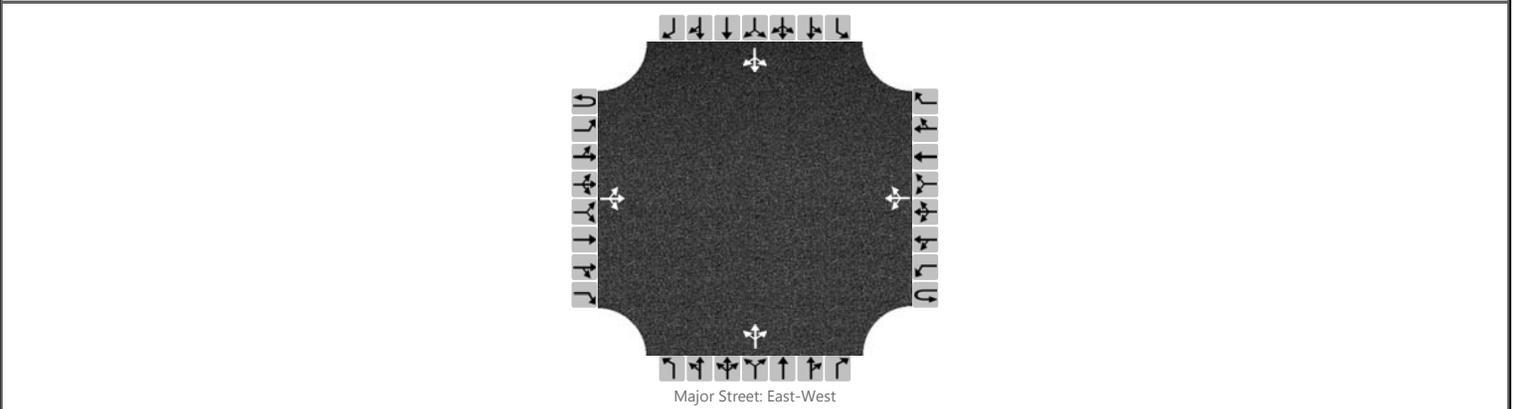
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		59		22			65			12				32		
Capacity		370		790			443			1312				1275		
v/c Ratio		0.16		0.03			0.15			0.01				0.03		
95% Queue Length		0.6		0.1			0.5			0.0				0.1		
Control Delay (s/veh)		16.6		9.7			14.5			7.8				7.9		
Level of Service (LOS)		C		A			B			A				A		
Approach Delay (s/veh)	14.7				14.5				0.4				1.1			
Approach LOS	B				B											

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#2 - Sapphire/Mentone
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing Plus Project	East/West Street	Mentone Boulevard (SR-38)
Analysis Year	2016	North/South Street	Sapphire Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.89
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	256	12		7	602	0		15	2	10		2	2	8
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

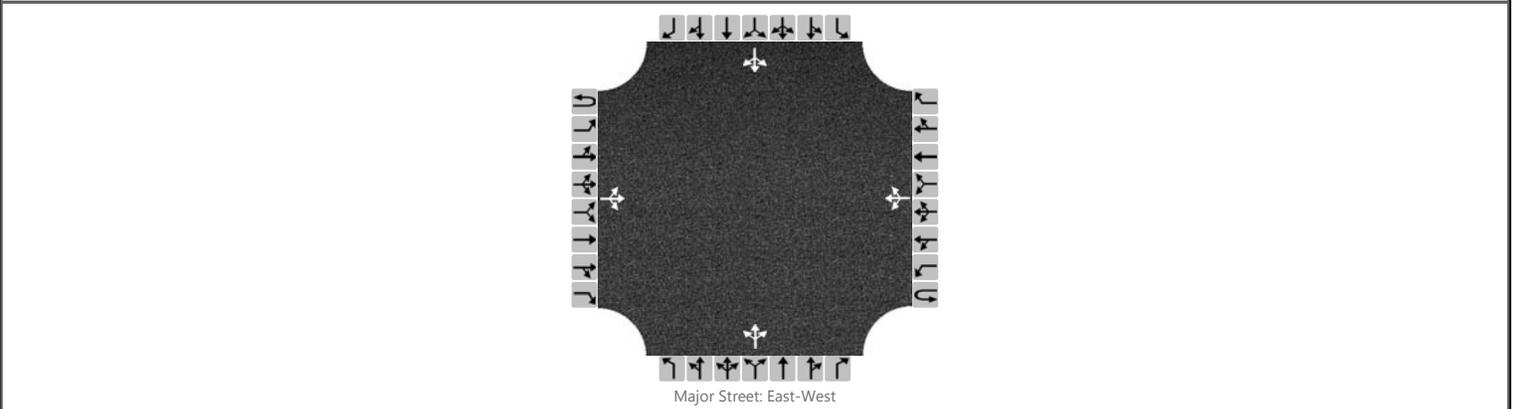
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		4				8					30				13	
Capacity		925				1272					295				349	
v/c Ratio		0.00				0.01					0.10				0.04	
95% Queue Length		0.0				0.0					0.3				0.1	
Control Delay (s/veh)		8.9				7.8					18.6				15.7	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)	0.2				0.2				18.6				15.7			
Approach LOS									C				C			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#2 - Sapphire/Mentone
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing Plus Project	East/West Street	Mentone Boulevard (SR-38)
Analysis Year	2016	North/South Street	Sapphire Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.91
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12	
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		6	484	31		9	341	4		13	2	14		0	2	12
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

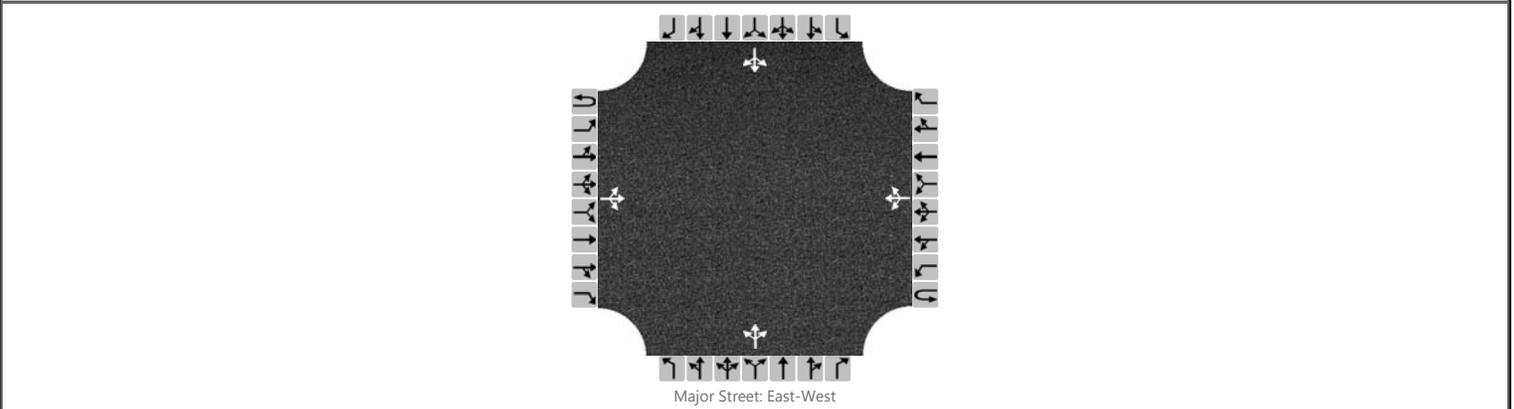
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		7				10					31				15	
Capacity		1191				1016					317				548	
v/c Ratio		0.01				0.01					0.10				0.03	
95% Queue Length		0.0				0.0					0.3				0.1	
Control Delay (s/veh)		8.0				8.6					17.6				11.8	
Level of Service (LOS)		A				A					C				B	
Approach Delay (s/veh)	0.2				0.3				17.6				11.8			
Approach LOS									C				B			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#3 - Sapphire/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing Plus Project	East/West Street	Nice Avenue
Analysis Year	2016	North/South Street	Sapphire Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.79
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	18	2		7	39	14		4	11	4		9	14	3
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

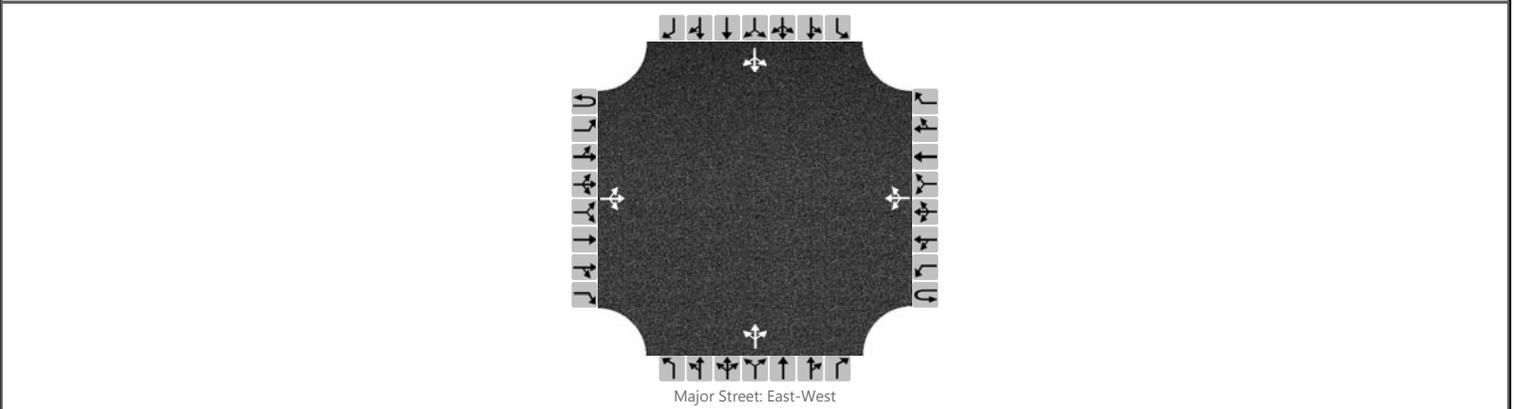
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		3				9					24				33	
Capacity		1548				1601					833				824	
v/c Ratio		0.00				0.01					0.03				0.04	
95% Queue Length		0.0				0.0					0.1				0.1	
Control Delay (s/veh)		7.3				7.3					9.5				9.6	
Level of Service (LOS)		A				A					A				A	
Approach Delay (s/veh)	0.8				0.9				9.5				9.6			
Approach LOS	A				A				A				A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#3 - Sapphire/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing Plus Project	East/West Street	Nice Avenue
Analysis Year	2016	North/South Street	Sapphire Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.87
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		8	37	7		6	34	14		3	7	9		18	13	3
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

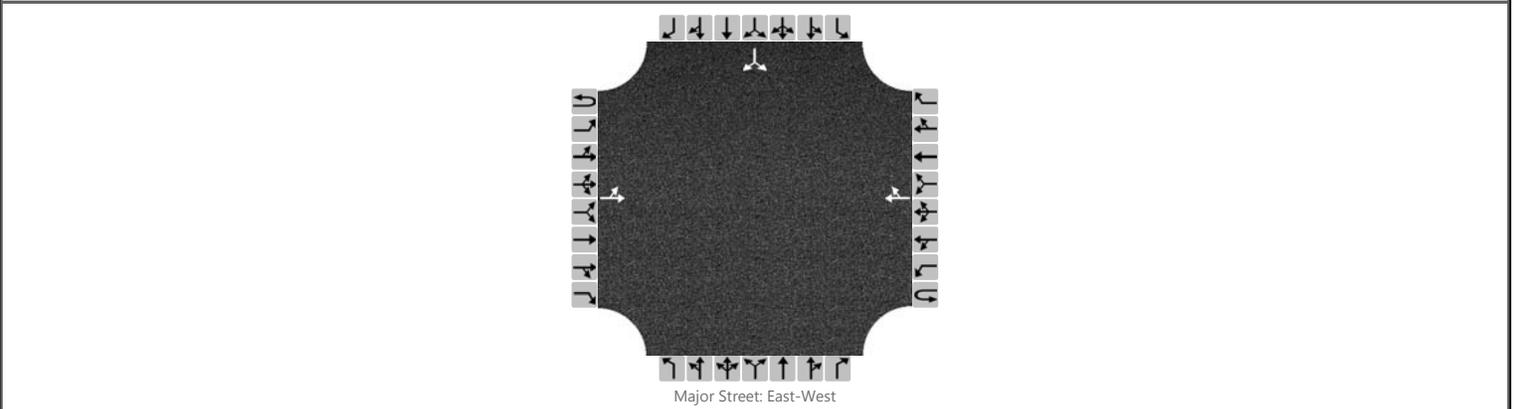
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		9				7					21				39	
Capacity		1563				1568					874				806	
v/c Ratio		0.01				0.00					0.02				0.05	
95% Queue Length		0.0				0.0					0.1				0.2	
Control Delay (s/veh)		7.3				7.3					9.2				9.7	
Level of Service (LOS)		A				A					A				A	
Approach Delay (s/veh)	1.1				0.9				9.2				9.7			
Approach LOS	A				A				A				A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#4 - Florence/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing Plus Project	East/West Street	Nice Avenue
Analysis Year	2016	North/South Street	Florence Drive
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Configuration		LT						TR							LR	
Volume (veh/h)		5	26				48	0						1		12
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

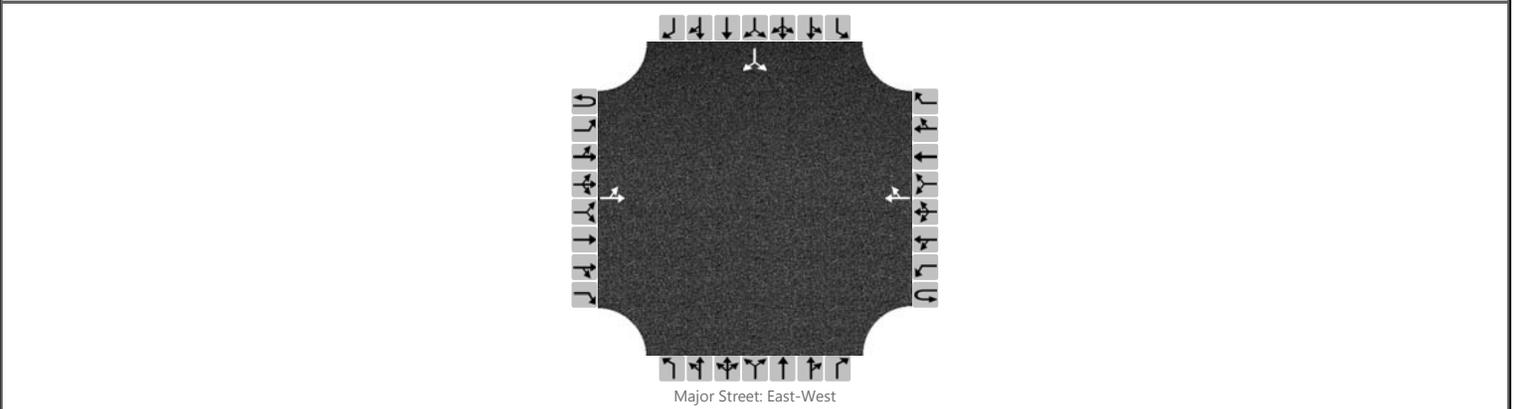
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		5														14
Capacity		1568														1013
v/c Ratio		0.00														0.01
95% Queue Length		0.0														0.0
Control Delay (s/veh)		7.3														8.6
Level of Service (LOS)		A														A
Approach Delay (s/veh)	1.2												8.6			
Approach LOS													A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#4 - Florence/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing Plus Project	East/West Street	Nice Avenue
Analysis Year	2016	North/South Street	Florence Drive
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Configuration		LT						TR							LR	
Volume (veh/h)		15	49				44	1						0		10
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

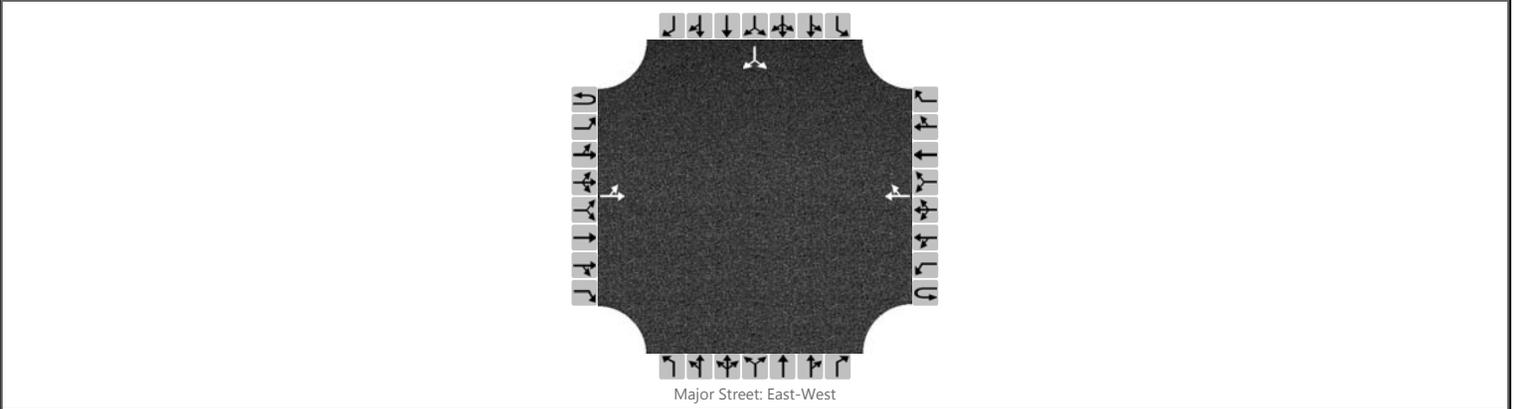
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		16														11	
Capacity		1574														1029	
v/c Ratio		0.01														0.01	
95% Queue Length		0.0														0.0	
Control Delay (s/veh)		7.3														8.5	
Level of Service (LOS)		A														A	
Approach Delay (s/veh)	1.8												8.5				
Approach LOS													A				

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#5 - Venice/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing Plus Project	East/West Street	Nice Avenue
Analysis Year	2016	North/South Street	Venice Drive
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Configuration		LT						TR							LR	
Volume (veh/h)		6	21				31	1						1		17
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

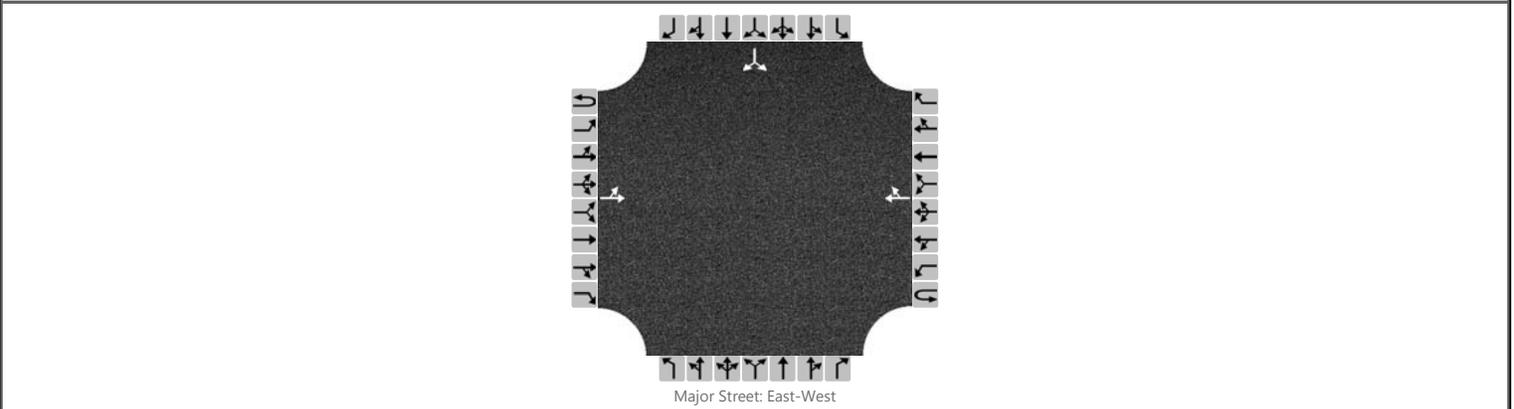
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		6														19
Capacity		1591														1038
v/c Ratio		0.00														0.02
95% Queue Length		0.0														0.1
Control Delay (s/veh)		7.3														8.5
Level of Service (LOS)		A														A
Approach Delay (s/veh)	1.6												8.5			
Approach LOS													A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#5 - Venice/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Existing Plus Project	East/West Street	Nice Avenue
Analysis Year	2016	North/South Street	Venice Drive
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Configuration		LT						TR							LR	
Volume (veh/h)		19	30				35	1						1		10
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

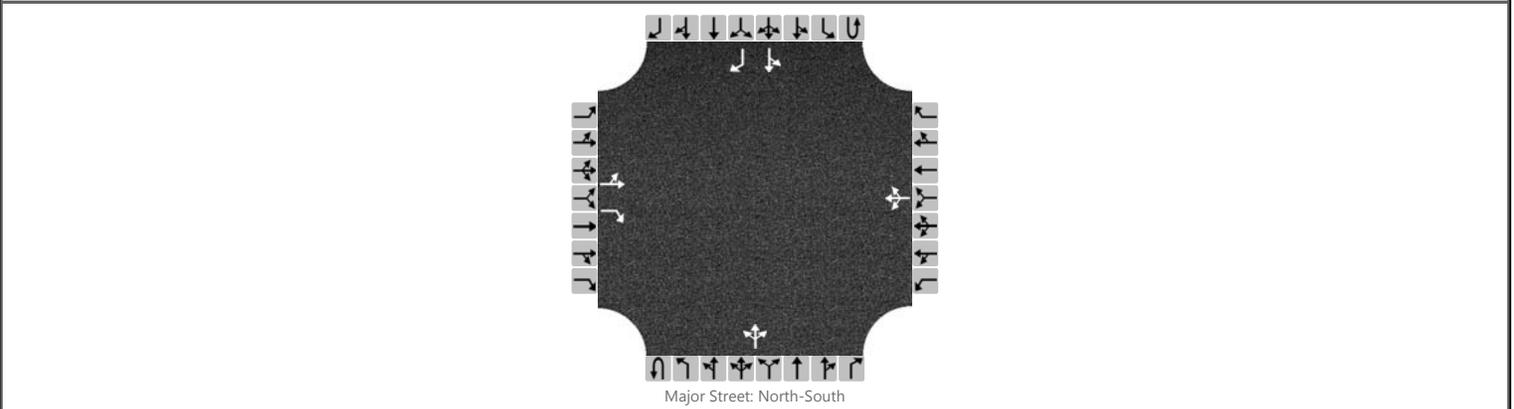
Flow Rate (veh/h)		20														12	
Capacity		1585														1022	
v/c Ratio		0.01														0.01	
95% Queue Length		0.0														0.0	
Control Delay (s/veh)		7.3														8.6	
Level of Service (LOS)		A														A	
Approach Delay (s/veh)	2.9												8.6				
Approach LOS													A				

Opening Year Without Project

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#1 - Crafton/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year Without Project	East/West Street	Nice Avenue
Analysis Year	2018	North/South Street	Crafton Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	0	0	0	1	0	0	0	1	1
Configuration		LT		R			LTR				LTR			LT		R
Volume (veh/h)		14	9	7		34	9	41		8	235	16		17	239	17
Percent Heavy Vehicles		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

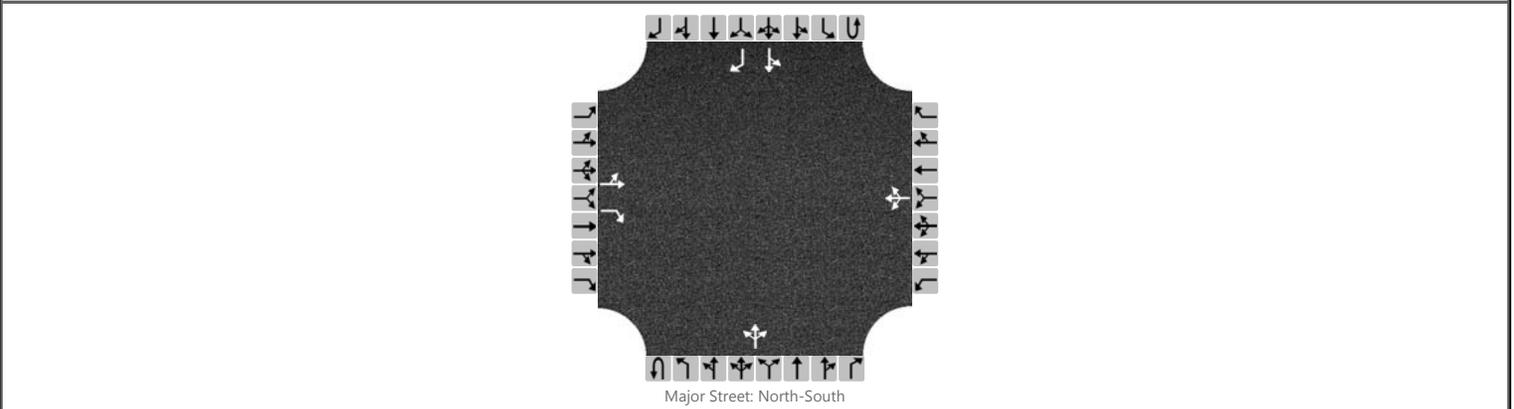
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		25		8			92			9				18		
Capacity		390		784			532			1297				1303		
v/c Ratio		0.06		0.01			0.17			0.01				0.01		
95% Queue Length		0.2		0.0			0.6			0.0				0.0		
Control Delay (s/veh)		14.9		9.6			13.2			7.8				7.8		
Level of Service (LOS)		B		A			B			A				A		
Approach Delay (s/veh)	13.6				13.2				0.3				0.6			
Approach LOS	B				B											

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#1 - Crafton/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year Without Project	East/West Street	Nice Avenue
Analysis Year	2018	North/South Street	Crafton Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.90
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	0	0	0	1	0	0	0	1	1
Configuration		LT		R			LTR				LTR			LT		R
Volume (veh/h)		18	25	21		18	14	22		11	245	33		30	239	9
Percent Heavy Vehicles		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

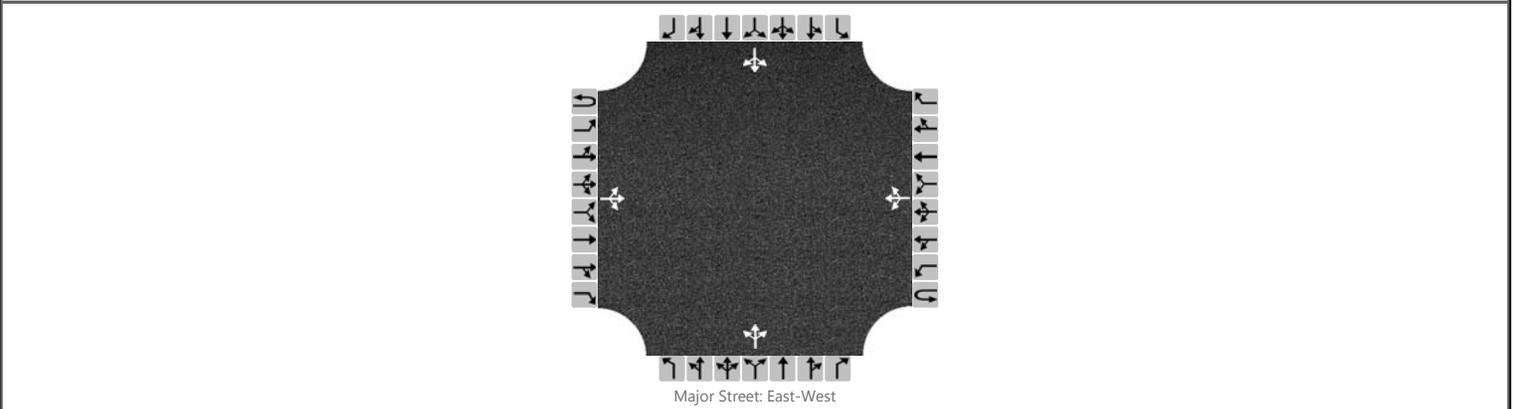
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		48		23			60			12				33		
Capacity		356		778			444			1299				1263		
v/c Ratio		0.13		0.03			0.14			0.01				0.03		
95% Queue Length		0.5		0.1			0.5			0.0				0.1		
Control Delay (s/veh)		16.7		9.8			14.4			7.8				7.9		
Level of Service (LOS)		C		A			B			A				A		
Approach Delay (s/veh)	14.4				14.4				0.4				1.1			
Approach LOS	B				B											

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#2 - Sapphire/Mentone
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year Without Project	East/West Street	Mentone Boulevard (SR-38)
Analysis Year	2018	North/South Street	Sapphire Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.89
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		10	273	8		6	628	0		4	0	8		3	1	25
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

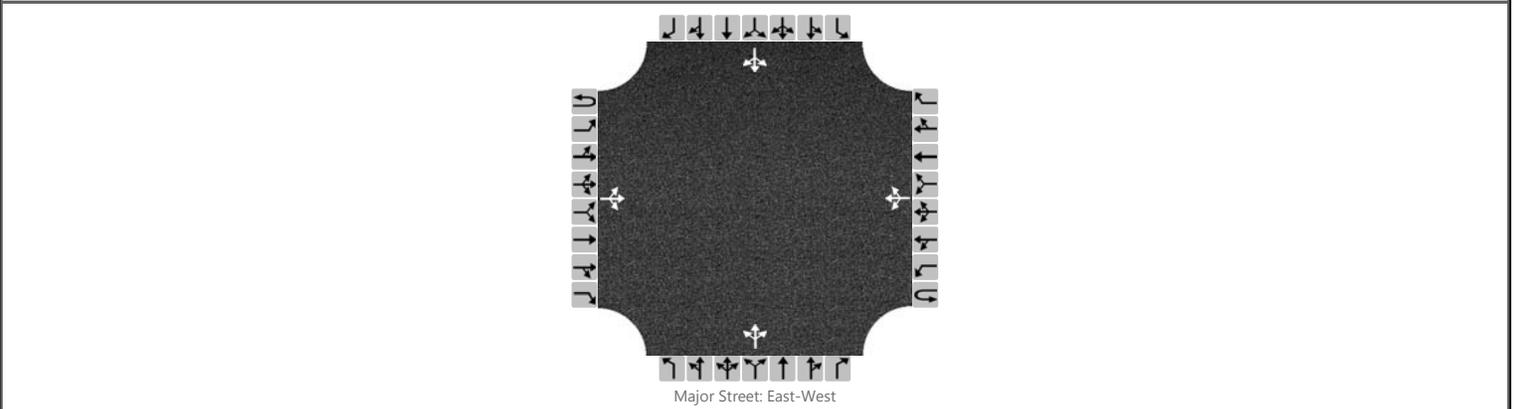
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		11				7					13					32	
Capacity		902				1256					383					384	
v/c Ratio		0.01				0.01					0.03					0.08	
95% Queue Length		0.0				0.0					0.1					0.3	
Control Delay (s/veh)		9.0				7.9					14.7					15.2	
Level of Service (LOS)		A				A					B					C	
Approach Delay (s/veh)	0.4				0.1				14.7				15.2				
Approach LOS									B				C				

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#2 - Sapphire/Mentone
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year Without Project	East/West Street	Mentone Boulevard (SR-38)
Analysis Year	2018	North/South Street	Sapphire Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.91
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		23	507	18		7	363	6		4	1	14		1	0	23
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

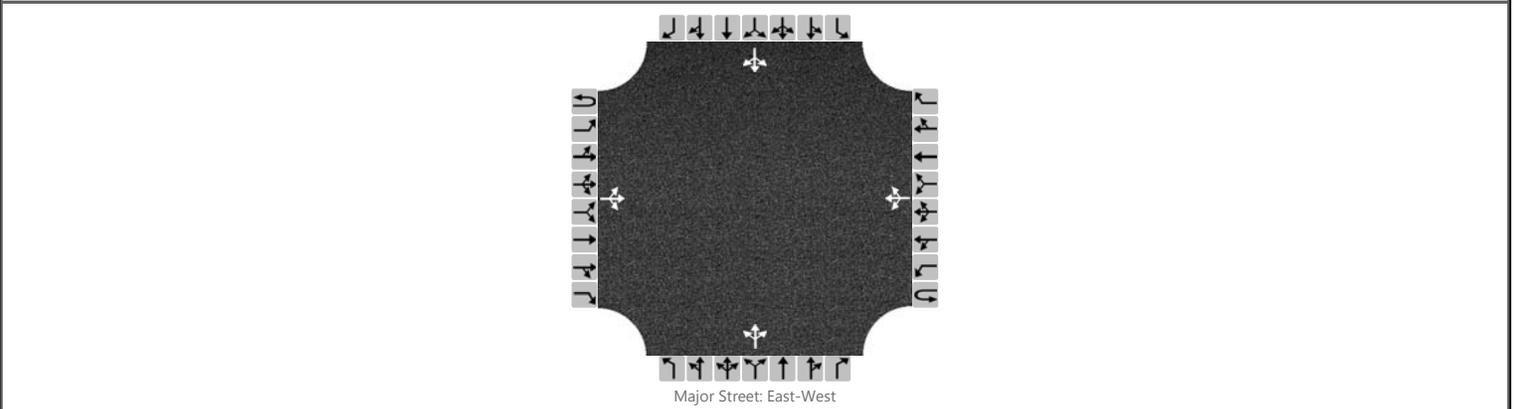
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		25				8					20				26	
Capacity		1164				1007					373				599	
v/c Ratio		0.02				0.01					0.05				0.04	
95% Queue Length		0.1				0.0					0.2				0.1	
Control Delay (s/veh)		8.2				8.6					15.2				11.3	
Level of Service (LOS)		A				A					C				B	
Approach Delay (s/veh)	0.6				0.3				15.2				11.3			
Approach LOS									C				B			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#3 - Sapphire/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year Without Project	East/West Street	Nice Avenue
Analysis Year	2018	North/South Street	Sapphire Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.79
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12	
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	15	2		2	29	1		4	11	2		4	15	1
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

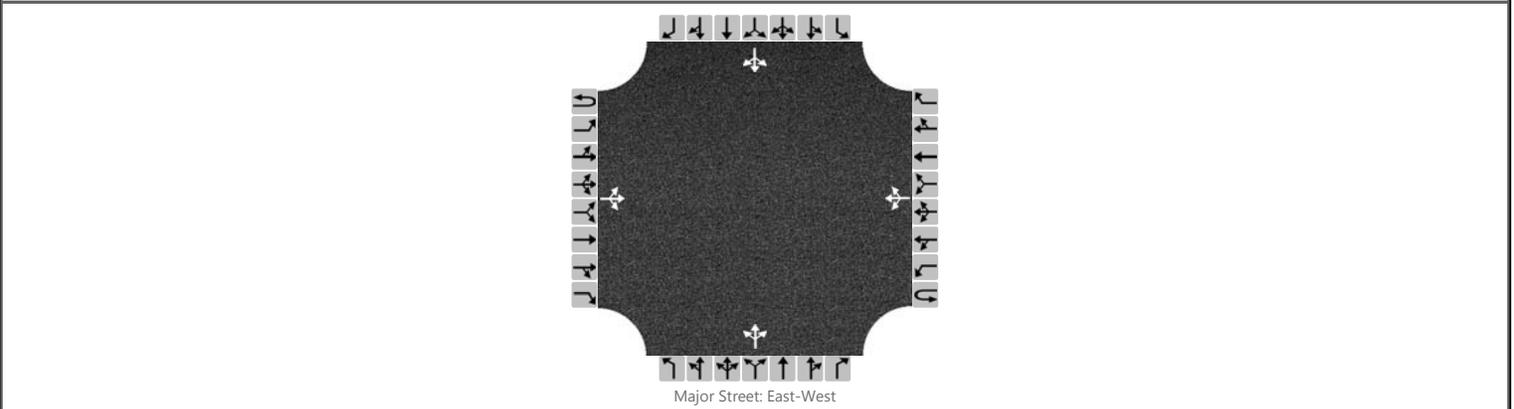
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		1				3					22				25	
Capacity		1585				1607					869				847	
v/c Ratio		0.00				0.00					0.03				0.03	
95% Queue Length		0.0				0.0					0.1				0.1	
Control Delay (s/veh)		7.3				7.2					9.3				9.4	
Level of Service (LOS)		A				A					A				A	
Approach Delay (s/veh)	0.3				0.5				9.3				9.4			
Approach LOS	A				A				A				A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#3 - Sapphire/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year Without Project	East/West Street	Nice Avenue
Analysis Year	2018	North/South Street	Sapphire Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.87
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		6	26	7		3	28	4		3	7	3		2	14	2
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

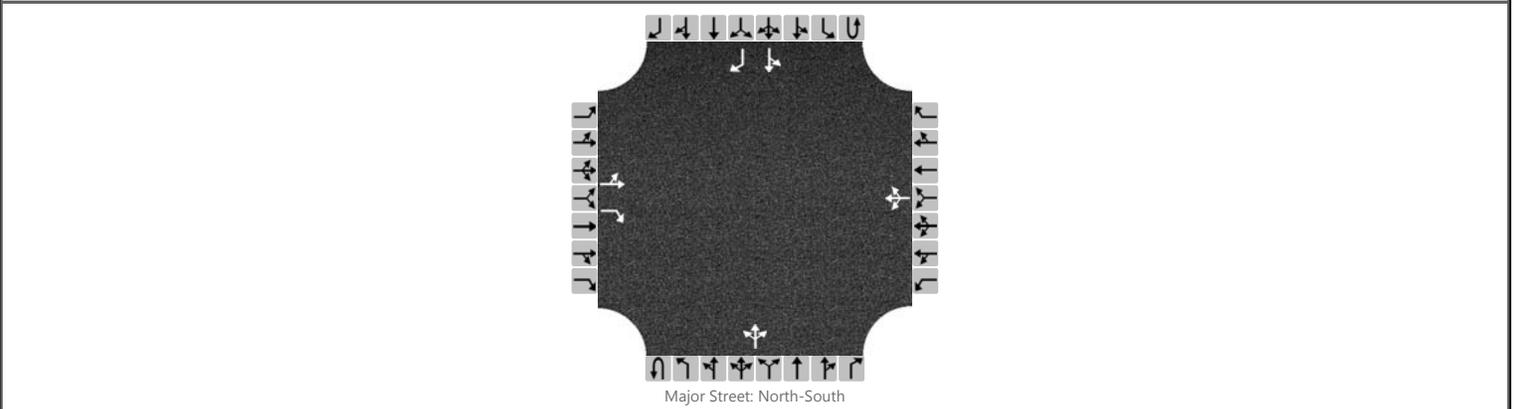
Flow Rate (veh/h)		7				3					14				20	
Capacity		1587				1585					856				824	
v/c Ratio		0.00				0.00					0.02				0.02	
95% Queue Length		0.0				0.0					0.0				0.1	
Control Delay (s/veh)		7.3				7.3					9.3				9.5	
Level of Service (LOS)		A				A					A				A	
Approach Delay (s/veh)	1.2				0.6				9.3				9.5			
Approach LOS	A				A				A				A			

Opening Year With Project

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#1 - Crafton/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year With Project	East/West Street	Nice Avenue
Analysis Year	2018	North/South Street	Crafton Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	0	0	0	1	0	0	0	1	1
Configuration		LT		R			LTR				LTR			LT		R
Volume (veh/h)		14	13	7		36	20	41		8	235	17		17	239	17
Percent Heavy Vehicles		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

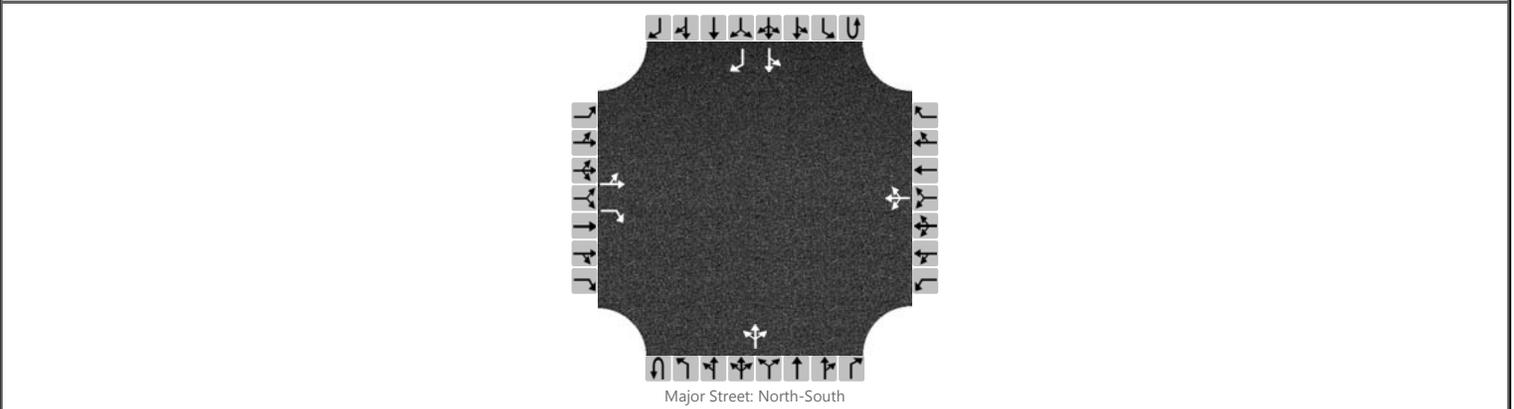
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		29		8			106			9				18		
Capacity		386		784			510			1297				1302		
v/c Ratio		0.08		0.01			0.21			0.01				0.01		
95% Queue Length		0.2		0.0			0.8			0.0				0.0		
Control Delay (s/veh)		15.1		9.6			13.9			7.8				7.8		
Level of Service (LOS)		C		A			B			A				A		
Approach Delay (s/veh)	13.9				13.9				0.3				0.6			
Approach LOS	B				B											

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#1 - Crafton/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year With Project	East/West Street	Nice Avenue
Analysis Year	2018	North/South Street	Crafton Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.90
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	0	0	0	1	0	0	0	1	1
Configuration		LT		R			LTR				LTR			LT		R
Volume (veh/h)		18	37	21		19	21	22		11	245	35		30	239	9
Percent Heavy Vehicles		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

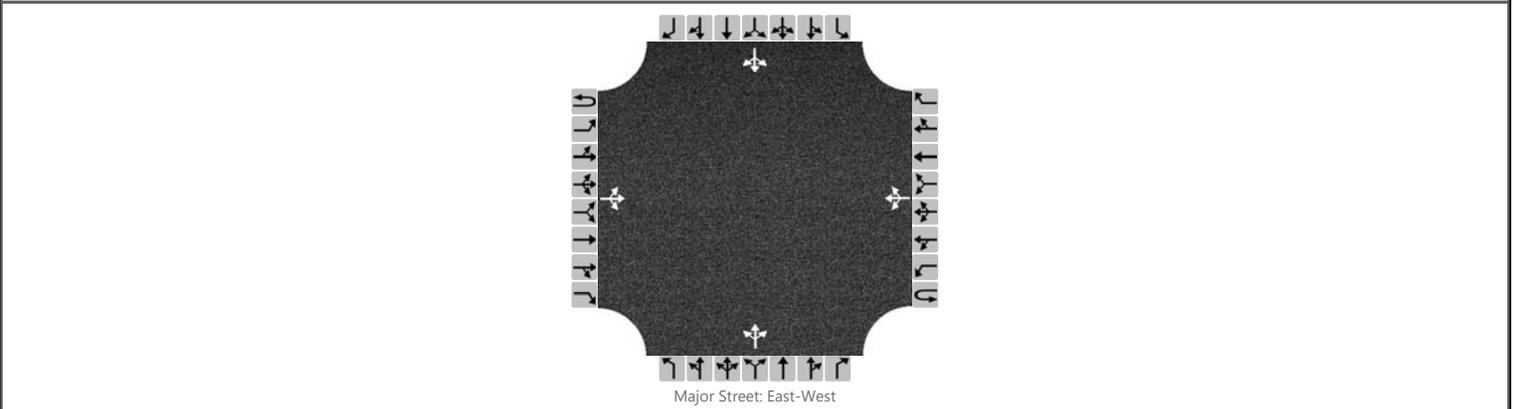
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		61		23			68			12				33		
Capacity		355		778			426			1299				1261		
v/c Ratio		0.17		0.03			0.16			0.01				0.03		
95% Queue Length		0.6		0.1			0.6			0.0				0.1		
Control Delay (s/veh)		17.2		9.8			15.0			7.8				7.9		
Level of Service (LOS)		C		A			C			A				A		
Approach Delay (s/veh)	15.2				15.0				0.4				1.1			
Approach LOS	C				C											

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#2 - Sapphire/Mentone
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year With Project	East/West Street	Mentone Boulevard (SR-38)
Analysis Year	2018	North/South Street	Sapphire Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.89
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		10	273	12		7	628	0		15	2	10		3	2	25
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

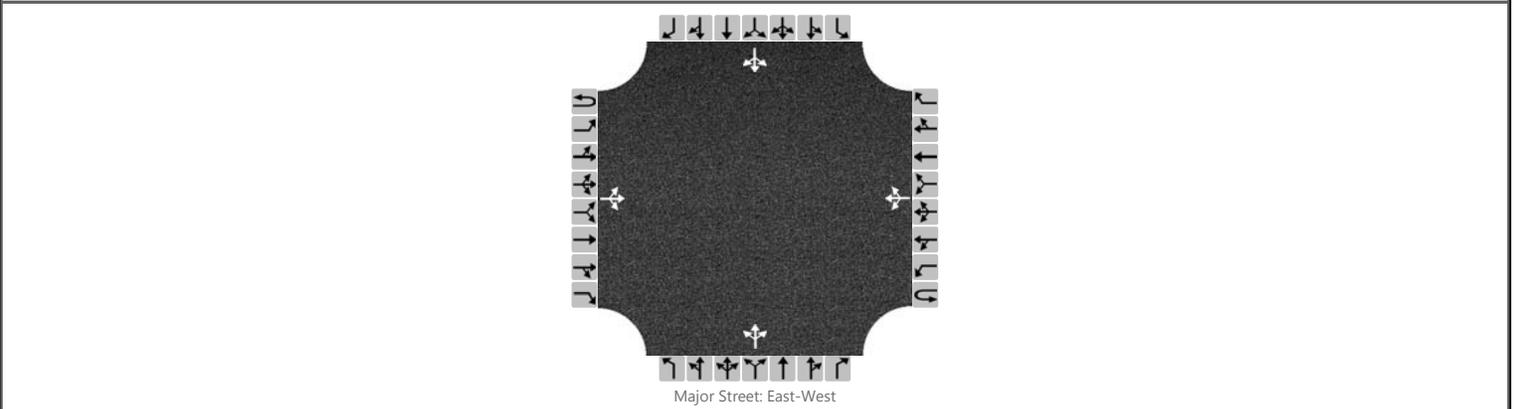
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		11				8					30					33	
Capacity		902				1252					256					374	
v/c Ratio		0.01				0.01					0.12					0.09	
95% Queue Length		0.0				0.0					0.4					0.3	
Control Delay (s/veh)		9.0				7.9					20.9					15.6	
Level of Service (LOS)		A				A					C					C	
Approach Delay (s/veh)	0.4				0.2				20.9				15.6				
Approach LOS									C				C				

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#2 - Sapphire/Mentone
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year With Project	East/West Street	Mentone Boulevard (SR-38)
Analysis Year	2018	North/South Street	Sapphire Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.91
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12	
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		23	507	32		9	363	6		13	2	15		1	2	23
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

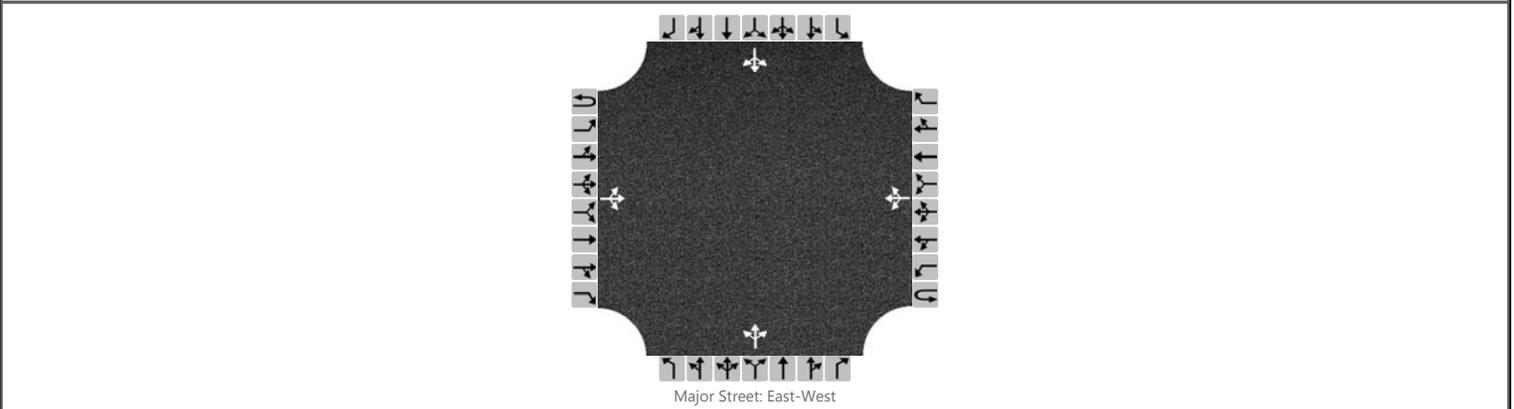
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		25				10					32				28	
Capacity		1164				994					280				530	
v/c Ratio		0.02				0.01					0.11				0.05	
95% Queue Length		0.1				0.0					0.4				0.2	
Control Delay (s/veh)		8.2				8.7					19.5				12.2	
Level of Service (LOS)		A				A					C				B	
Approach Delay (s/veh)	0.6				0.3				19.5				12.2			
Approach LOS									C				B			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#3 - Sapphire/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year With Project	East/West Street	Nice Avenue
Analysis Year	2018	North/South Street	Sapphire Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.79
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	19	2		7	40	14		4	11	4		9	15	3
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

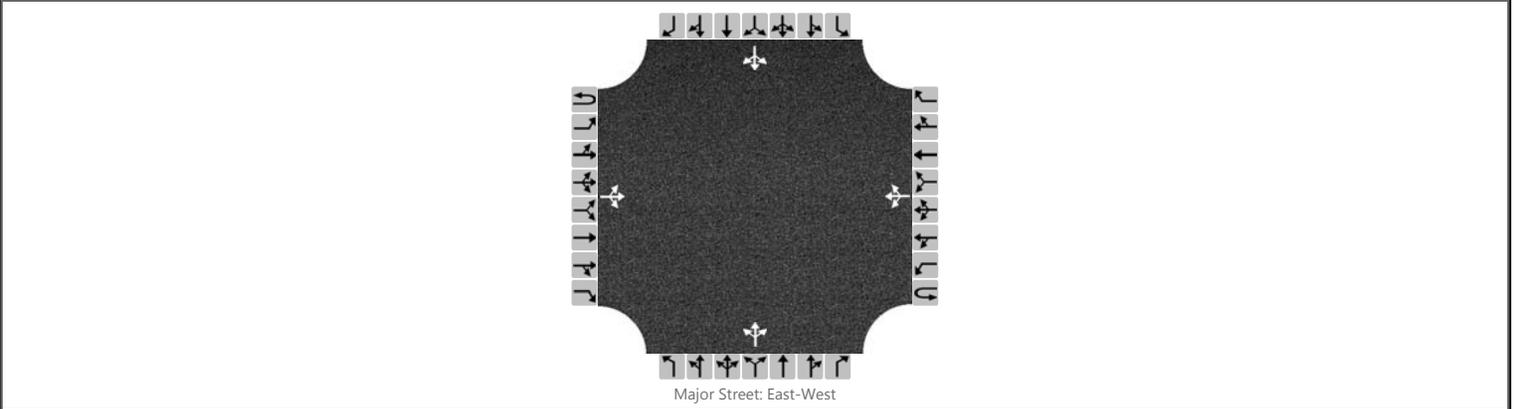
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		3				9					24				34	
Capacity		1545				1600					830				819	
v/c Ratio		0.00				0.01					0.03				0.04	
95% Queue Length		0.0				0.0					0.1				0.1	
Control Delay (s/veh)		7.3				7.3					9.5				9.6	
Level of Service (LOS)		A				A					A				A	
Approach Delay (s/veh)	0.7				0.9				9.5				9.6			
Approach LOS	A				A				A				A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#3 - Sapphire/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year With Project	East/West Street	Nice Avenue
Analysis Year	2018	North/South Street	Sapphire Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.87
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		8	38	7		6	35	14		3	7	9		18	14	3
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

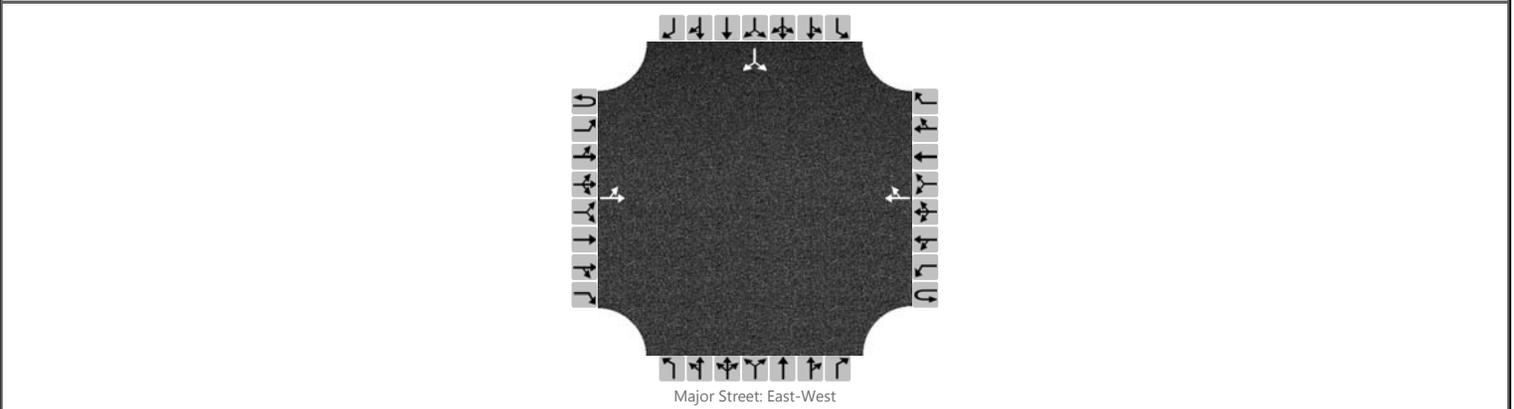
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		9				7					21					40
Capacity		1562				1567					872					803
v/c Ratio		0.01				0.00					0.02					0.05
95% Queue Length		0.0				0.0					0.1					0.2
Control Delay (s/veh)		7.3				7.3					9.2					9.7
Level of Service (LOS)		A				A					A					A
Approach Delay (s/veh)	1.1				0.8				9.2				9.7			
Approach LOS									A				A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#4 - Florence/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year With Project	East/West Street	Nice Avenue
Analysis Year	2018	North/South Street	Florence Drive
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Configuration		LT						TR							LR	
Volume (veh/h)		5	27				49	0						1		12
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

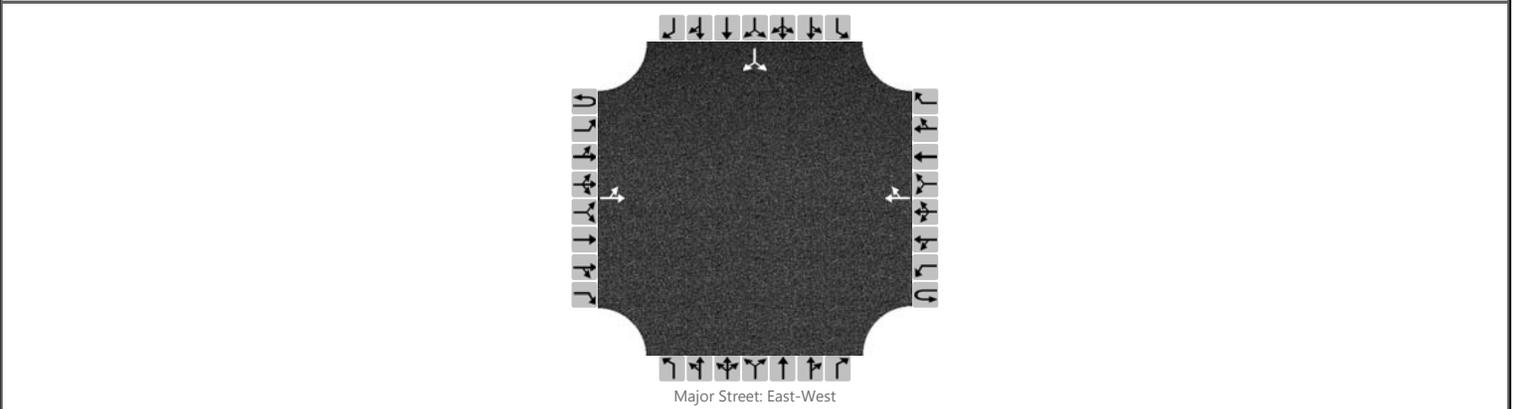
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		5														14
Capacity		1567														1011
v/c Ratio		0.00														0.01
95% Queue Length		0.0														0.0
Control Delay (s/veh)		7.3														8.6
Level of Service (LOS)		A														A
Approach Delay (s/veh)	1.1												8.6			
Approach LOS													A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#4 - Florence/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year With Project	East/West Street	Nice Avenue
Analysis Year	2018	North/South Street	Florence Drive
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Configuration		LT						TR							LR	
Volume (veh/h)		15	50				45	1						0		10
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

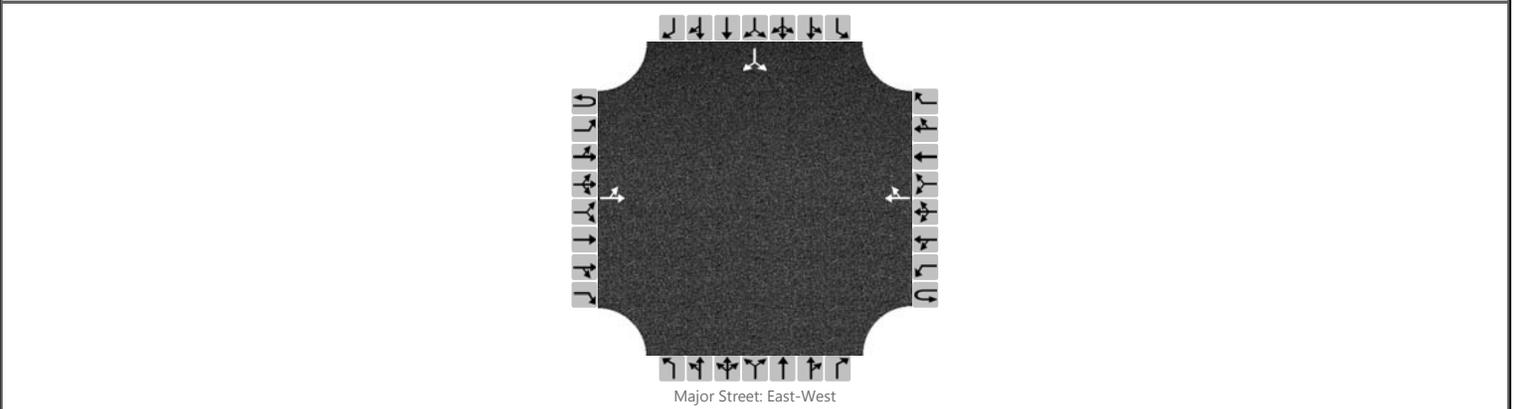
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		16														11	
Capacity		1572														1027	
v/c Ratio		0.01														0.01	
95% Queue Length		0.0														0.0	
Control Delay (s/veh)		7.3														8.5	
Level of Service (LOS)		A														A	
Approach Delay (s/veh)	1.8												8.5				
Approach LOS													A				

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#5 - Venice/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year With Project	East/West Street	Nice Avenue
Analysis Year	2018	North/South Street	Venice Drive
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Configuration		LT						TR							LR	
Volume (veh/h)		6	22				32	1						1		17
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

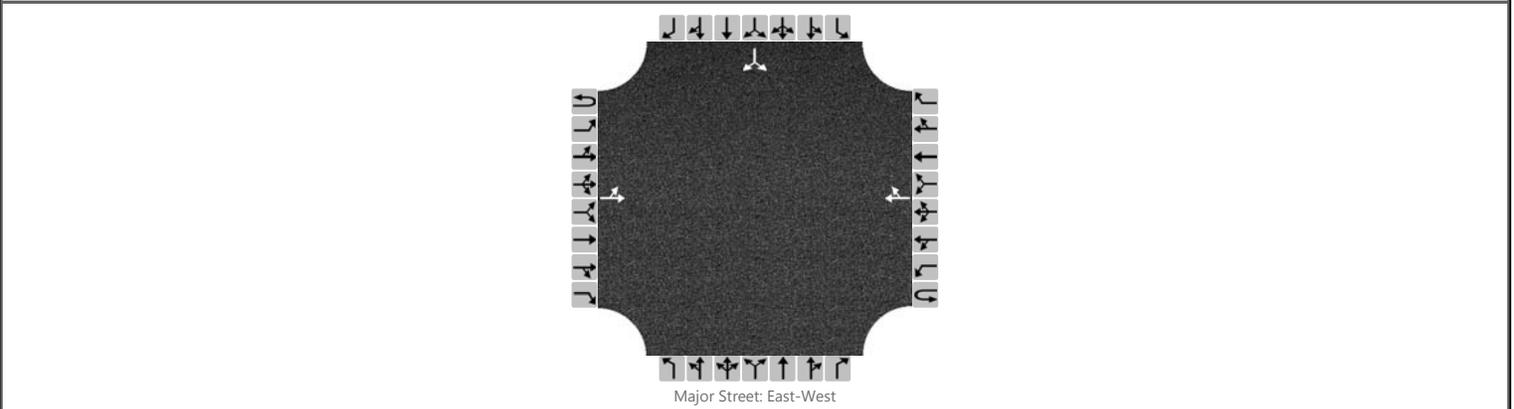
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		6														19	
Capacity		1589														1038	
v/c Ratio		0.00														0.02	
95% Queue Length		0.0														0.1	
Control Delay (s/veh)		7.3														8.5	
Level of Service (LOS)		A														A	
Approach Delay (s/veh)	1.5												8.5				
Approach LOS													A				

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#5 - Venice/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Opening Year With Project	East/West Street	Nice Avenue
Analysis Year	2018	North/South Street	Venice Drive
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Configuration		LT						TR							LR	
Volume (veh/h)		19	31				36	1						1		10
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

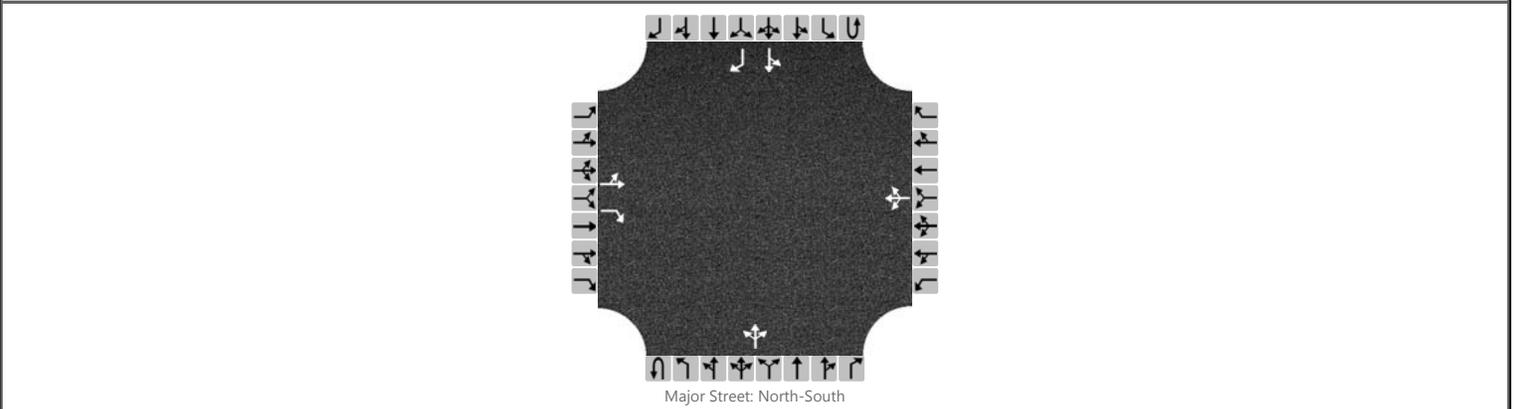
Flow Rate (veh/h)		20														12	
Capacity		1584														1022	
v/c Ratio		0.01														0.01	
95% Queue Length		0.0														0.0	
Control Delay (s/veh)		7.3														8.6	
Level of Service (LOS)		A														A	
Approach Delay (s/veh)	2.8												8.6				
Approach LOS													A				

Year 2040 Without Project

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#1 - Crafton/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 Without Project	East/West Street	Nice Avenue
Analysis Year	2040	North/South Street	Crafton Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	0	0	0	1	0	0	0	1	1
Configuration		LT		R			LTR				LTR			LT		R
Volume (veh/h)		15	10	8		37	10	45		9	370	17		18	305	18
Percent Heavy Vehicles		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

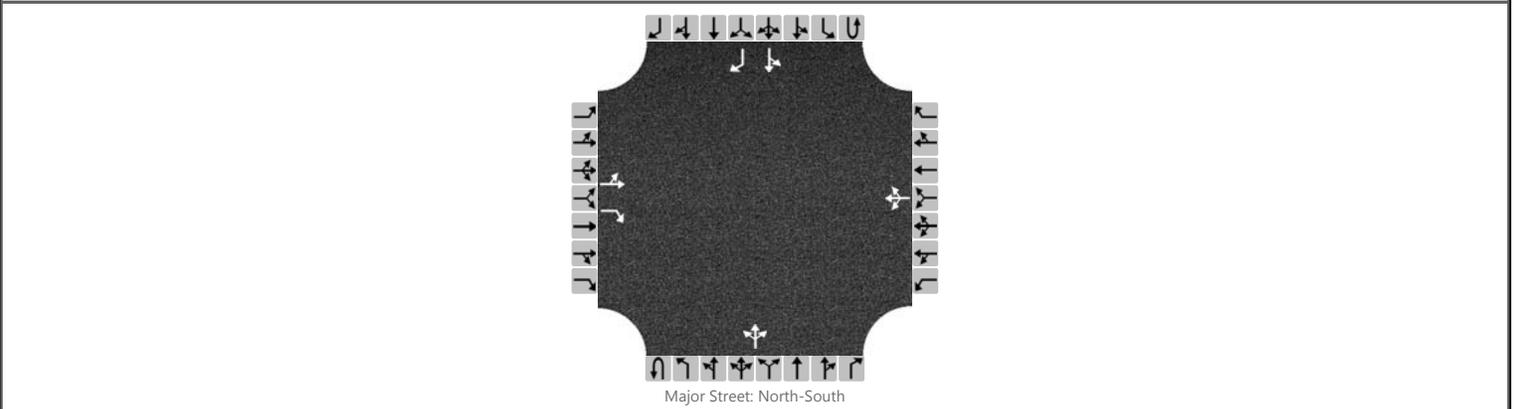
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		27		8			97			9				19		
Capacity		287		725			407			1231				1163		
v/c Ratio		0.09		0.01			0.24			0.01				0.02		
95% Queue Length		0.3		0.0			0.9			0.0				0.0		
Control Delay (s/veh)		18.9		10.0			16.6			7.9				8.1		
Level of Service (LOS)		C		B			C			A				A		
Approach Delay (s/veh)	16.8				16.6				0.2				0.6			
Approach LOS	C				C											

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#1 - Crafton/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 Without Project	East/West Street	Nice Avenue
Analysis Year	2040	North/South Street	Crafton Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	0	0	0	1	0	0	0	1	1
Configuration		LT		R			LTR				LTR			LT		R
Volume (veh/h)		19	26	27		24	14	25		12	335	39		38	419	10
Percent Heavy Vehicles		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

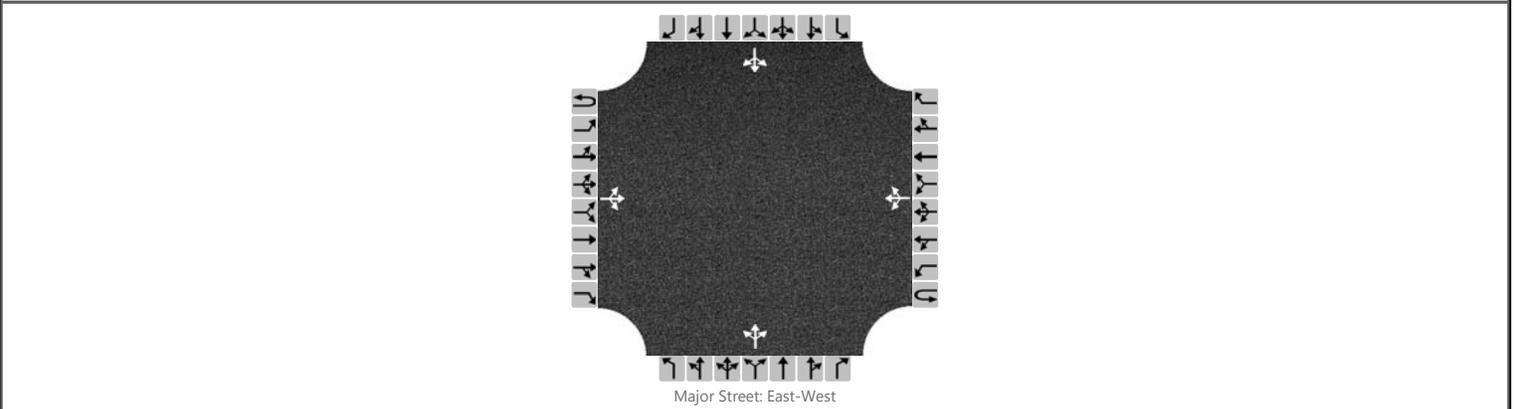
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		47		28			66			13				40		
Capacity		234		621			300			1119				1176		
v/c Ratio		0.20		0.05			0.22			0.01				0.03		
95% Queue Length		0.7		0.1			0.8			0.0				0.1		
Control Delay (s/veh)		24.2		11.1			20.3			8.3				8.2		
Level of Service (LOS)		C		B			C			A				A		
Approach Delay (s/veh)	19.3				20.3				0.4				1.0			
Approach LOS	C				C											

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#2 - Sapphire/Mentone
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 Without Project	East/West Street	Mentone Boulevard (SR-38)
Analysis Year	2040	North/South Street	Sapphire Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	541	13		7	800	0		4	0	9		2	1	9
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

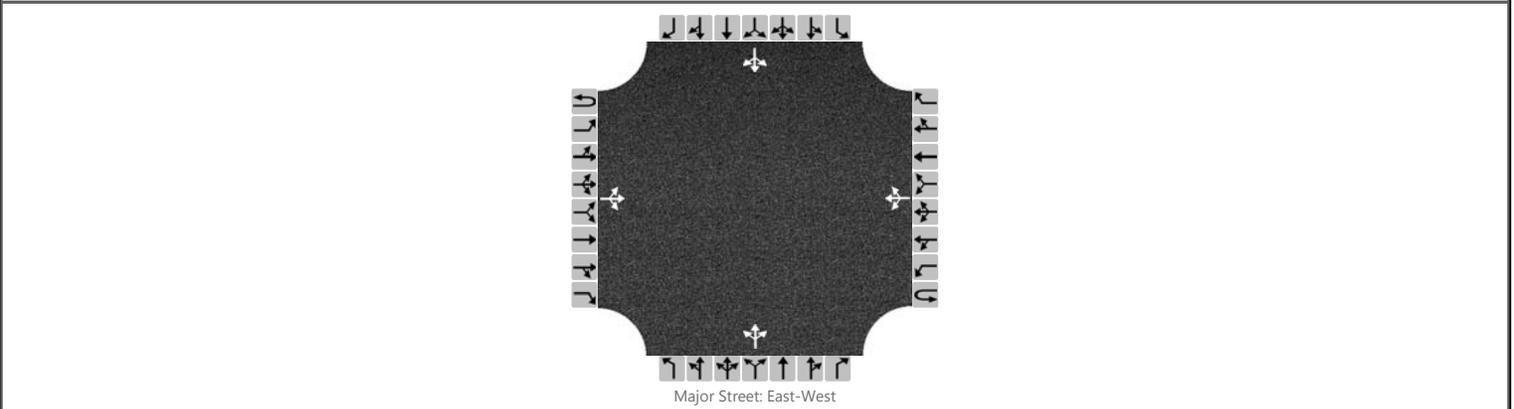
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		4				7					13				12	
Capacity		803				1002					236				236	
v/c Ratio		0.00				0.01					0.06				0.05	
95% Queue Length		0.0				0.0					0.2				0.2	
Control Delay (s/veh)		9.5				8.6					21.1				21.1	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)	0.1				0.2				21.1				21.1			
Approach LOS									C				C			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#2 - Sapphire/Mentone
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 Without Project	East/West Street	Mentone Boulevard (SR-38)
Analysis Year	2040	North/South Street	Sapphire Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		7	746	19		8	665	4		5	1	14		0	0	13
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

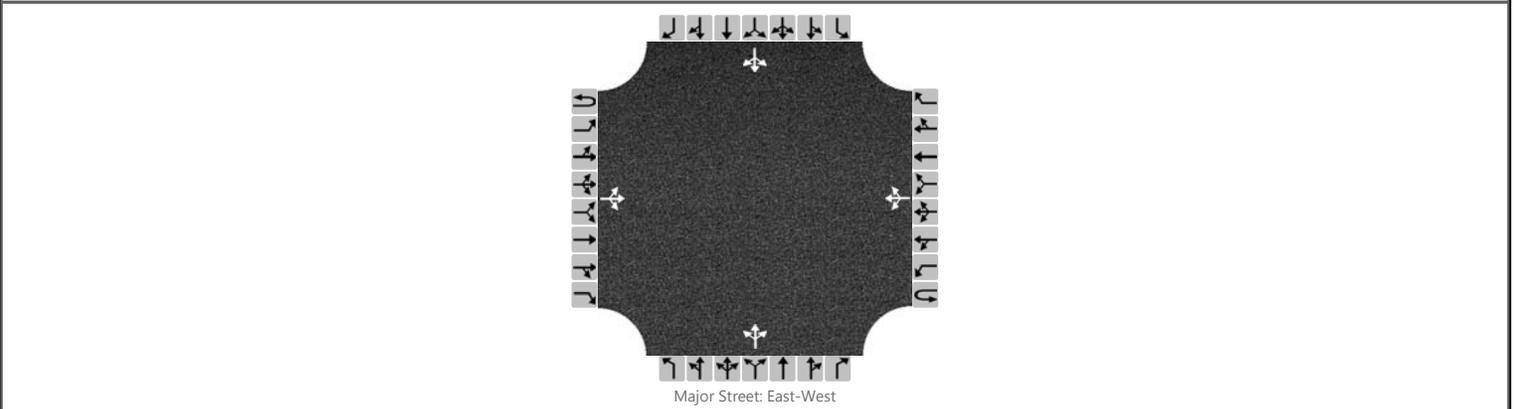
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		7				8					21				14	
Capacity		903				828					206				442	
v/c Ratio		0.01				0.01					0.10				0.03	
95% Queue Length		0.0				0.0					0.3				0.1	
Control Delay (s/veh)		9.0				9.4					24.5				13.4	
Level of Service (LOS)		A				A					C				B	
Approach Delay (s/veh)	0.2				0.2				24.5				13.4			
Approach LOS									C				B			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#3 - Sapphire/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 Without Project	East/West Street	Nice Avenue
Analysis Year	2040	North/South Street	Sapphire Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12	
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	16	2		2	33	1		5	13	2		5	16	1
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

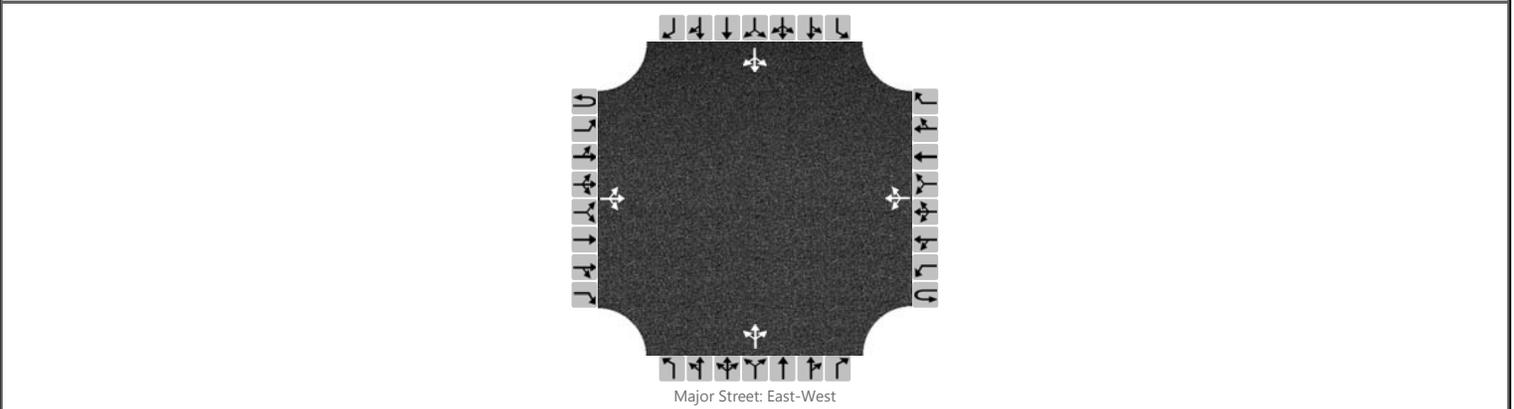
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		1				2					21				23	
Capacity		1588				1611					869				857	
v/c Ratio		0.00				0.00					0.02				0.03	
95% Queue Length		0.0				0.0					0.1				0.1	
Control Delay (s/veh)		7.3				7.2					9.2				9.3	
Level of Service (LOS)		A				A					A				A	
Approach Delay (s/veh)	0.4				0.4				9.2				9.3			
Approach LOS	A				A				A				A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#3 - Sapphire/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 Without Project	East/West Street	Nice Avenue
Analysis Year	2040	North/South Street	Sapphire Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		7	29	8		4	32	5		4	8	4		2	15	2
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

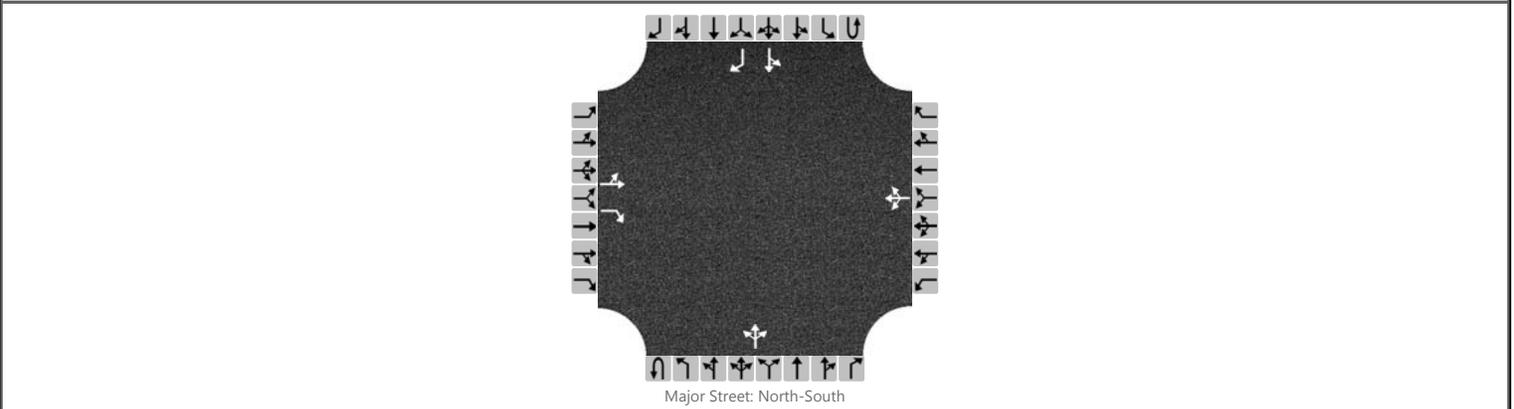
Flow Rate (veh/h)		7				4					16				20	
Capacity		1584				1584					862				818	
v/c Ratio		0.00				0.00					0.02				0.02	
95% Queue Length		0.0				0.0					0.1				0.1	
Control Delay (s/veh)		7.3				7.3					9.3				9.5	
Level of Service (LOS)		A				A					A				A	
Approach Delay (s/veh)	1.1				0.7				9.3				9.5			
Approach LOS	A				A				A				A			

Year 2040 With Project

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#1 - Crafton/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 With Project	East/West Street	Nice Avenue
Analysis Year	2040	North/South Street	Crafton Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	0	0	0	1	0	0	0	1	1
Configuration		LT		R			LTR				LTR			LT		R
Volume (veh/h)		15	14	8		39	21	45		9	370	18		18	305	18
Percent Heavy Vehicles		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

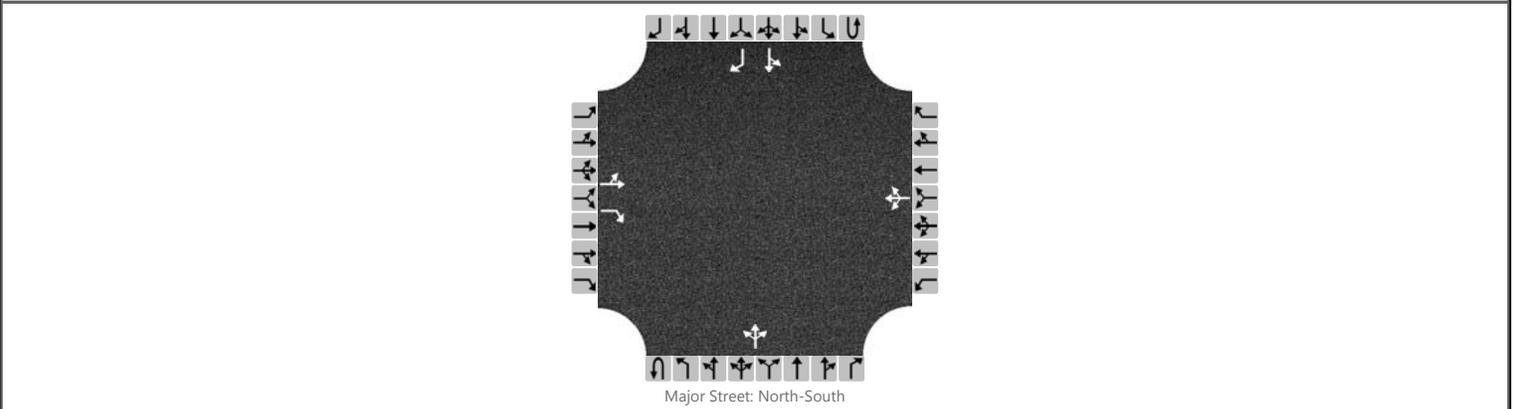
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		31		8			110			9				19		
Capacity		284		725			391			1231				1162		
v/c Ratio		0.11		0.01			0.28			0.01				0.02		
95% Queue Length		0.4		0.0			1.1			0.0				0.0		
Control Delay (s/veh)		19.2		10.0			17.8			7.9				8.1		
Level of Service (LOS)		C		B			C			A				A		
Approach Delay (s/veh)	17.3				17.8				0.2				0.6			
Approach LOS	C				C											

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#1 - Crafton/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 With Project	East/West Street	Nice Avenue
Analysis Year	2040	North/South Street	Crafton Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	0	0	0	1	0	0	0	1	1
Configuration		LT		R			LTR				LTR			LT		R
Volume (veh/h)		19	38	27		25	21	25		12	335	41		38	419	10
Percent Heavy Vehicles		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

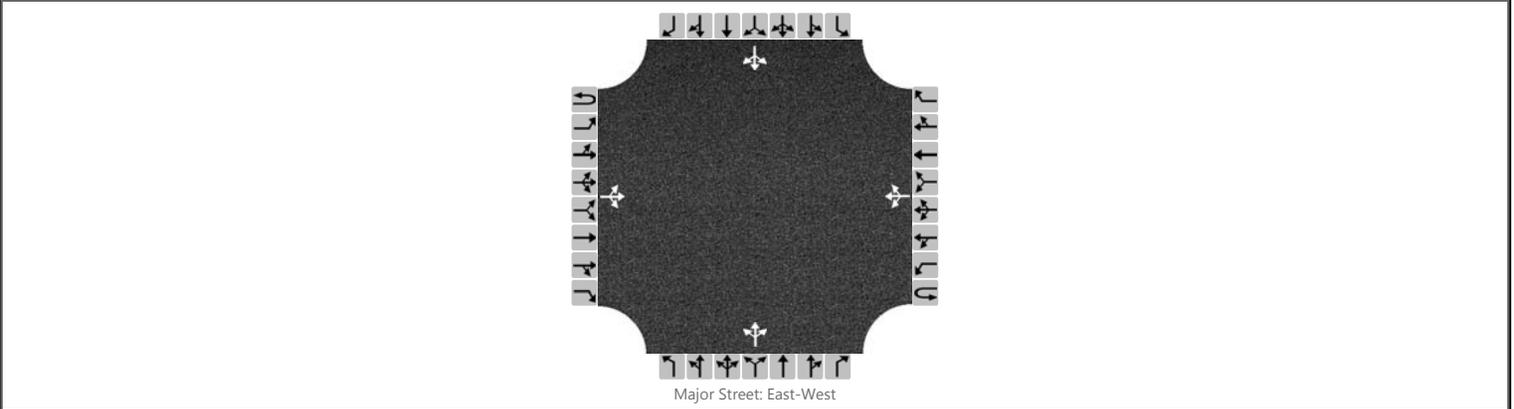
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		60		28			74			13				40		
Capacity		234		621			285			1119				1174		
v/c Ratio		0.26		0.05			0.26			0.01				0.03		
95% Queue Length		1.0		0.1			1.0			0.0				0.1		
Control Delay (s/veh)		25.6		11.1			22.0			8.3				8.2		
Level of Service (LOS)		D		B			C			A				A		
Approach Delay (s/veh)	21.0				22.0				0.4				1.0			
Approach LOS	C				C											

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#2 - Sapphire/Mentone
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 With Project	East/West Street	Mentone Boulevard (SR-38)
Analysis Year	2040	North/South Street	Sapphire Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	541	17		8	800	0		15	2	11		2	2	9
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

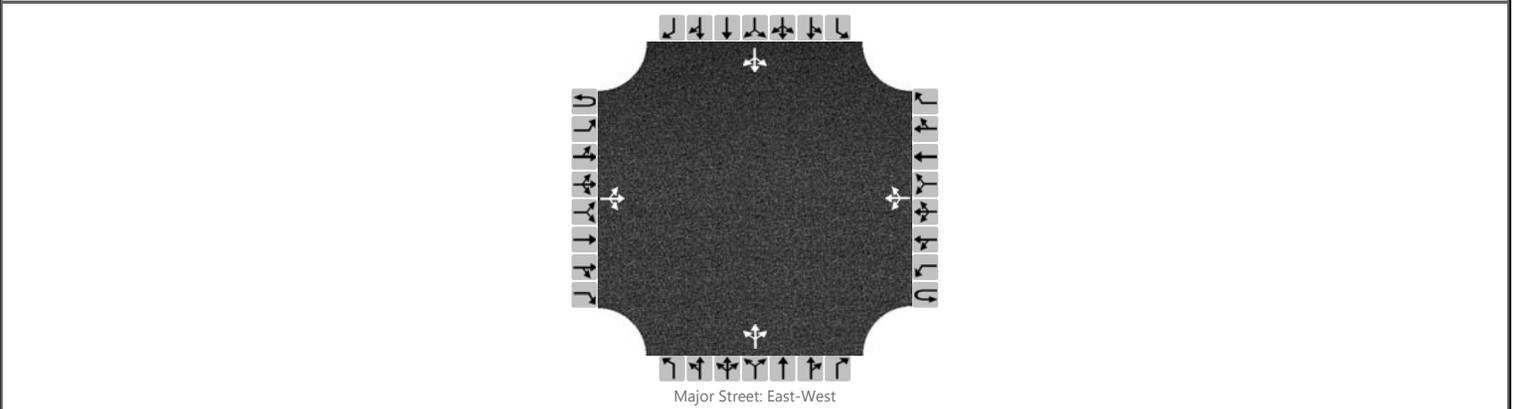
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		4				8					30				13	
Capacity		803				998					156				220	
v/c Ratio		0.00				0.01					0.19				0.06	
95% Queue Length		0.0				0.0					0.7				0.2	
Control Delay (s/veh)		9.5				8.6					33.4				22.4	
Level of Service (LOS)		A				A					D				C	
Approach Delay (s/veh)	0.1				0.2				33.4				22.4			
Approach LOS									D				C			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#2 - Sapphire/Mentone
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 With Project	East/West Street	Mentone Boulevard (SR-38)
Analysis Year	2040	North/South Street	Sapphire Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		7	746	33		10	665	4		14	2	15		0	2	13
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

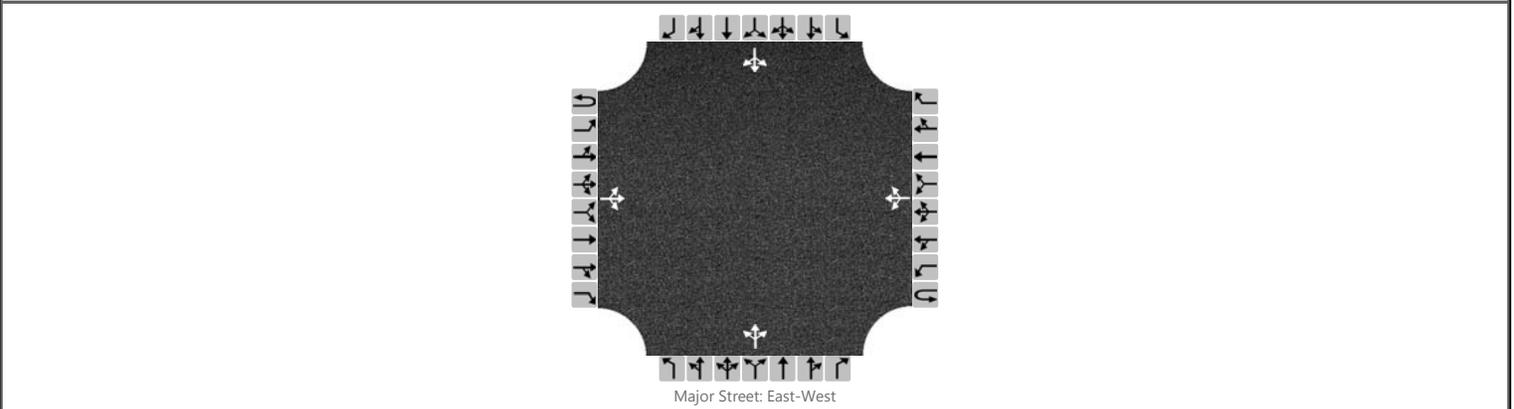
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		7				11					33					16
Capacity		903				818					143					320
v/c Ratio		0.01				0.01					0.23					0.05
95% Queue Length		0.0				0.0					0.8					0.2
Control Delay (s/veh)		9.0				9.5					37.6					16.8
Level of Service (LOS)		A				A					E					C
Approach Delay (s/veh)	0.2				0.3				37.6				16.8			
Approach LOS									E				C			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#3 - Sapphire/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 With Project	East/West Street	Nice Avenue
Analysis Year	2040	North/South Street	Sapphire Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	20	2		7	44	14		5	13	4		10	16	3
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

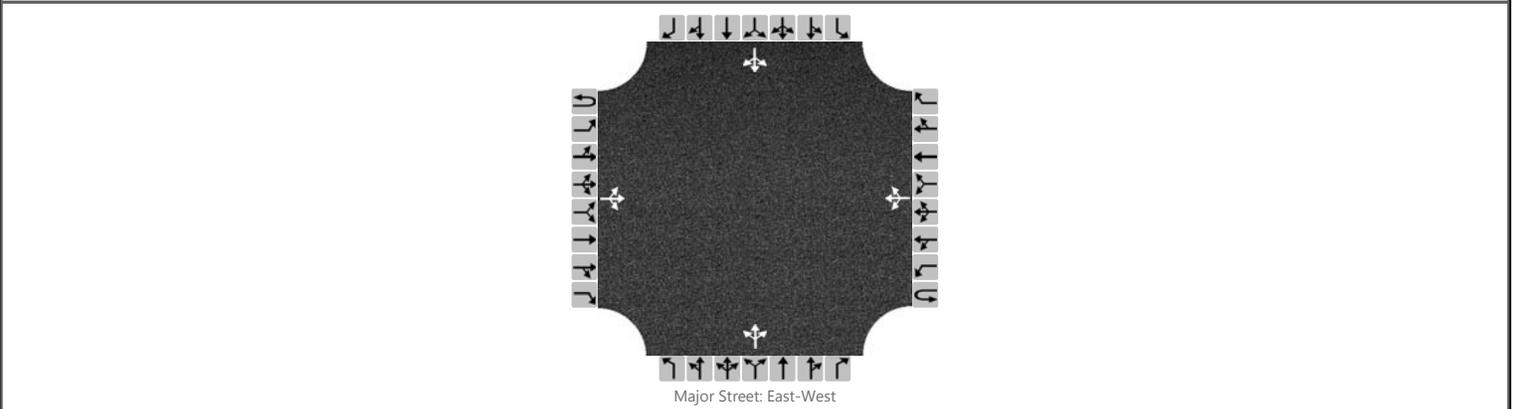
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		2				7					23				31	
Capacity		1555				1605					841				837	
v/c Ratio		0.00				0.00					0.03				0.04	
95% Queue Length		0.0				0.0					0.1				0.1	
Control Delay (s/veh)		7.3				7.3					9.4				9.5	
Level of Service (LOS)		A				A					A				A	
Approach Delay (s/veh)	0.6				0.8				9.4				9.5			
Approach LOS	A				A				A				A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#3 - Sapphire/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 With Project	East/West Street	Nice Avenue
Analysis Year	2040	North/South Street	Sapphire Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		9	41	8		7	39	15		4	8	10		18	15	3
Percent Heavy Vehicles		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

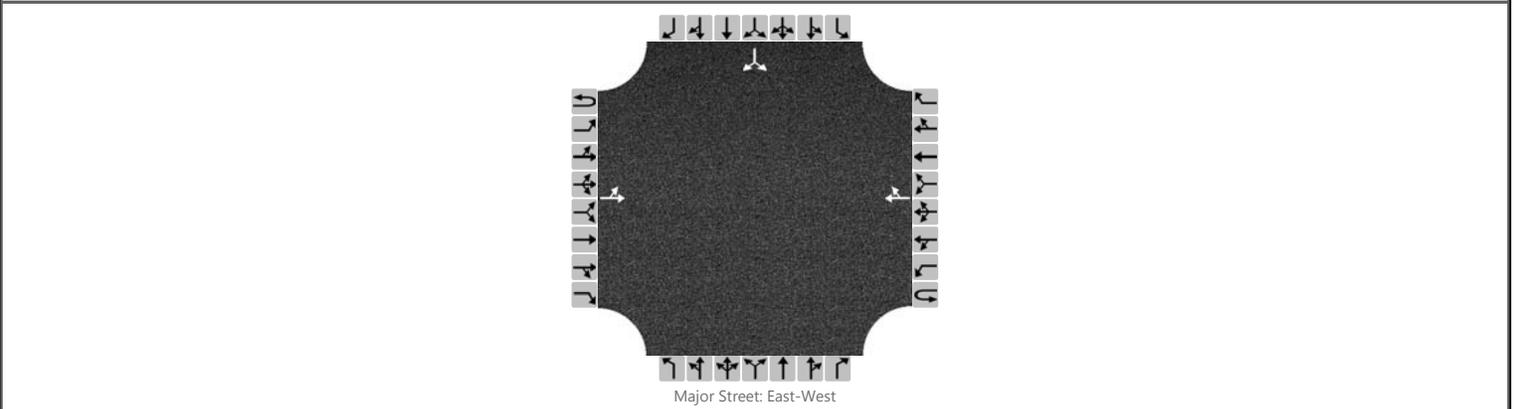
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		9				7					23					38	
Capacity		1561				1568					876					801	
v/c Ratio		0.01				0.00					0.03					0.05	
95% Queue Length		0.0				0.0					0.1					0.1	
Control Delay (s/veh)		7.3				7.3					9.2					9.7	
Level of Service (LOS)		A				A					A					A	
Approach Delay (s/veh)	1.1				0.8				9.2				9.7				
Approach LOS	A				A				A				A				

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#4 - Florence/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 With Project	East/West Street	Nice Avenue
Analysis Year	2040	North/South Street	Florence Drive
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Configuration		LT						TR							LR	
Volume (veh/h)		5	29				53	0						1		12
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

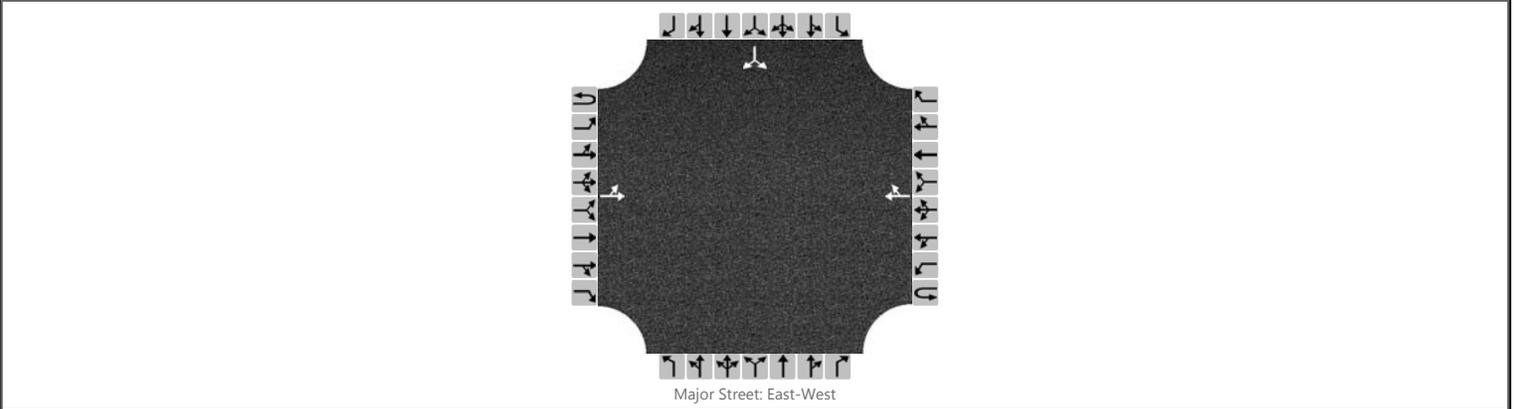
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		5														14	
Capacity		1562														1006	
v/c Ratio		0.00														0.01	
95% Queue Length		0.0														0.0	
Control Delay (s/veh)		7.3														8.6	
Level of Service (LOS)		A														A	
Approach Delay (s/veh)	1.0												8.6				
Approach LOS													A				

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#4 - Florence/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 With Project	East/West Street	Nice Avenue
Analysis Year	2040	North/South Street	Florence Drive
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		LT						TR							LR	
Volume (veh/h)		15	54				51	1						0		10
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

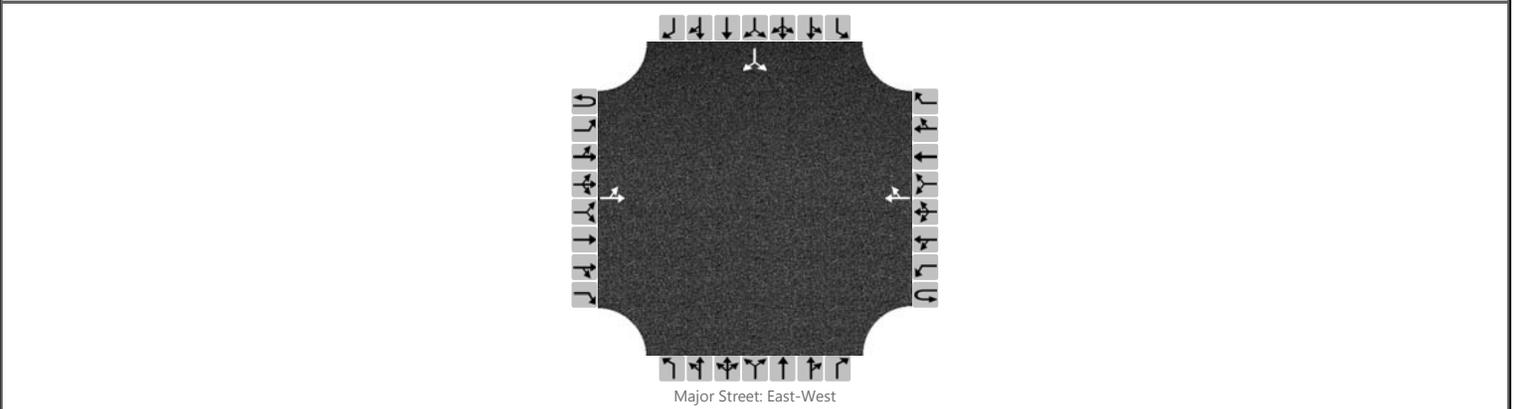
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		16														11
Capacity		1563														1019
v/c Ratio		0.01														0.01
95% Queue Length		0.0														0.0
Control Delay (s/veh)		7.3														8.6
Level of Service (LOS)		A														A
Approach Delay (s/veh)	1.7												8.6			
Approach LOS													A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#5 - Venice/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 With Project	East/West Street	Nice Avenue
Analysis Year	2040	North/South Street	Venice Drive
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Configuration		LT						TR							LR	
Volume (veh/h)		6	24				36	1						1		17
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

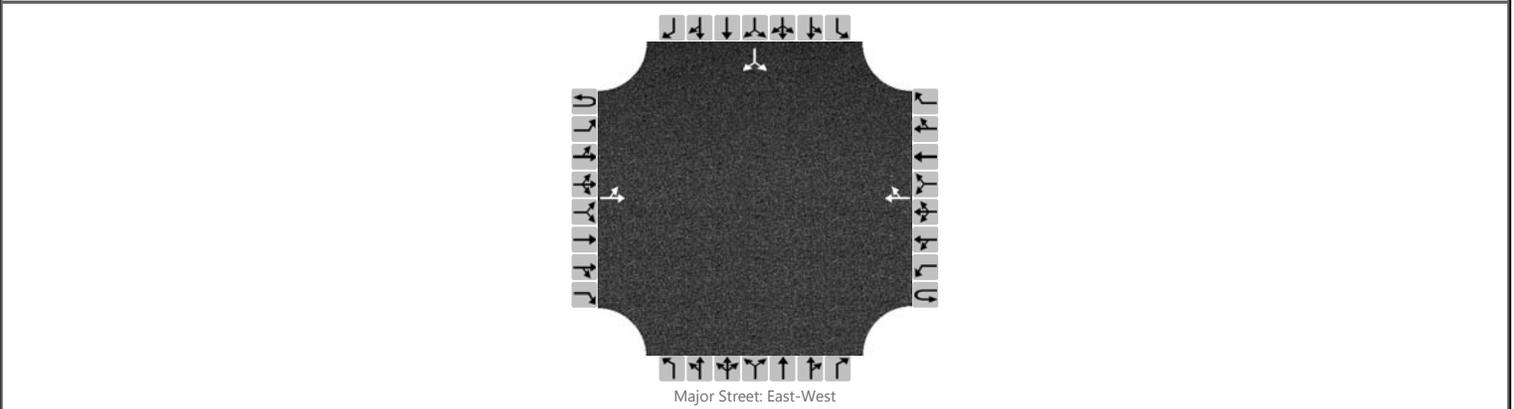
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		6														19	
Capacity		1584														1032	
v/c Ratio		0.00														0.02	
95% Queue Length		0.0														0.1	
Control Delay (s/veh)		7.3														8.6	
Level of Service (LOS)		A														A	
Approach Delay (s/veh)	1.4												8.6				
Approach LOS													A				

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	Kunzman Associates, Inc.	Intersection	#5 - Venice/Nice
Agency/Co.		Jurisdiction	County of San Bernardino
Date Performed	Year 2040 With Project	East/West Street	Nice Avenue
Analysis Year	2040	North/South Street	Venice Drive
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TTM 19991		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Configuration		LT						TR							LR	
Volume (veh/h)		19	35				42	1						1		10
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		20														12	
Capacity		1576														1013	
v/c Ratio		0.01														0.01	
95% Queue Length		0.0														0.0	
Control Delay (s/veh)		7.3														8.6	
Level of Service (LOS)		A														A	
Approach Delay (s/veh)	2.6												8.6				
Approach LOS													A				



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