

BORON BEYOND FOOD MART PROJECT TRAFFIC IMPACT ANALYSIS

County of San Bernardino

March 30, 2020



Traffic Engineering • Transportation Planning • Parking • Noise & Vibration
Air Quality • Global Climate Change • Health Risk Assessment

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prepared by

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EXECUTIVE SUMMARY

The purpose of this Traffic Impact Analysis is to provide an assessment of traffic operations resulting from development of the proposed Boron Beyond Food Mart Project and to identify mitigation measures, if necessary, to mitigate potentially significant traffic impacts. This report analyzes traffic impacts for the anticipated project opening in Year 2021, and for a Year 2040 scenario reflective of the County of San Bernardino General Plan buildout.

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

PROJECT DESCRIPTION

The 2.8-acre project site is located southwest of US-395/SR-58 interchange within the unincorporated area of the County of San Bernardino west of Boron. The project site is currently developed with a 1,450 square foot fast food with drive-thru, 4-fueling position gas station, one single-family dwelling unit, and an automobile care service station with one service bay. The proposed project consists of redeveloping the project site to consist of a 7,250 square foot super convenience store with drive-thru window and gas pumps.

The proposed project will access the existing driveway cut at the SR-58 eastbound ramps which provides a full access to the SR-58 eastbound ramps and US-395. One (1) additional access driveway is proposed on US-395 south of the existing driveway. The proposed project is anticipated to be constructed and fully operational by year 2021.

EXISTING CONDITIONS

The study intersections currently operate within acceptable Levels of Service (C or better for County of San Bernardino and D or better for Caltrans) during the peak hours for Existing conditions (see Table 1).

PROJECT TRIPS

The proposed project is forecast to generate a total of approximately 6,072 gross daily trips, including 603 gross trips during the AM peak hour and 502 gross trips during the PM peak hour. A substantial portion of the project-generated retail trips come from pass-by trips. Therefore, the proposed project is forecast to result in a net increase of approximately 5,417 net daily trips, including 229 net trips during the AM peak hour and 221 net trips during the PM peak hour for the roadway network immediately outside the study area, (see Table 2).

FORECAST CONDITIONS

Existing Plus Project: The study intersections are forecast to operate within acceptable Levels of Service (C or better for County of San Bernardino and D or better for Caltrans) during the peak hours for Existing Plus Project conditions (see Table 5).

Opening Year (2021) Without Project: The study intersections are forecast to operate within acceptable Levels of Service (C or better for County of San Bernardino and D or better for Caltrans) during the peak hours for Opening Year (2021) Without Project conditions (see Table 6).

Opening Year (2021) With Project: The study intersections are forecast to operate within acceptable Levels of Service (C or better for County of San Bernardino and D or better for Caltrans) during the peak hours for Opening Year (2021) With Project conditions (see Table 6).

Year 2040 Without Project: The study intersections are forecast to operate within acceptable Levels of Service (C or better for County of San Bernardino and D or better for Caltrans) during the peak hours for Year 2040 Without Project conditions (see Table 7).

Year 2040 With Project: The study intersections are forecast to operate within acceptable Levels of Service (C or better for County of San Bernardino and D or better for Caltrans) during the peak hours for Year 2040 With Project conditions (see Table 7).

STATE HIGHWAY ANALYSIS

The proposed project is forecast to result in no significant traffic impacts at the state highway study intersections and freeway off-ramps for the scenarios analyzed based on the Caltrans-established thresholds of significance.

MITIGATION MEASURES

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

1. INTRODUCTION

This section describes the purpose of this traffic impact analysis, project location, proposed development, and study area. Figure 1 and Figure 2 show the regional location map and project location map, respectively. Figure 3 illustrates the project site plan.

PURPOSE AND OBJECTIVES

The purpose of this Traffic Impact Analysis is to provide an assessment of traffic operations resulting from development of the proposed Boron Beyond Food Mart Project and to identify mitigation measures, if necessary, to mitigate potentially significant traffic impacts. This report analyzes traffic impacts for the anticipated project opening in Year 2021, and for a Year 2040 scenario reflective of the County of San Bernardino General Plan buildout.

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

PROJECT DESCRIPTION

The 2.8-acre project site is located south west of US-395/SR-58 interchange within the unincorporated area of the County of San Bernardino west of Boron. The project site is currently developed with a 1,450 square foot fast food with drive-thru, 4-fueling position gas station, one single-family dwelling unit, and an automobile care service station with one service bay. The proposed project consists of redeveloping the project site to consist of a 7,250 square foot super convenience store with drive-thru window and gas pumps.

The proposed project will access the existing driveway cut at the SR-58 eastbound ramps which provides a full access to the SR-58 eastbound ramps and US-395. One (1) additional access driveway is proposed on US-395 south of the existing driveway. The proposed project is anticipated to be constructed and fully operational by year 2021.

STUDY AREA

Based on the study intersections identified in the scoping agreement (Appendix B), the study area consists of the following study intersections within the County of San Bernardino, and California Department of Transportation (Caltrans) jurisdiction:

Study Intersections	Jurisdiction
1. US-395 (NS) at SR-58 Westbound Ramps (EW)	Caltrans
2. US-395 (NS) at SR-58 Eastbound Ramps (EW)	Caltrans
3. US-395 (NS) at Twenty Mule Team Road (old SR-58) (EW)	Caltrans
4. US-395 (NS) at Project South Access (EW)	Caltrans

ANALYSIS SCENARIOS

The following scenarios are evaluated during typical weekday AM and PM peak hour conditions:

- Existing
- Existing Plus Project
- Opening Year (2021) Without Project
- Opening Year (2021) With Project

- Year 2040 Without Project
- Year 2040 With Project

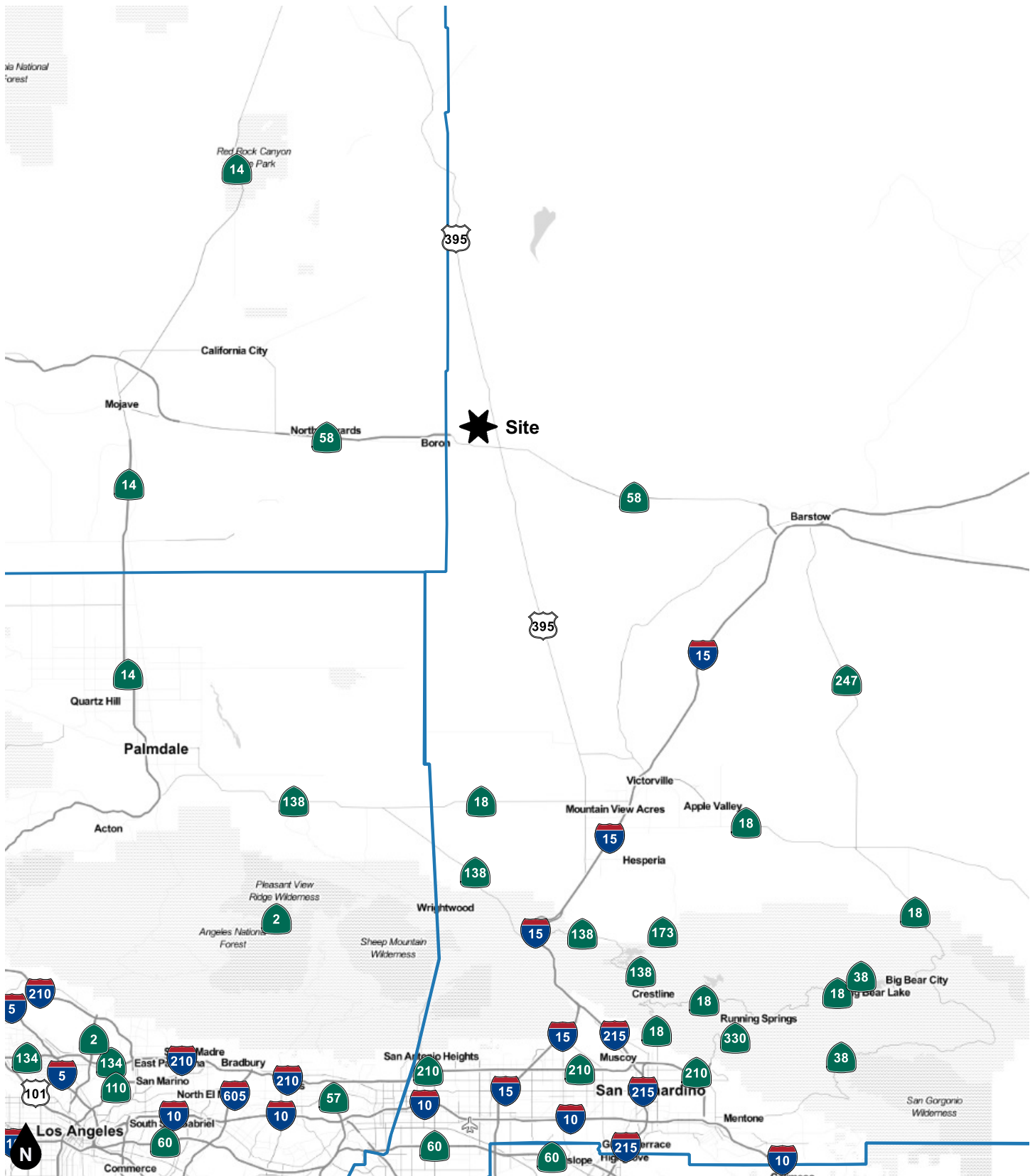
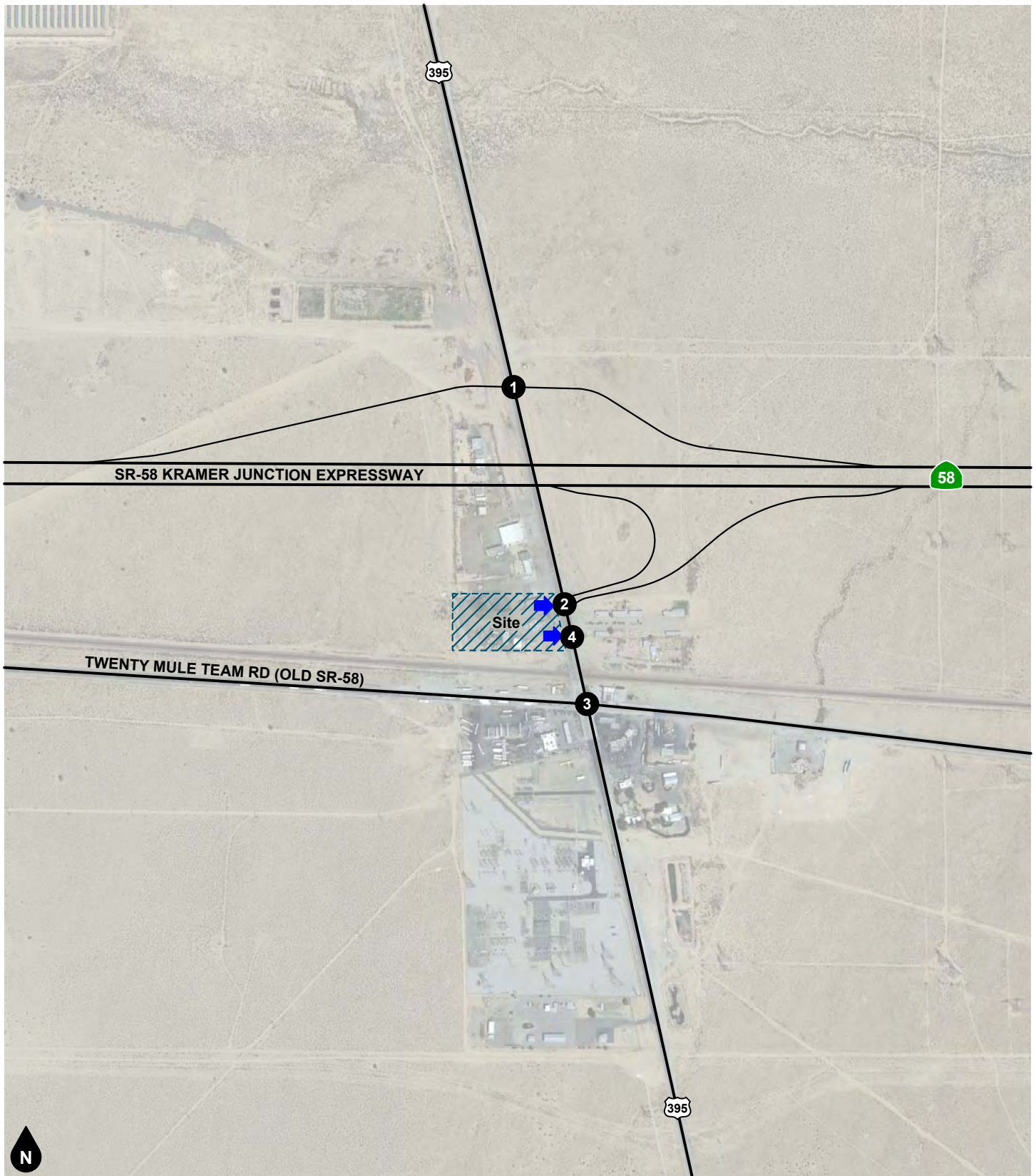


Figure 1
Project Regional Map



Legend

- # Study Intersection
- ➡ Project Access

Figure 2
Project Location Map

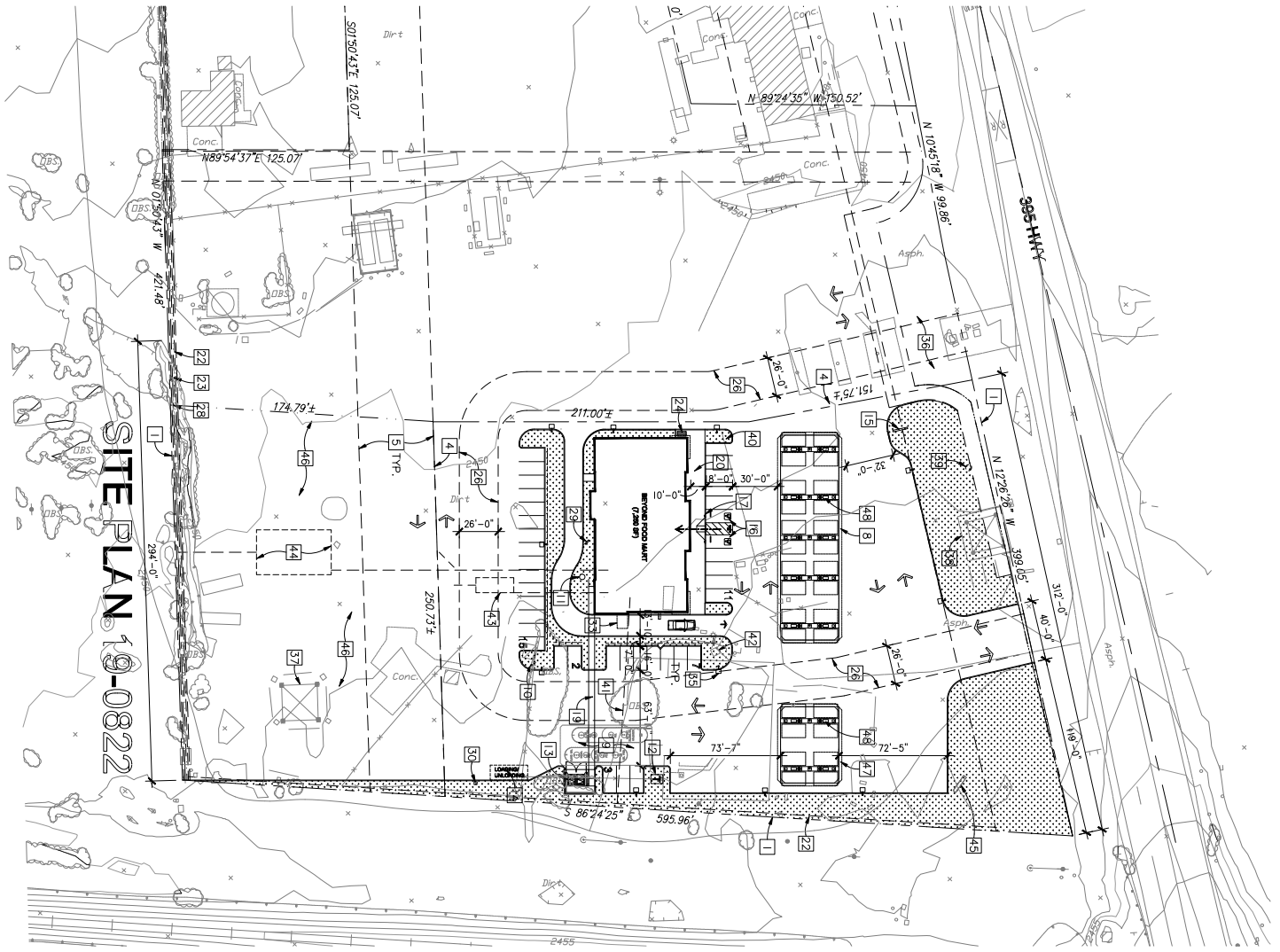


Figure 3
Site Plan

2. METHODOLOGY

This section discusses the analysis methodologies used to assess transportation facility performance as adopted by the respective jurisdictional agencies.

INTERSECTION DELAY METHODOLOGY

The technique used to assess the performance of intersections in the County of San Bernardino, and State highways, is known as the intersection delay methodology based on the procedures contained in the Highway Capacity Manual. The methodology considers the traffic volume and distribution of movements, traffic composition, geometric characteristics, and signalization details to calculate the average control delay per vehicle and corresponding Level of Service. Control delay is defined as the portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign) and includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay. The intersection control delay is then correlated to 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: Transportation Research Board, Highway Capacity Manual (6th Edition).

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). Intersection delay analysis was performed using the Vistro (Version 6.00-00) software. The intersection Level of Service analysis has been performed in accordance with Appendix B of the San Bernardino County Congestion Management Program, including minimum phase times, lost time, and saturation flow rates.

PERFORMANCE STANDARDS

County of San Bernardino. The definition of an intersection deficiency has been obtained from the County of San Bernardino General Plan. The General Plan states that peak hour intersection operations of Level of Service D or better are generally acceptable in the Valley regions and of Level of Service C or better are generally acceptable in the High-Desert region. Therefore, any intersection operating at Level of Service E or F is considered deficient.

California Department of Transportation. As stated in the Guide for the Preparation of Traffic Impact Studies (State of California, 2002), "California Department of Transportation endeavors to maintain a target LOS [Level of Service] at the transition between LOS "C" and LOS "D" on State highway facilities". The California Department of Transportation acknowledges this may not always be feasible and recommends consultation with the California Department of Transportation to determine the appropriate target Level of Service. For consistency with local requirements, this analysis defines Level of Service D as the minimum acceptable Level of Service for State Highway facilities.

THRESHOLDS OF SIGNIFICANCE

County of San Bernardino For study intersections within the County of San Bernardino, a project traffic impact is considered significant if the addition of project-generated trips causes or worsens the operations to unacceptable Level of Service (E or F) at a study intersection.

California Department of Transportation. Based on the California Department of Transportation established performance standards, a potentially significant traffic impact is defined to occur if the addition of project generated trips is forecast to cause the performance of a State Highway study intersection to change from acceptable Level of Service (D or better) to unacceptable Level of Service (E or F).

MITIGATION REQUIREMENTS

If a project is forecast to cause a significant impact, feasible mitigation measures that will reduce the impact to a less than significant level will be identified. Mitigation measures can be in many forms, including the 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 and a statement of overriding considerations will be required.

To mitigate a significant project impact at facilities with unacceptable Level of Service under pre-project conditions, the project shall provide or contribute to improvements that would, at a minimum, provide Level of Service that is equal to or better than pre-project conditions.

3. EXISTING CONDITIONS

EXISTING ROADWAY SYSTEM

Figure 4 identifies the lane geometry and intersection traffic controls for Existing conditions based on a field survey of the study area. Regional access to the project area is provided by the US-395 Highway north and south of the project site and SR-58 State Route east and west of the project site. The key east- west roadway providing local circulation is Twenty Mule Team Road (old SR-58).

US-395 Highway is a two-lane undivided highway classified as a Major Highway on the County of San Bernardino General Plan Circulation Element. I-10 Highway access is provided at grade interchanges north and south of the elevated SR-58 State Route. It currently carries approximately 4,900 to 8,800 vehicles per day in the project vicinity.

SR-58 State Route is a four-lane divided highway classified as a Major Highway east of US-395 and as a State Highway west of US-395 on the County of San Bernardino General Plan Circulation Element. SR-58 State Route access is provided at grade interchanges north and south of the elevated SR-58 State Route. It currently carries approximately 12,000 to 14,400 vehicles per day in the project vicinity.

Twenty Mule Team Road is a two-lane undivided roadway east and west of a four-lane divided roadway segment at the intersection of US-395. Until recently this was the alignment of the old-SR-58 and was classified California Street classified as a Major Highway east of US-395 and as a State Highway west of US-395 on the County of San Bernardino General Plan Circulation Element. The roadway is classification has not yet been revised on the County documents. On-street parking is generally prohibited in the project area. Bicycle facilities are not provided in the study area. Sidewalks are not provided in the study area.

PEDESTRIAN FACILITIES

Existing pedestrian facilities in the project vicinity are shown on Figure 5. As shown on Figure 5, pedestrian sidewalks are currently not provided along the roadways adjacent to the project site.

GENERAL PLAN CONTEXT

Figure 6 shows the County of San Bernardino General Plan Circulation Element roadway classifications map. This figure shows the nature and extent of arterial and collector 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 standard roadway cross-sections are illustrated on Figure 7.

TRANSPORTATION & MOBILITY ELEMENTS

The County of San Bernardino Transportation & Mobility Element of the Countywide Plan (CWP) includes policy maps for the Transit Network (TM-2), Mobility Focus Area (TM-3), Bicycle and Pedestrian Planning (TM-4), Goods Movement (TM-5), and Airports (TM-6). The project site is outside of a community planning area; however, US-395 and SR-58 are shown as Major Highway and State Highway on the regional county roadway network. The project site is north of the Victor Valley Transit Authority area and there currently are no transit routes. The project site is not within a defined Focus Area, but this location is shown for commercial land use development. There currently are no planned bicycle routes for this area of the county. US-395 and SR-58 are shown as federal and state truck routes for regional county-wide movement of goods. Additionally, the ATSF rail line is shown for regional county-wide movement of goods. The project site is located within a mile of a private landing strip and approximately 5 miles from the regional private Boron Airstrip. Figure 8 shows the shows the designated truck and rail routes as identified in the County of San Bernardino Transportation & Mobility Element of the Countywide Plan (CWP).

EXISTING ROADWAY VOLUMES

Figure 9 shows the Existing average daily traffic volumes. The Existing average daily traffic volumes have been obtained from the 2017 Traffic Volumes on California State Highways by the California Department of Transportation and factored from peak hour intersection turning movement volumes using the following formula for each intersection leg:

$$\text{Evening Peak Hour (Approach Volume + Exit Volume)} \times 11.5 = \text{Leg Volume.}$$

Existing peak hour intersection turning movement volumes are based upon AM peak period and PM peak period intersection turning movement counts obtained in January 2020 during typical weekday conditions. The AM peak period was counted between 7:00 AM and 9:00 AM and the PM 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 PM 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. Intersection turning movement count worksheets are provided in Appendix C. In accordance with the San Bernardino County Congestion Management Program (CMP) recommendations, existing volume counts were obtained with truck classification and converted to Passenger Car Equivalent (PCE) trips to account for the effect of slower-moving trucks.

Figure 10 and Figure 11 show the existing AM and PM peak hour intersection turning movement volumes, respectively. Existing daily and intersection volumes shown on Figure 9 to Figure 11, and all subsequent figures showing roadway and intersection volumes are in PCE.

EXISTING INTERSECTION LEVEL OF SERVICE

The intersection Levels of Service for Existing conditions have been calculated and are shown in Table 1. The study intersection Levels of Service for Existing conditions worksheets are provided in Appendix F. As shown in Table 1, the study intersections currently operate within acceptable Levels of Service (C or better for County of San Bernardino and D or better for Caltrans) during the peak hours for Existing conditions.

Table 1
Existing Intersection Levels of Service

ID	Study Intersection	Traffic Control ¹	AM Peak Hour		PM Peak Hour	
			Delay ²	LOS ³	Delay ²	LOS ³
1.	US-395 at SR-58 WB Ramps	TS	15.1	B	11.5	B
2.	US-395 at SR-58 EB Ramps	TS	15.3	B	16.2	B
3.	US-395 at Twenty Mule Team Road	TS	17.9	B	15.0	B

Notes:

- (1) TS = Traffic Signal.
- (2) Delay is shown in seconds per vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).
- (3) LOS = Level of Service

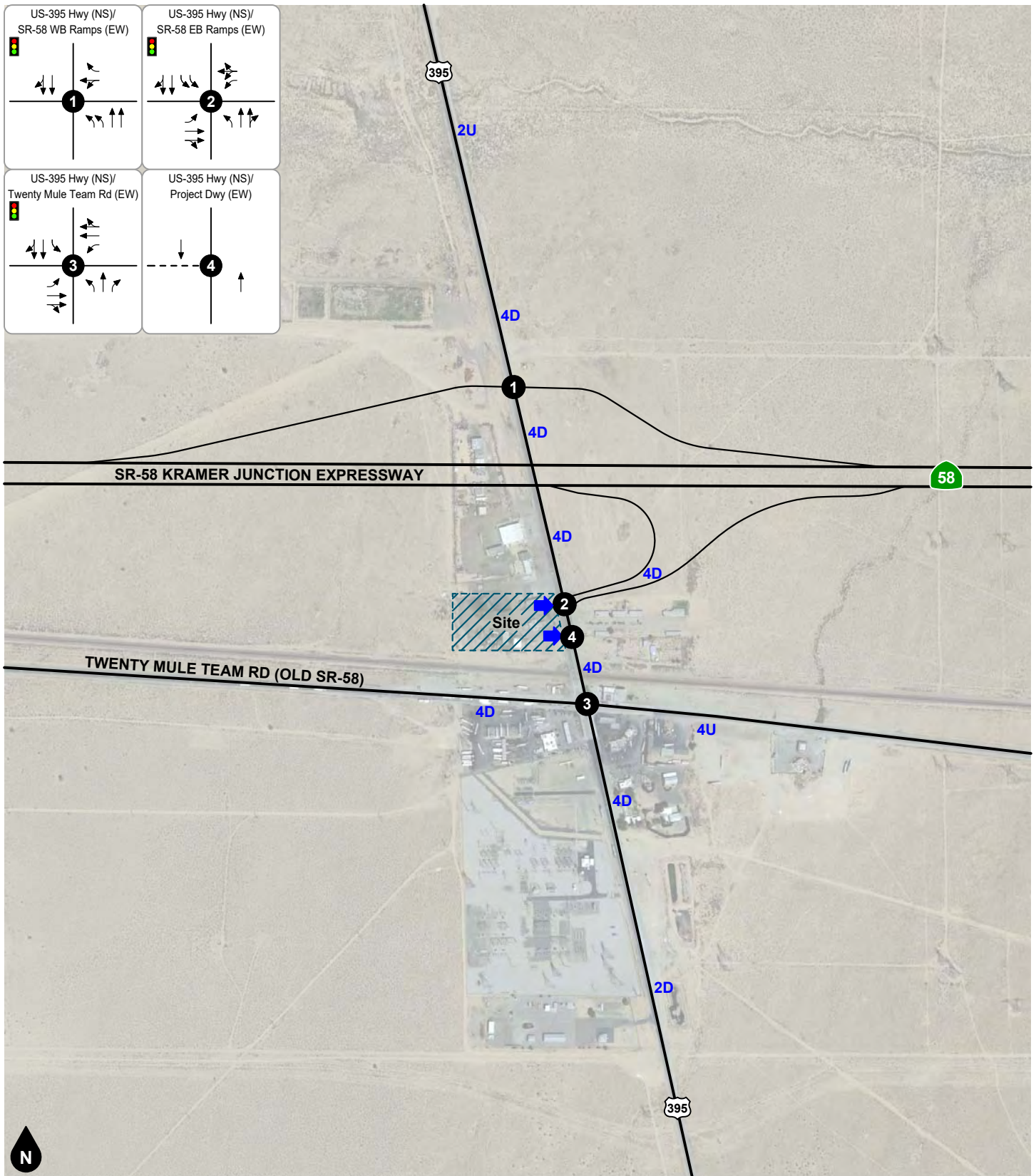
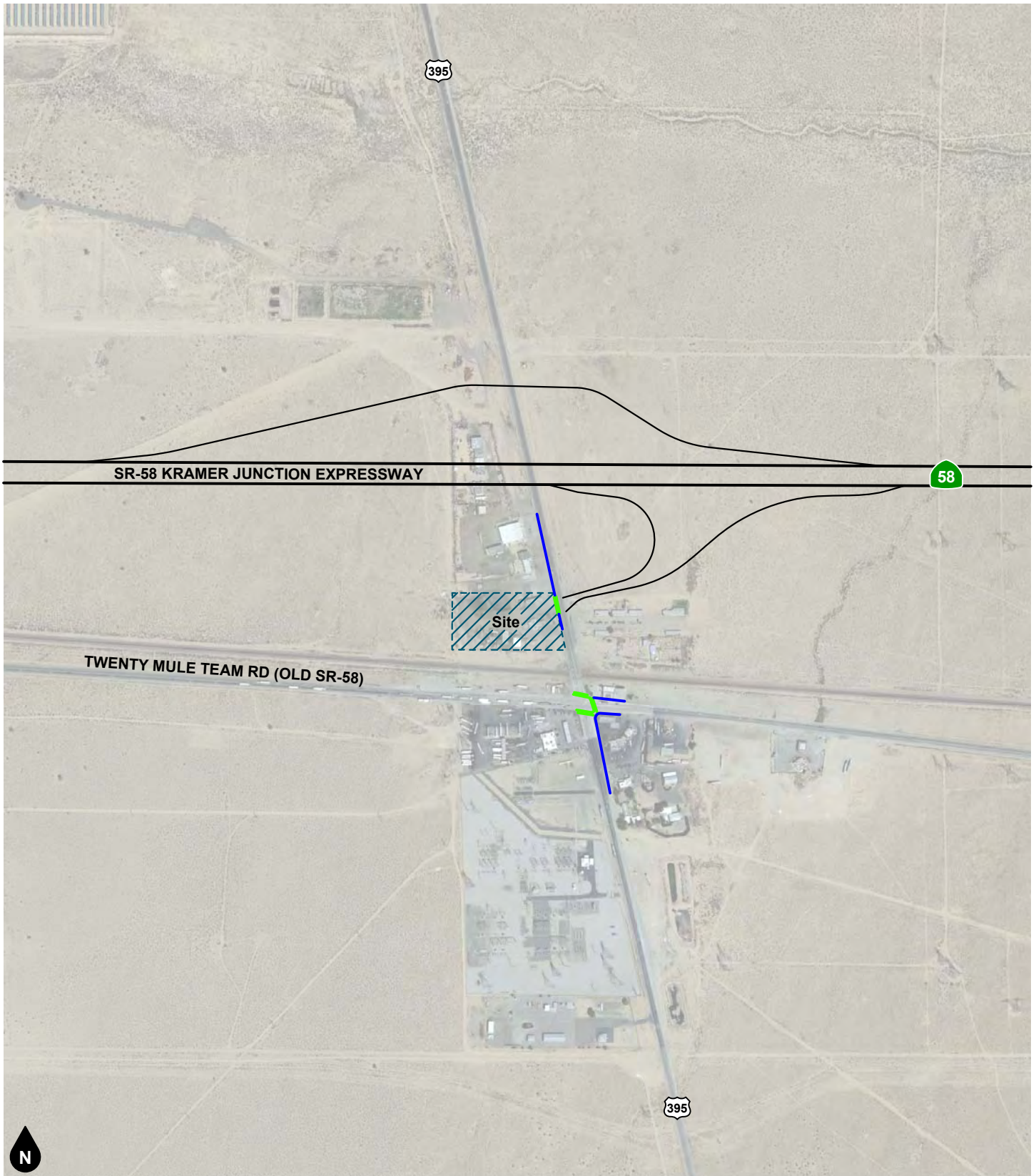


Figure 4
Existing Lane Geometry and Intersection Traffic Controls



Legend

- Sidewalk
- Cross Walk

Figure 5
Existing Pedestrian Facilities

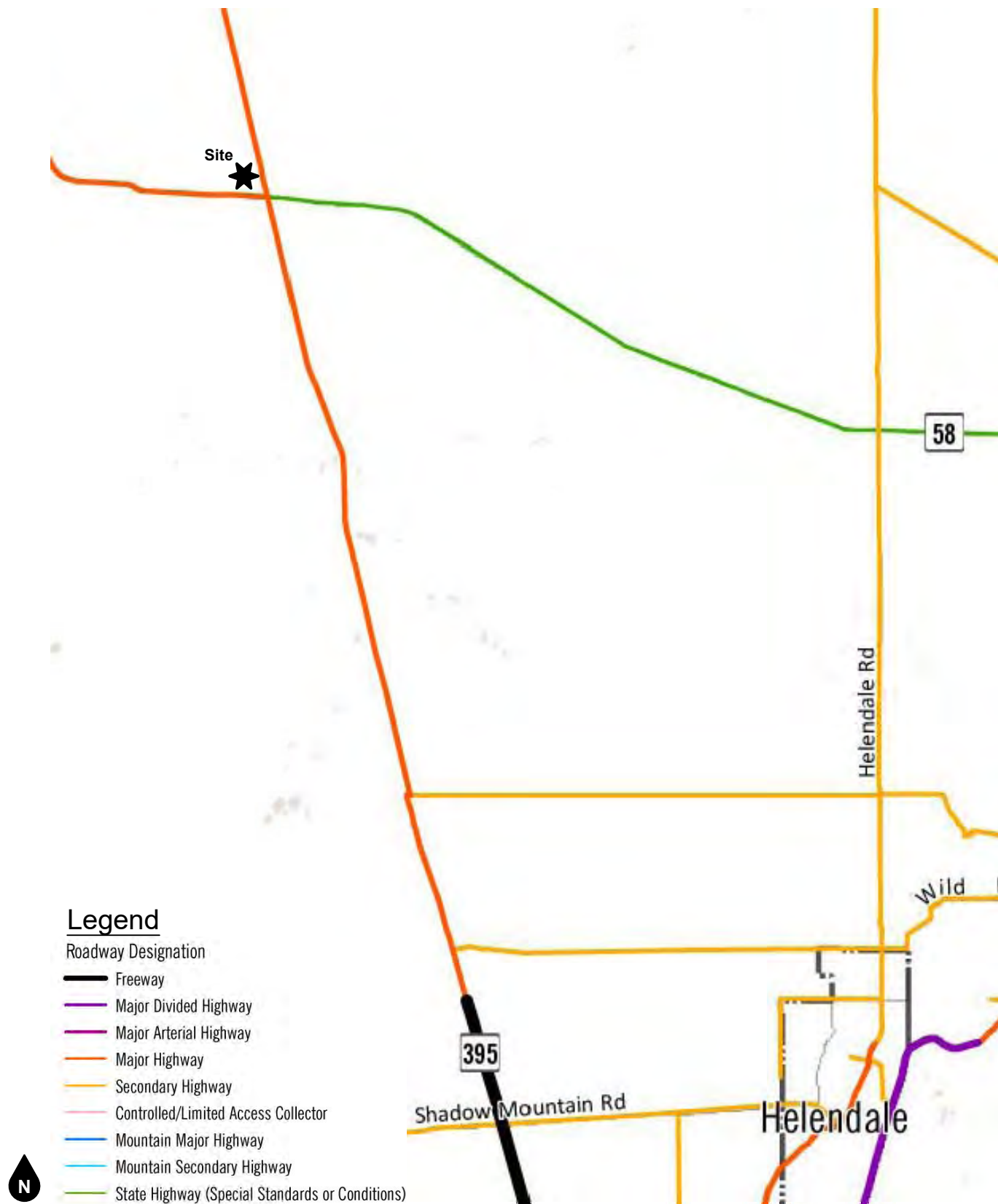


Figure 6
County of San Bernardino General Plan Circulation Element

Source: County of San Bernardino

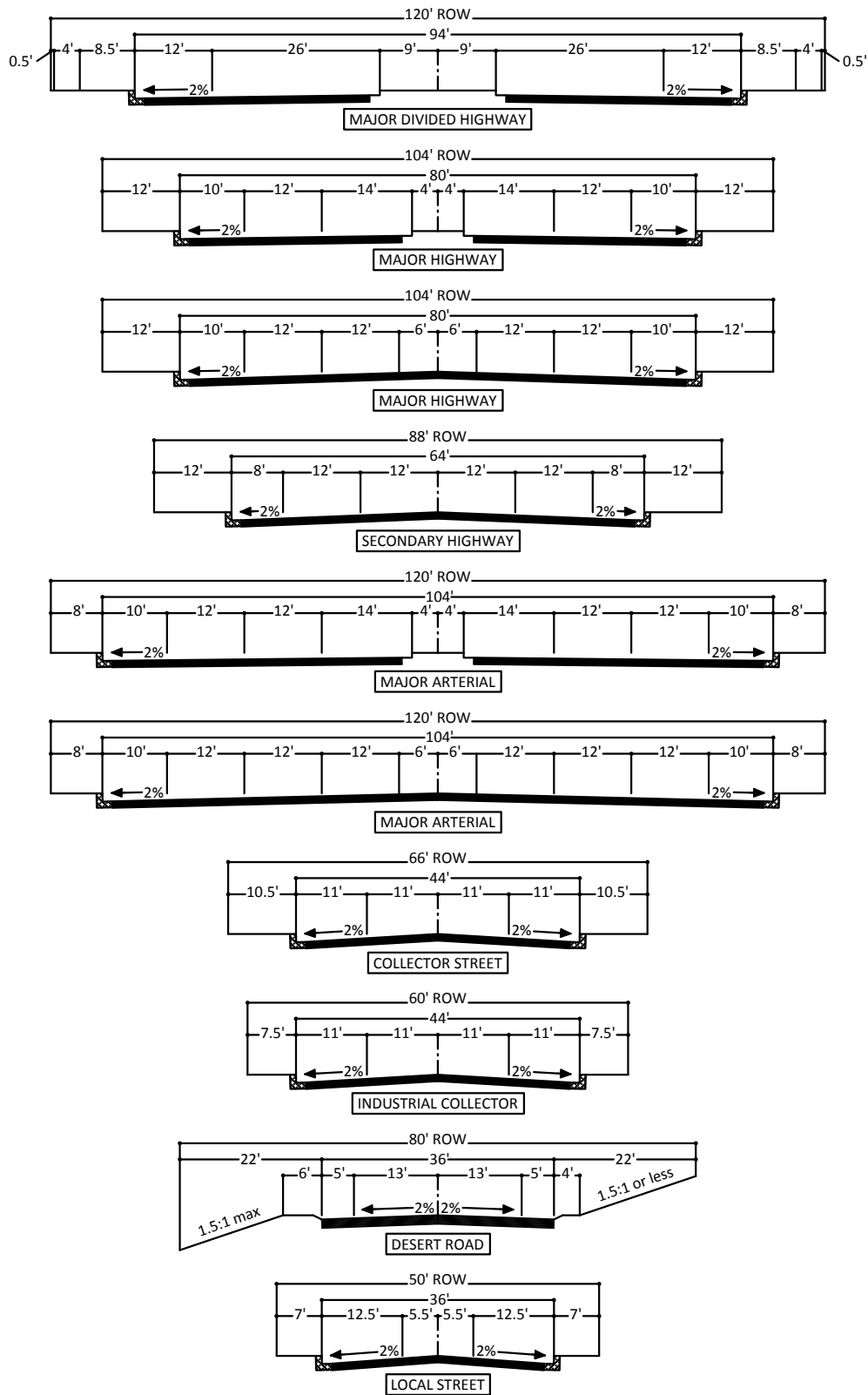


Figure 7
County of San Bernardino General Plan Roadway Cross-Sections

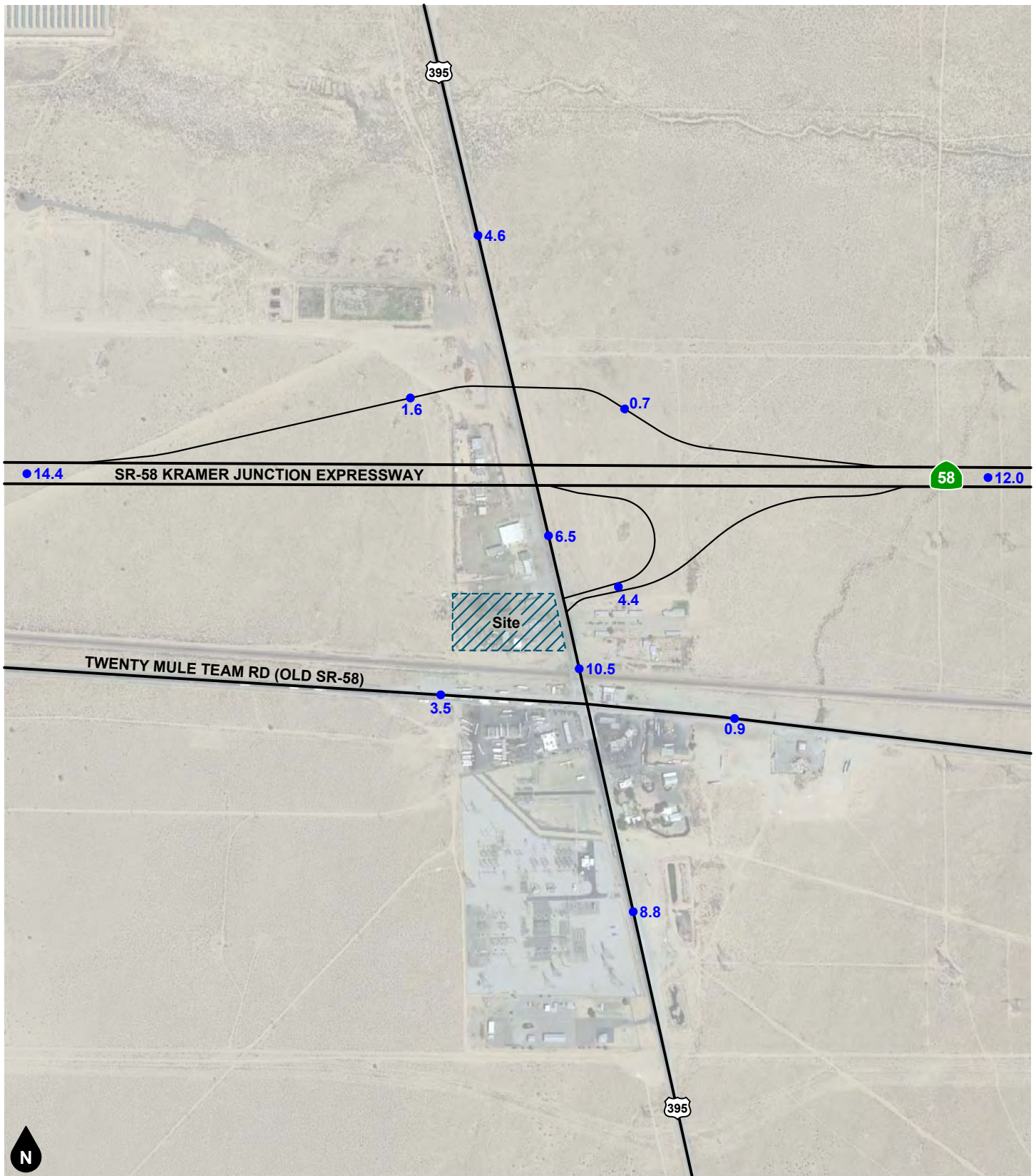
Source: County of San Bernardino





Figure 8
County of San Bernardino Truck and Trail Routes

Source: County of San Bernardino



Legend
 ●## Vehicles Per Day (1,000's)

Figure 9
Existing Average Daily Traffic Volumes

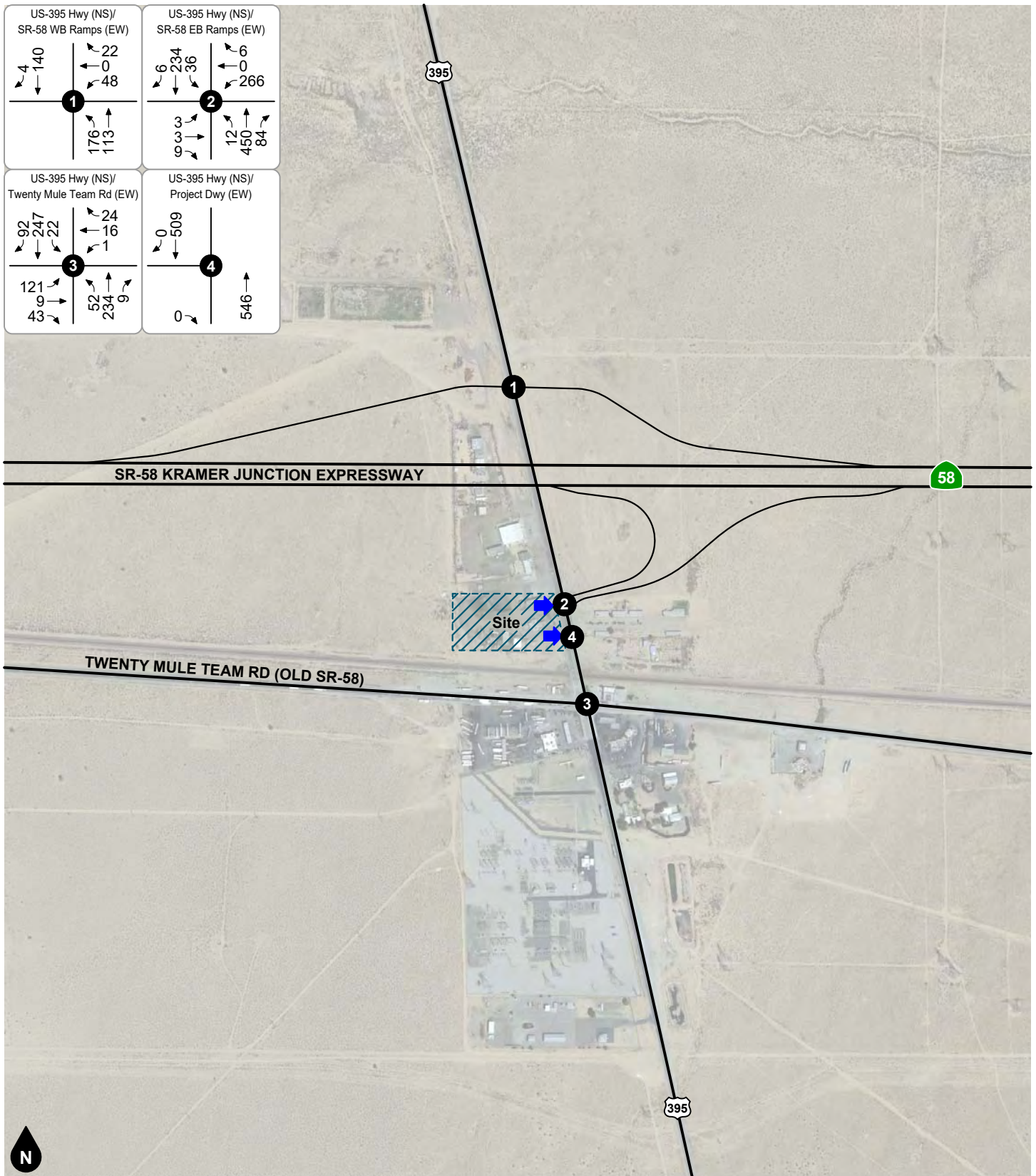


Figure 10
Existing AM Peak Hour Intersection Turning Movement Volumes

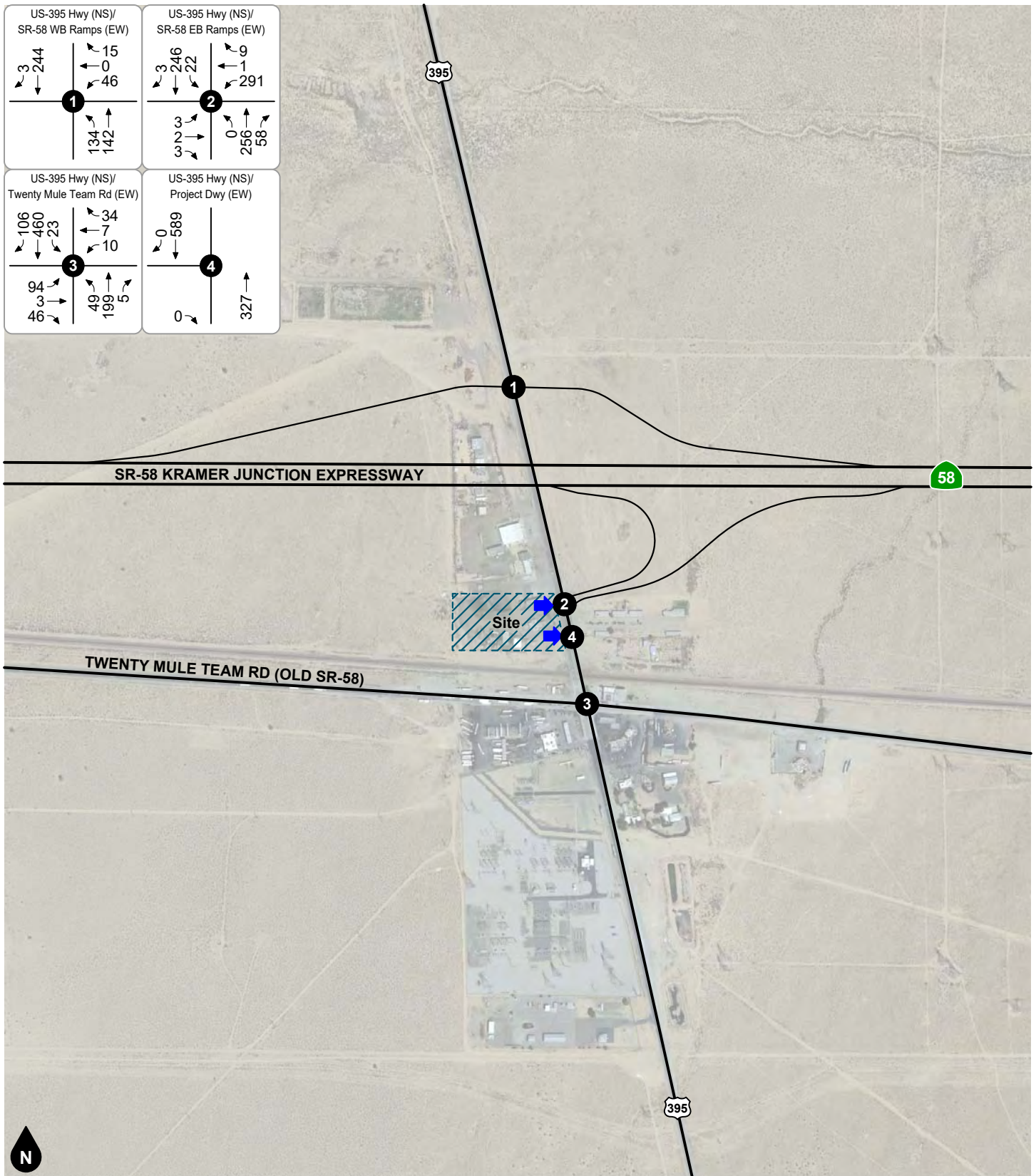


Figure 11
Existing PM Peak Hour Intersection Turning Movement Volumes

4. PROJECT TRIP FORECASTS

This section describes how project trip generation, trip distribution, and trip assignment forecasts were developed. The forecast project volumes are illustrated on figures contained in this section.

TRIP GENERATION

Table 2 shows the project trip generation based upon trip generation rates obtained from the Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017. Trip generation rates were determined for daily trips, AM peak hour trips, and PM peak hour trips for the proposed land use. Trip generation rate of Land Use Code 960 (super convenience store with gas pumps) was used for the proposed project. The number of trips forecast to be generated by the proposed use are determined by multiplying the trip generation rates by the land use quantity.

Pass-By Trip Adjustment

The project trip generation shown in Table 2 includes applicable pass-by trip adjustments in accordance with procedures outlined in the Institute of Transportation Engineers Trip Generation Handbook (3rd Edition, 2017). Land uses such as shopping centers, restaurants, gasoline stations, and convenience stores will often locate next to busy roadways to attract motorists already on the street. For example, if a patron visits the gas station on the way home from work, one pass-by trip occurs as the vehicle enters the project site driveway and one pass-by trip occurs as the vehicle exits the project site driveway. Since the vehicle is already using the street system to travel home from work, no new trips would be added to the street system as a result of the new gas station, except at the project site driveway(s). Since the trip generation rates contained in the Trip Generation Manual represent vehicles entering and exiting the project site driveways, it is appropriate to adjust the initial trip generation forecast by the number of pass-by trips when calculating the net new trips that will be added to the surrounding street system by the proposed project. The pass-by trip reduction does not apply at the project site driveway(s).

As shown in Table 2, the proposed project is forecast to generate a total of approximately 6,072 gross daily trips, including 603 gross trips during the AM peak hour and 502 gross trips during the PM peak hour. A substantial portion of the project-generated retail trips come from pass-by trips. Therefore, the proposed project is forecast to result in a net increase of approximately 5,417 net daily trips, including 229 net trips during the AM peak hour and 221 net trips during the PM peak hour for the roadway network immediately outside the study area.

It should be noted that the number of daily trips near the study area have been reduced by pass-by for the average daily traffic volumes distributed to the adjacent roadways. However, in order to analyze a “conservative” scenario in terms of the assignment of project trips, the project trips from the commercial retail portion of the project site have not been reduced by pass-by in the level of service analysis for the study area intersections.

Previous Land Use Credits

The project site is currently developed and the proposed project consists of redeveloping the project site. As shown in Table 3, the existing project site uses to be displaced are estimated to generate a total of approximately 1,298 daily vehicle trips, including 50 trips during the AM peak hour and 58 trips during the PM peak hour. The proposed uses are forecast to generate a total of approximately 5,417 daily trips, including 229 trips during the AM peak hour and 221 trips during the PM peak hour. Therefore, the proposed project is forecast to result in a net increase of approximately 4,119 net daily trips, including 179 net trips during the AM peak hour and 163 net trips during the PM peak hour.

While the previous land uses are shown to more accurately reflect the increase in traffic for the study area, the analysis does not include the previous land use reduction as the facilities were not currently in operation at the time of the traffic counts.

TRIP DISTRIBUTION AND ASSIGNMENT

Figure 12 and Figure 13 show the forecast outbound and inbound directional distribution patterns for the project based on opening year (2021). The project trip distribution patterns are based on review of existing volume data, surrounding land uses, designated truck routes, and the local and regional roadway facilities in the project vicinity.

Based on the identified project trip generation and distributions, project average daily traffic volumes have been calculated and shown on Figure 14. The project AM and PM peak hour intersection turning movement volumes are shown on Figure 15 and Figure 16, respectively. All volumes are shown in PCE.

CONSTRUCTION TRIPS

Compared to the project trip generation, construction activity is expected to be relatively minor and temporary. Temporary traffic controls are required by State law in accordance with the standards set forth in the California Manual of Uniform Traffic Control Devices (2014). Site development would require the use of haul trucks during site clearing and excavation and the use of a variety of other construction vehicles throughout the construction work at the site. Use of oversized vehicles will require the appropriate transportation permit.

A construction work site traffic control plan shall be submitted to the County of San Bernardino for review and approval prior to the issuance of a grading permit or start of any construction work. The plan shall identify any roadway, sidewalk, bike route, or bus stop closures and detours as well as haul routes and hours of operation. The project will be required to comply with all County of San Bernardino standard conditions pertaining to construction, including work hours, traffic control plan, haul route, access, oversized-vehicle transportation permit, site security, noise, vehicle emissions and dust control. All construction related trips shall be restricted to off-peak hours to the extent possible.

Table 2
Project Trip Generation

Trip Generation Rates									
Land Use	Source ¹	Units ²	AM Peak Hour			PM Peak Hour			Weekday Daily
			% In	% Out	Rate	% In	% Out	Rate	
Super Convenience Market with Gas Pumps	ITE 960	TSF	50%	50%	83.14	50%	50%	69.28	837.58

Trips Generated									
Land Use	Quantity ³	Units ²	AM Peak Hour			PM Peak Hour			Weekday Daily
			In	Out	Total	In	Out	Total	
Super Convenience Market with Gas Pumps	7,250	TSF	301	302	603	251	251	502	6,072
Pass-by ⁴ Convenience Service Station ⁵			-187	-187	-374	-141	-140	-281	-655
NET PROJECT TRIPS GENERATED			114	115	229	110	111	221	5,417

Notes:

- (1) Source: ITE = Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017; ### = Land Use Code(s).
- (2) TSF = Thousand of Square Feet
- (3) Source: Drawing A1.01 Site Plan for Project: Food Mart and Fuel Station with Drive-Thru., received January 2, 2020
- (4) Pass-by rates obtained from ITE Trip Generation Handbook (3rd Edition, 2017). Daily pass-by values are a sum of the peak hour values when no daily rate is available.
- (5) Pass-by rates for Convenience Market with Gas Station are based on ITE 945 rates.

Table 3
Previous Land Use Trip Generation Comparison

Trip Generation Rates									
Land Use	Source ¹	Units ²	AM Peak Hour			PM Peak Hour			Weekday Daily
			% In	% Out	Rate	% In	% Out	Rate	
Single-Family Detached Housing	ITE 210	DU	25%	75%	0.74	63%	37%	0.99	9.44
Fast Food with Drive-Thru	ITE 934	TSF	51%	49%	40.19	52%	48%	32.67	470.95
Automobile Care Center	ITE 942[a]	BAY	68%	32%	1.52	48%	52%	2.17	17.90
Gasoline/Service Station	ITE 944	FP	50%	50%	10.28	50%	50%	14.03	172.01
Super Convenience Market with Gas Pumps	ITE 960	TSF	50%	50%	83.14	50%	50%	69.28	837.58

Trips Generated									
Land Use	Quantity ³	Units ²	AM Peak Hour			PM Peak Hour			Weekday Daily
			In	Out	Total	In	Out	Total	
<u>Previous Uses To Be Displaced</u>									
Single-Family Detached Housing	-1	DU	0	-1	-1	-1	0	-1	-9
Automobile Care Center	-1	BAY	-1	-1	-2	-1	-1	-2	-18
Gasoline/Service Station	-4	FP	-21	-20	-41	-28	-28	-56	-688
Fast Food with Drive-Thru	-1,450	TSF	-30	-28	-58	-25	-22	-47	-683
Pass-by ⁴ Gas Station ⁵			12	12	24	12	12	24	48
Pass-by ⁴ Fast Food with Drive-Thru ⁶			15	13	28	13	11	24	52
Subtotal - Existing Trips Generated			-25	-25	-50	-30	-28	-58	-1,298
<u>Proposed Uses</u>									
Super Convenience Market with Gas Pumps	7,250	TSF	301	302	603	251	251	502	6,072
Pass-by ⁴ Convenience Service Station ⁷			-187	-187	-374	-141	-140	-281	-655
NET PROJECT TRIPS GENERATED			89	90	179	80	83	163	4,119

Notes:

(1) Source: ITE = Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017; ### = Land Use Code(s).

[a] = Automobile care center PM inbound and outbound rates based on ITE942(TSF), and daily rate based on proportion of ITE941(BAY) daily rate in comparison to PM rates.

(2) TSF = Thousand of Square Feet; DU = Dwelling Units; BAY = Service Bays; FP = Fuel Position.

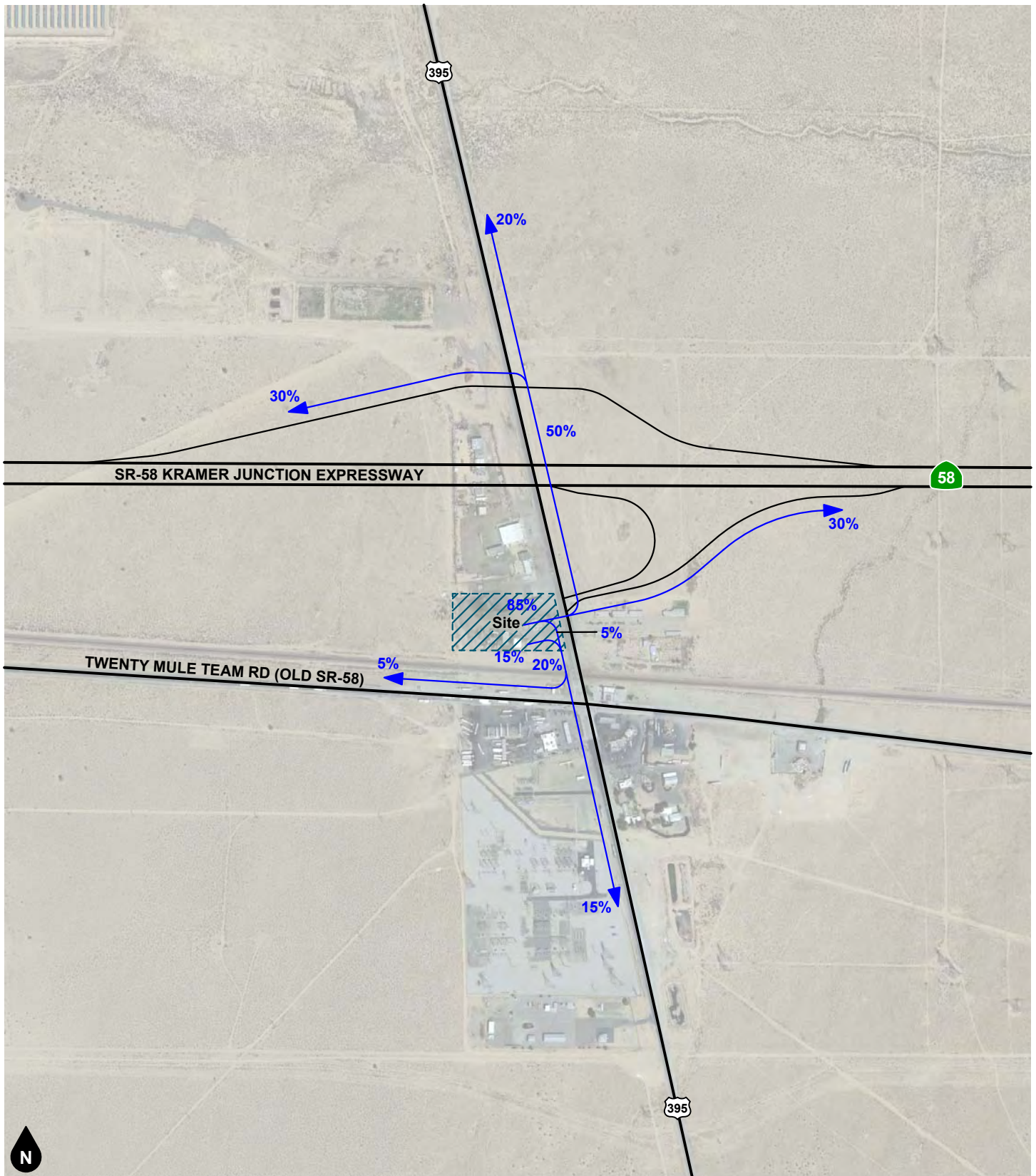
(3) Source: Drawing A1.01 Site Plan for Project: Food Mart and Fuel Station with Drive-Thru., received January 2, 2020

(4) Pass-by rates obtained from ITE Trip Generation Handbook (3rd Edition, 2017). Daily pass-by values are a sum of the peak hour values when no daily rate is available.

(5) Pass-by rates for Gas Station are based on ITE 944 rates.

(6) Pass-by rates for Fast Food with Drive-thru are based on ITE 934 rates.

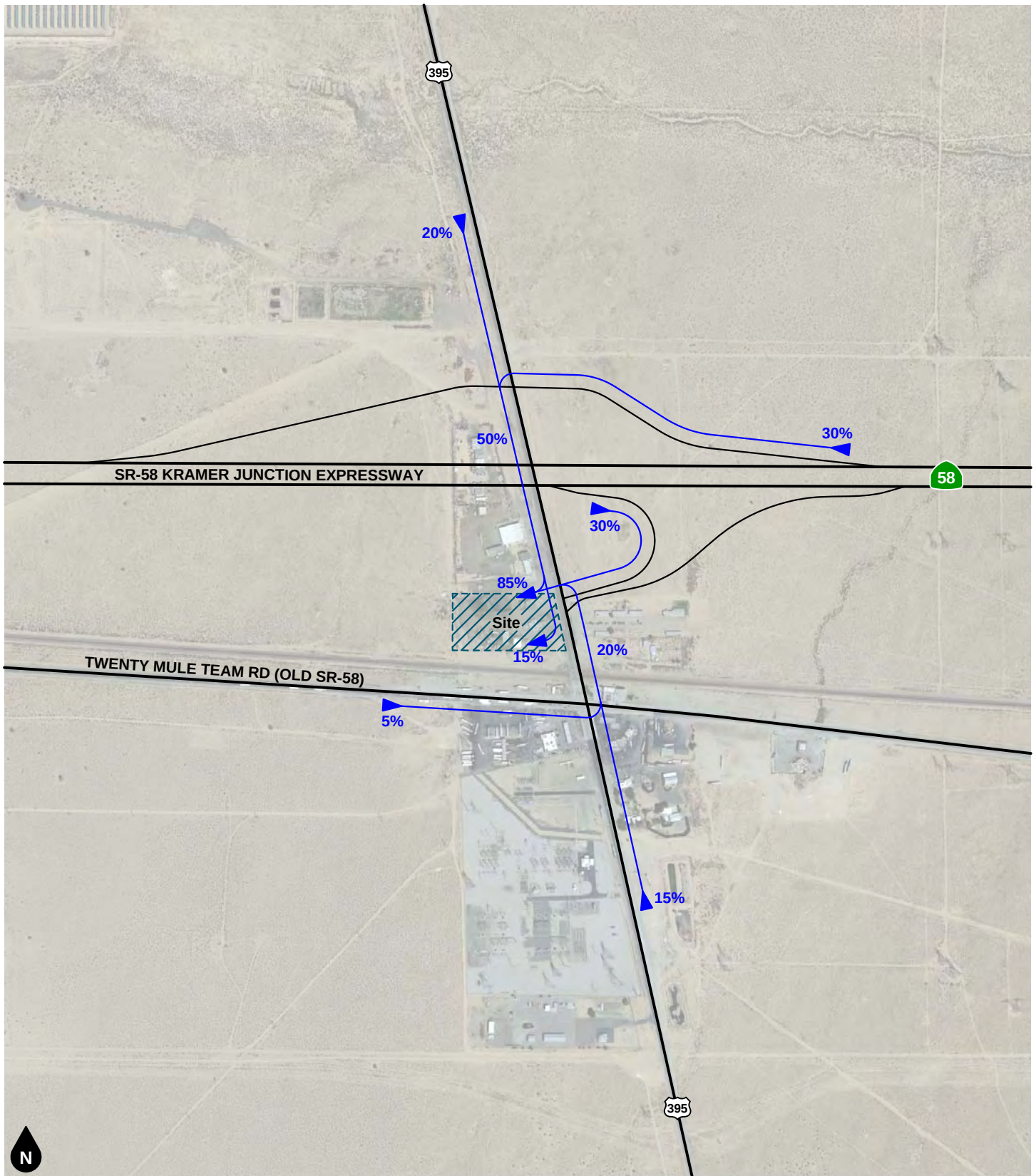
(7) Pass-by rates for Convenience Market with Gas Station are based on ITE 945 rates.



Legend

← 10% Percent From Project

Figure 12
Project Outbound Trip Distribution



Legend
 ← 10% Percent To Project

Figure 13
Project Inbound Trip Distribution

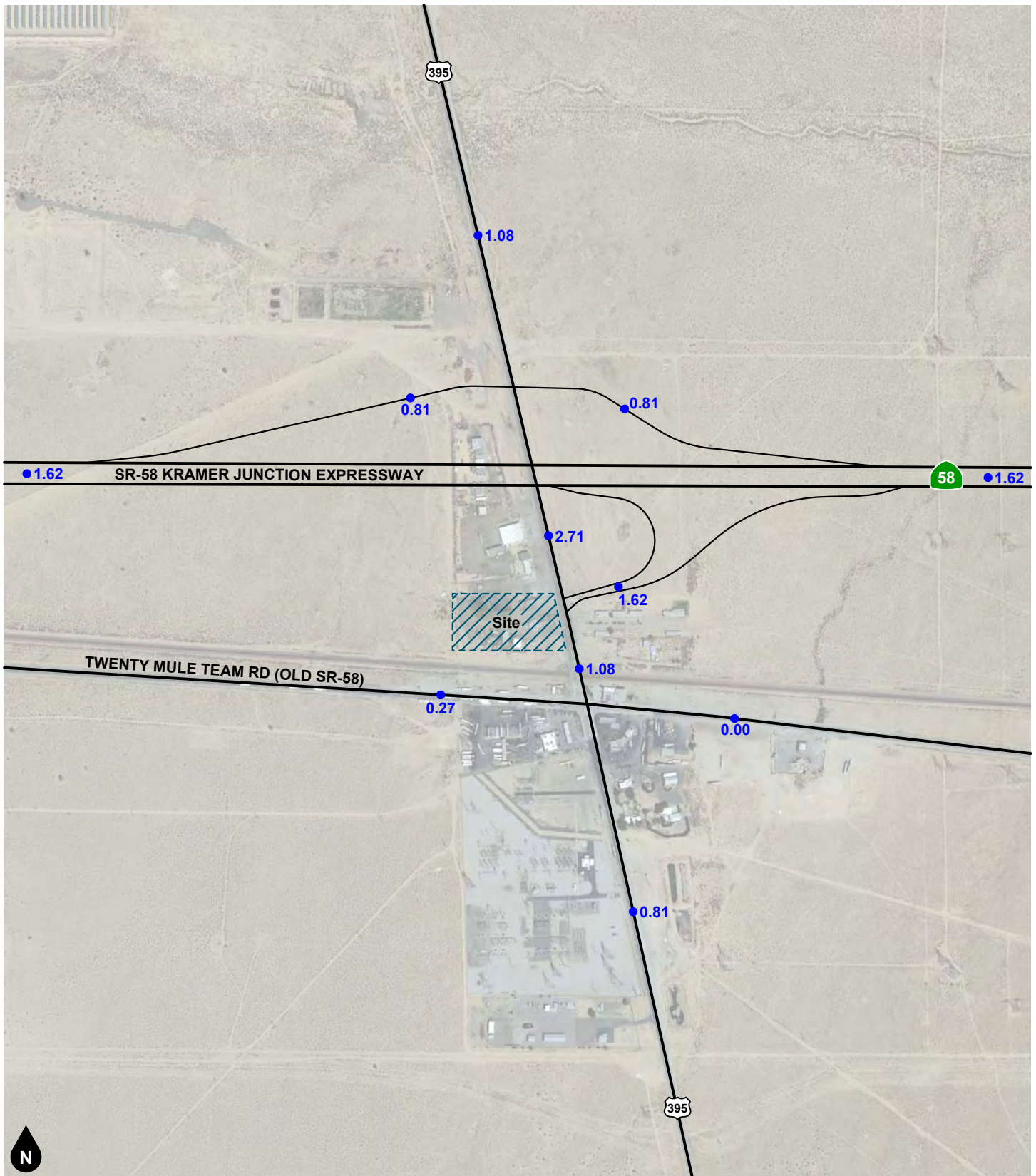
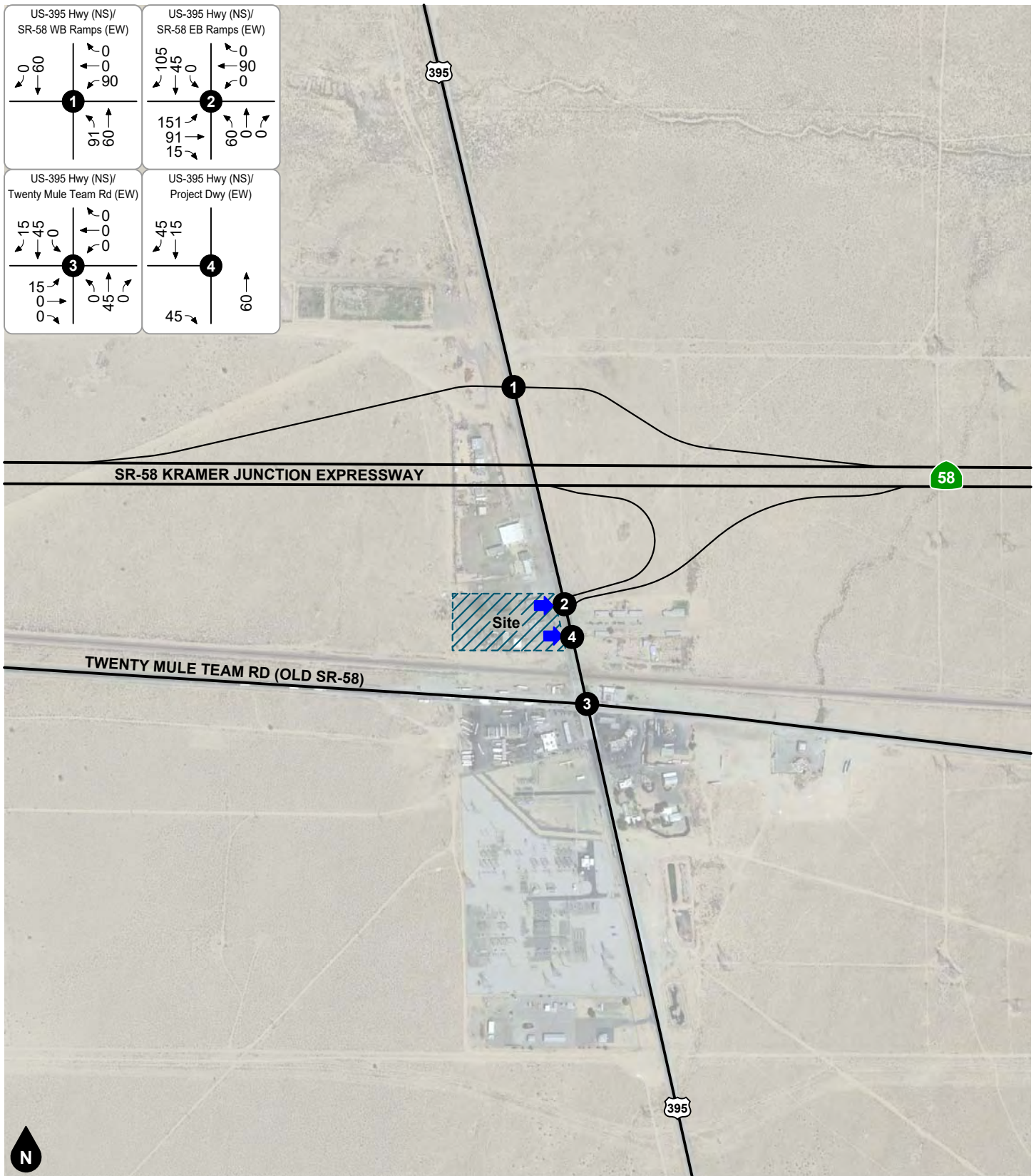


Figure 14
Project Average Daily Traffic Volumes



Legend

- # Study Intersection
- Project Access

Figure 15
Project AM Peak Hour Intersection Turning Movement Volumes

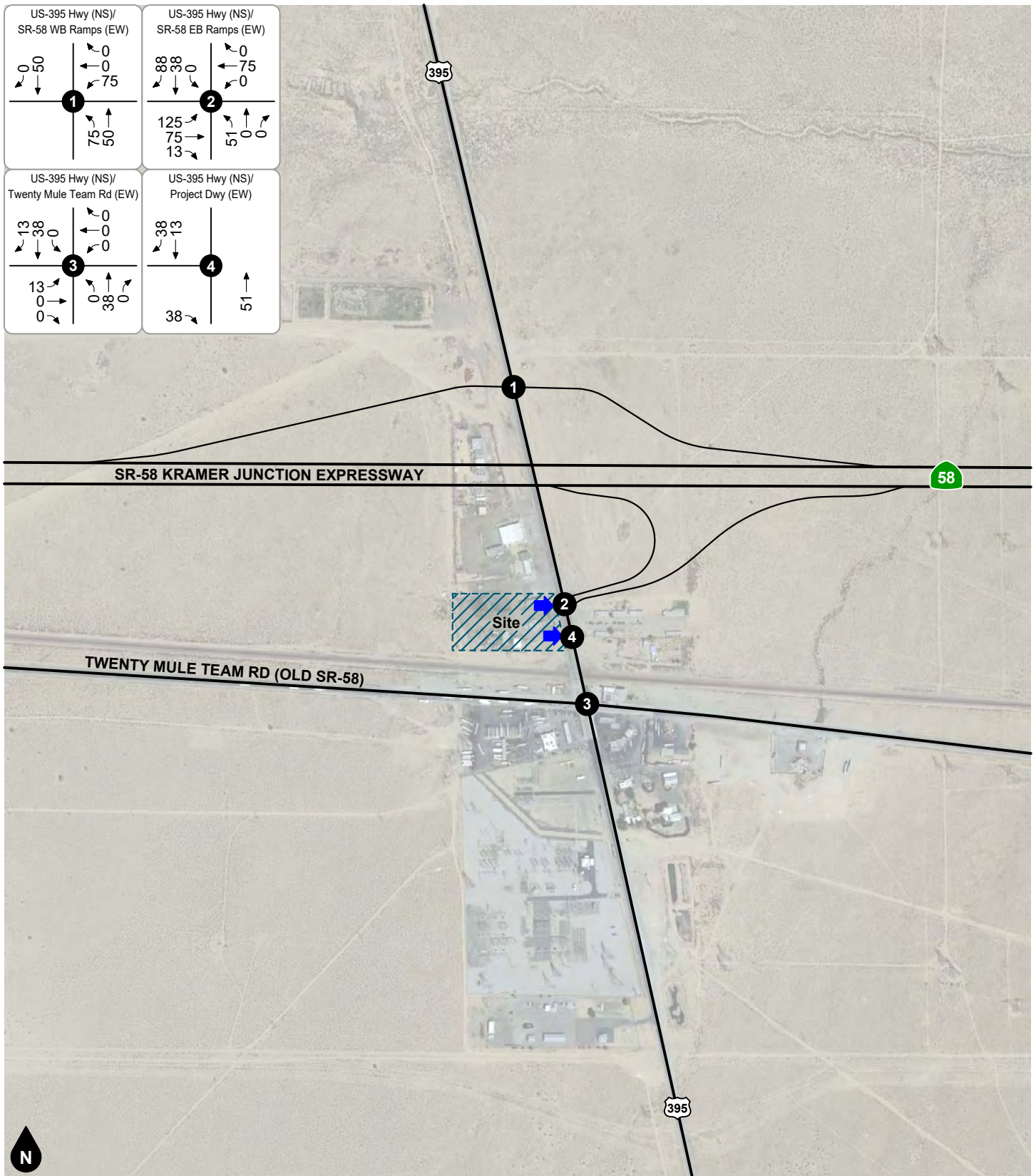


Figure 16
Project PM Peak Hour Intersection Turning Movement Volumes

5. FUTURE VOLUME FORECASTS

This section describes and illustrates the future volume forecasts for each analysis scenario. All roadway and intersection volume figures are shown in PCE.

METHOD OF PROJECTION

To assess future conditions, existing roadway volumes are combined with project trips, ambient growth, and other development trips. The project completion year for analysis purposes in this report is 2021.

Other Developments

Other pending or approved developments within a 1.5-mile radius were identified and included in the trip generation summary shown in Table 4. The regional ambient growth is assumed to account for any additional trips generated by other developments outside the 1.5-mile radius not specifically identified in Table 4. Figure 17 shows the other development location map.

Other developments average daily traffic volumes are shown on Figure 18. Figure 19, and Figure 20 show the forecast AM peak hour and PM peak hour intersection turning movement volumes for trips generated by other developments.

Interpolated Model Growth (Ambient Growth)

Typically, the opening year forecast would be determined using a growth increment approach with the San Bernardino Transportation Analysis Model (SBTAM) Year 2012 and Year 2040 travel demand model plots. This difference defines the incremental growth in forecast volumes over the 28-year period between 2012 and 2040. The incremental growth in average daily traffic volume has been factored to reflect the forecast growth between the current year (2020) and year 2040. Linear growth between the Year 2012 base condition and the forecast Year 2040 condition is assumed with this method.

However, for in this analysis, the alignment of the US-395 highway will be diverted from its current north-south alignment adjacent to the project. Opening Year (2021) forecasts have been determined using a growth increment approach using the San Bernardino Transportation Analysis Model (SBTAM) Year 2012 travel demand model plots and existing 2020 counts. This difference defines the incremental growth in forecast volumes over the 8-year period between 2012 and 2020. The incremental growth in average daily traffic volume has been factored to reflect the forecast growth between the current year (2020) and Opening Year (2021).

As a quality control measure, a minimum of by an annual growth rate of two percent (2.0%) per year over a one (1) year period was used to account for ambient growth on roadways to increase existing traffic volumes. This is a conservative assumption since the ambient growth was applied to all movements at the study intersections.

Year 2040 Model Growth

Year 2040 forecasts have been determined using the San Bernardino Transportation Analysis Model (SBTAM) Year 2040 travel demand model plots.

To derive AM and PM peak hour intersection turning movement volumes, the traffic volume growth forecasts were further refined using a spreadsheet program developed by the Federal Highway Administration and consistent with traffic volume 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. Travel demand model plots are provided in Appendix D and post-processing worksheets are provided in Appendix E.

FUTURE TRAFFIC VOLUMES

Existing Plus Project

The Existing Plus Project volume forecast was developed by adding project-generated trips to existing roadway and intersection volumes. Existing Plus Project average daily traffic volumes are shown on Figure 21. Existing Plus Project AM peak hour and PM peak hour intersection turning movement volumes are shown on Figure 22, and Figure 23.

Opening Year (2021) Without Project

The Opening Year (2021) Without Project volume forecast was developed by applying the interpolated model growth factor to existing roadway and intersection volumes and adding trips generated by other developments. Opening Year (2021) Without Project average daily traffic volumes are shown on Figure 24. Opening Year (2021) Without Project AM peak hour and PM peak hour intersection turning movement volumes are shown on Figure 25 and Figure 26.

Opening Year (2021) With Project

The Opening Year (2021) With Project volume forecast was developed by adding project-generated trips to Opening Year (2021) Without Project roadway and intersection volumes. Opening Year (2021) With Project average daily traffic volumes are shown on Figure 27. Opening Year (2021) With Project AM peak hour and PM peak hour intersection turning movement volumes are shown on Figure 28 and Figure 29.

Year 2040 Without Project

Year 2040 Without Project volume forecasts were developed from the SBTAM travel demand model and post-processing procedures previously described. Year 2040 Without Project average daily traffic volumes are shown on Figure 30. Year 2040 Without Project AM and PM peak hour intersection turning movement volumes are shown on Figure 31 and Figure 32.

Year 2040 With Project

Year 2040 With Project volumes were developed by adding project generated trips to the Year 2040 Without Project forecast volumes. Year 2040 With Project average daily traffic volumes are shown on Figure 33. Year 2040 With Project AM and PM peak hour intersection turning movement volumes are shown on Figure 34 and Figure 35.

Table 4
Cumulative Other Development Trip Generation

City	Address/Name	Land Use	Quantity	Units ¹	Source ²	Weekday						
						AM Peak Hour			PM Peak Hour			Daily
						In	Out	Total	In	Out	Total	
1	Kramer Junction Borrow Pit NW of 20 Mule Team & Castel Rd	Dirt Haul Borrow Pit Truck Trips	3,000,000	CY PCE	[a]	32	32	64	32	32	64	900
2	Kramer Junction Borrow Pit #2 NW of Salton Rd & US-395	Dirt Haul Borrow Pit Truck Trips	200,000	CY PCE	[b]	8	7	15	7	8	15	150
3	Mobile Tire Service Office SE of US395 & SR-58	Automobile Care Center	0.632	TSF	ITE 942	1	0	1	1	1	2	14
4	Kramer Notth Solar Farm NW of US395 & SR-58	Solar Farm (191-AC; 70 Mwatt) [c]	3	EMP	[d]	3	0	3	0	3	3	7
5	Kramer South Solar Farm Sheep Creek Rd & SR-58 (old)	Solar Farm (386-AC; 130 Mwatt) [c]	5	EMP	[d]	5	0	5	0	5	5	12
6	Truck Stop Expansion SWC of 20 Mule Team & US395	Convenience Market with Gas	1.800	TSF	ITE 960	75	75	150	62	63	125	1508
		Pass-by	-	-	ITE Hbk	-47	-46	-93	-35	-35	-70	-163
		Subtotal	-	-		28	29	57	27	28	55	1345
Total Other Development Trips						77	68	145	67	77	144	2,428

Notes:

(1) CY = Cubic Yard; TSF = Thousand Square Feet; AC = Acres; Mwatt = Megawatt; EMP = Employee; PCE = Passenger Car Equivalent..

(2) Sources:

ITE = Institute of Transportation Engineers Trip Generation Manual (10th Edition, 2017); ### = Land Use Code.

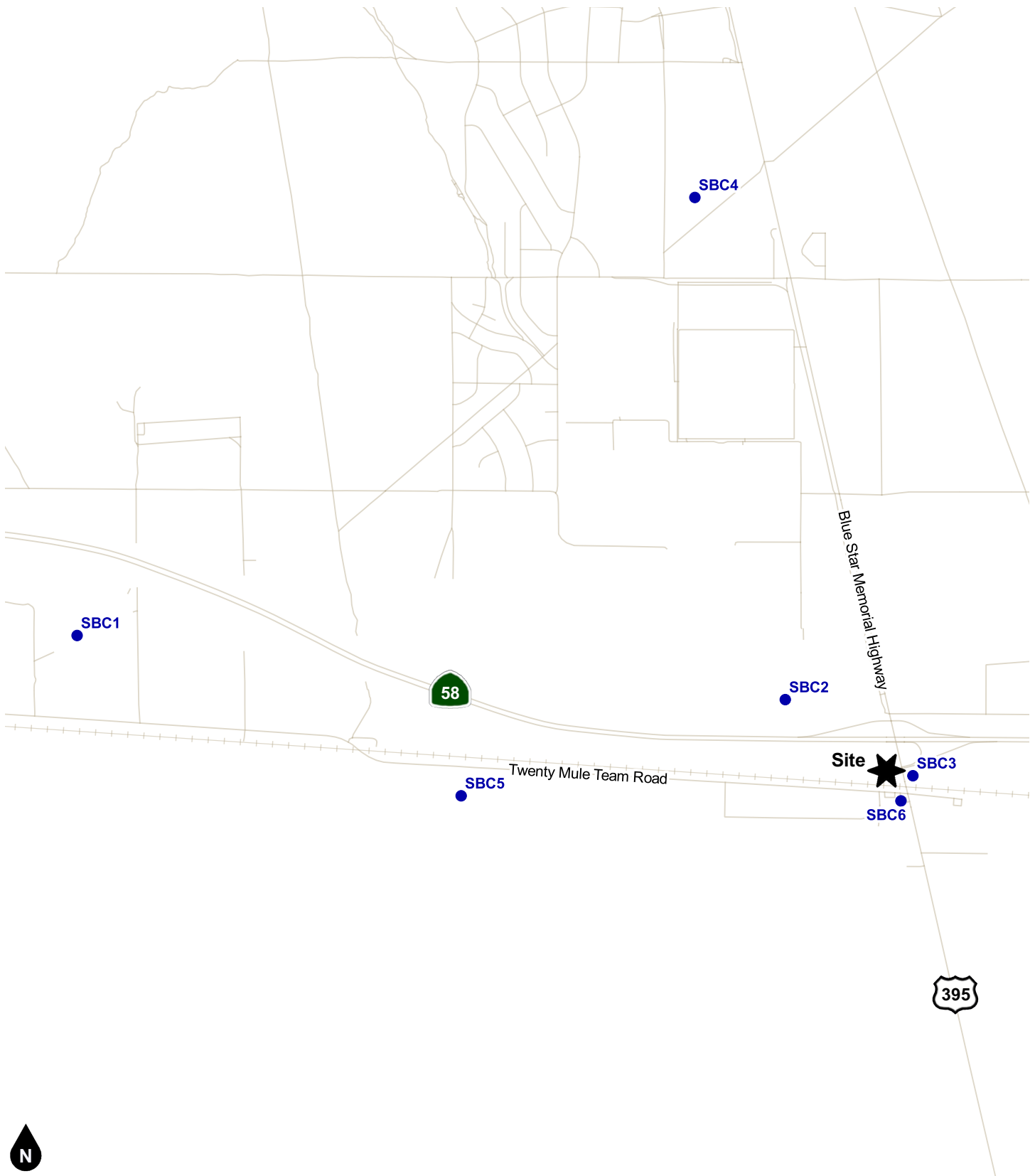
[a] = Mine Reclamation Plan for Kramer Junction Borrow Pit (Lilburn Corp., Feb. 2018). Hourly trips based on stated truck trips per day (300), work day duration (14.5 Hr) and truck factor of 3.0 for 50-CY truck.

[b] = Mine Reclamation Plan for Kramer Junction Borrow Pit 2 (Lilburn Corp., Oct. 2018). Hourly trips based on stated truck trips per day (50), work day duration and truck factor of 3.0 for 25-CY truck..

[c] = Renewable Energy Projects (County of San Bernardino Land Use Services Planning Division, January 2020)

[d] = High Desert Solar Project Initial Study and Mitigated Negative Declaration (ECorp Consulting, Inc., May 2019). This study was for a 581-acre/ 108-Mwatt solar farm. Estimated number of employees to operate farm is three to five (3-5). Three employees is use for as a minimum to forecast trips for this type of facility.

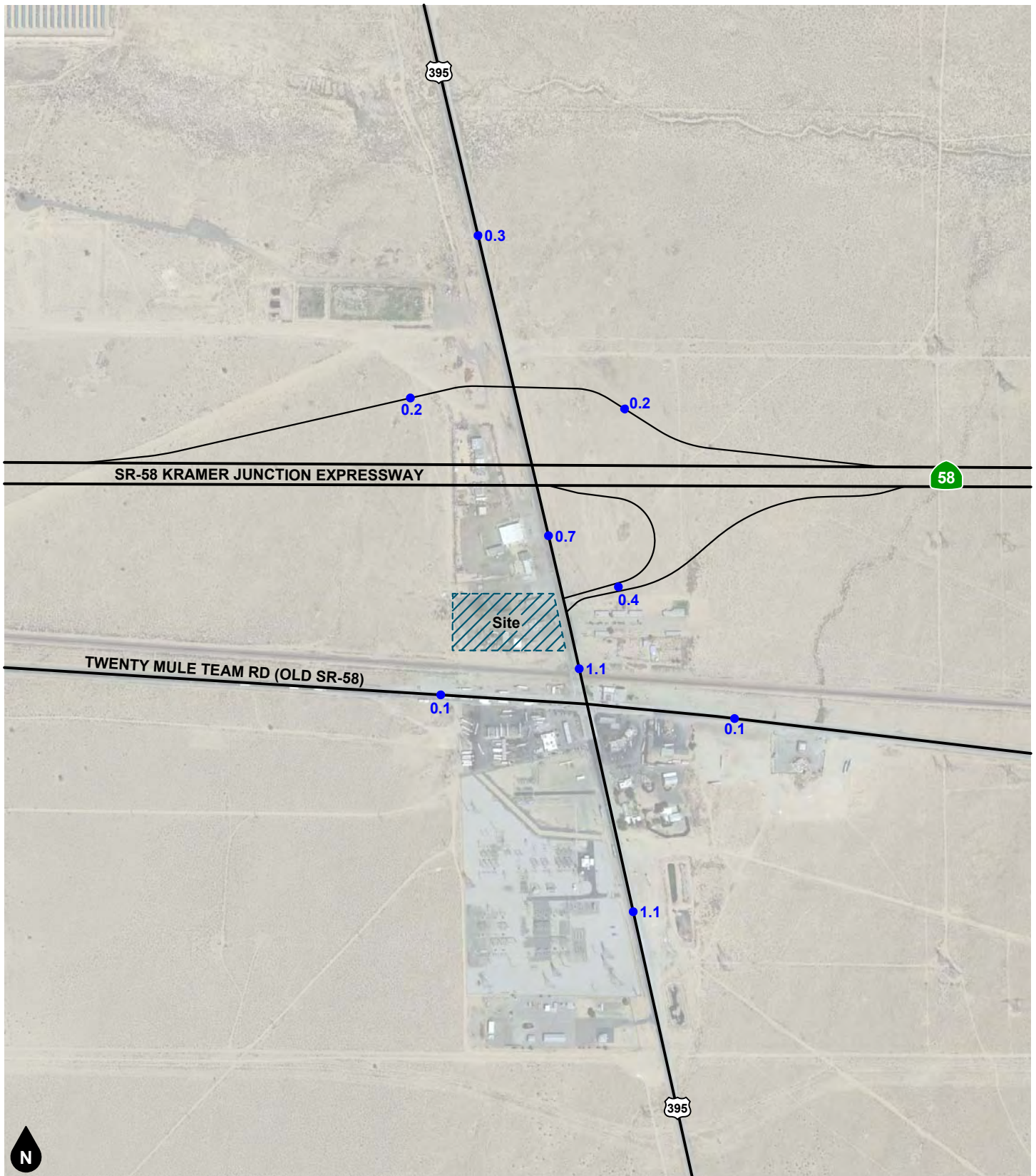
Hbk = ITE Trip Generation Handbook (3rd Edition, 2017).



Legend

- # Other Development ID in:
- San Bernardino County (SBC)

Figure 17
Other Development Location Map



Legend
 ●## Vehicles Per Day (1,000's)

Figure 18
Other Development Average Daily Traffic Volumes

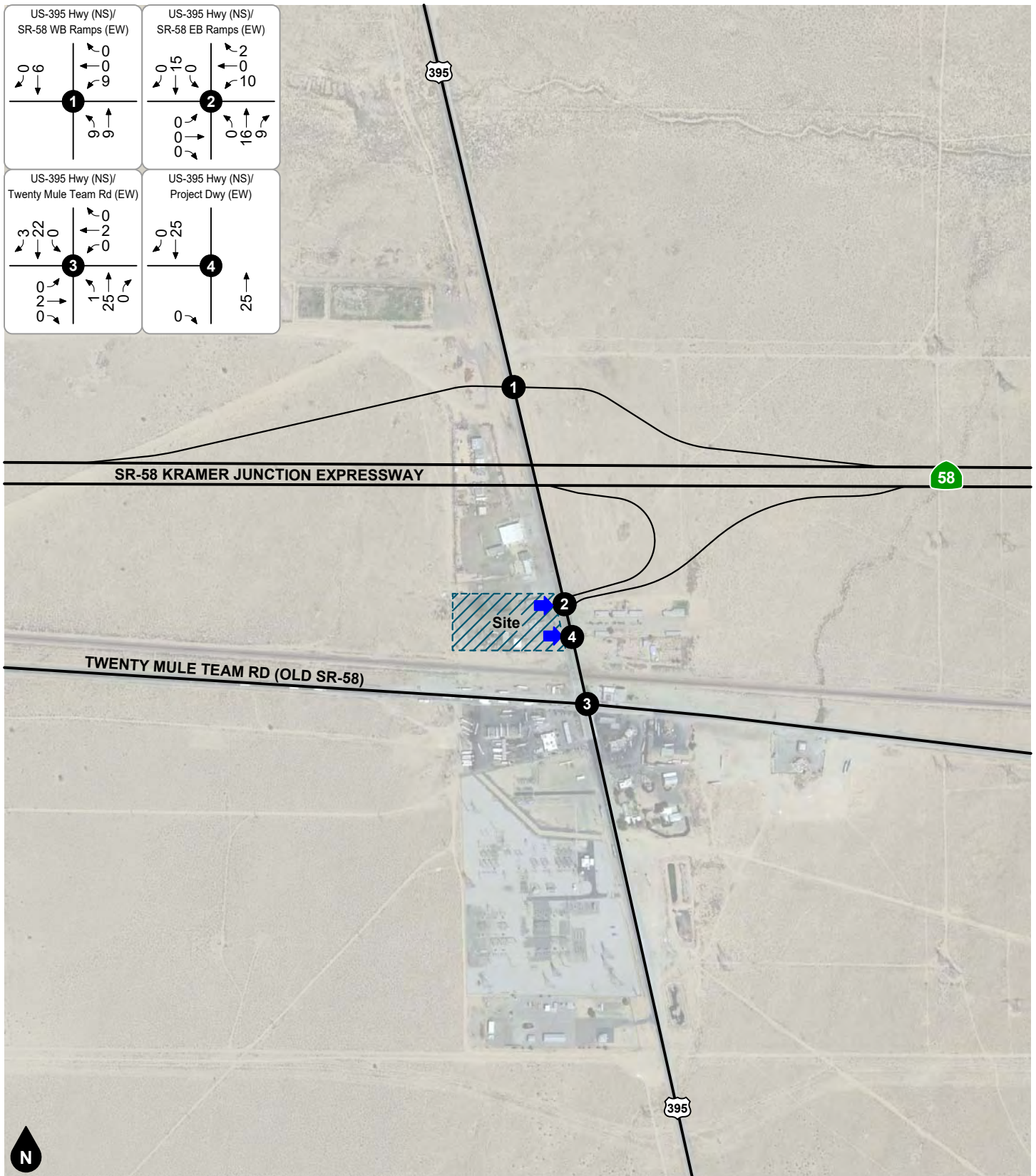


Figure 19
Other Development
AM Peak Hour Intersection Turning Movement Volumes

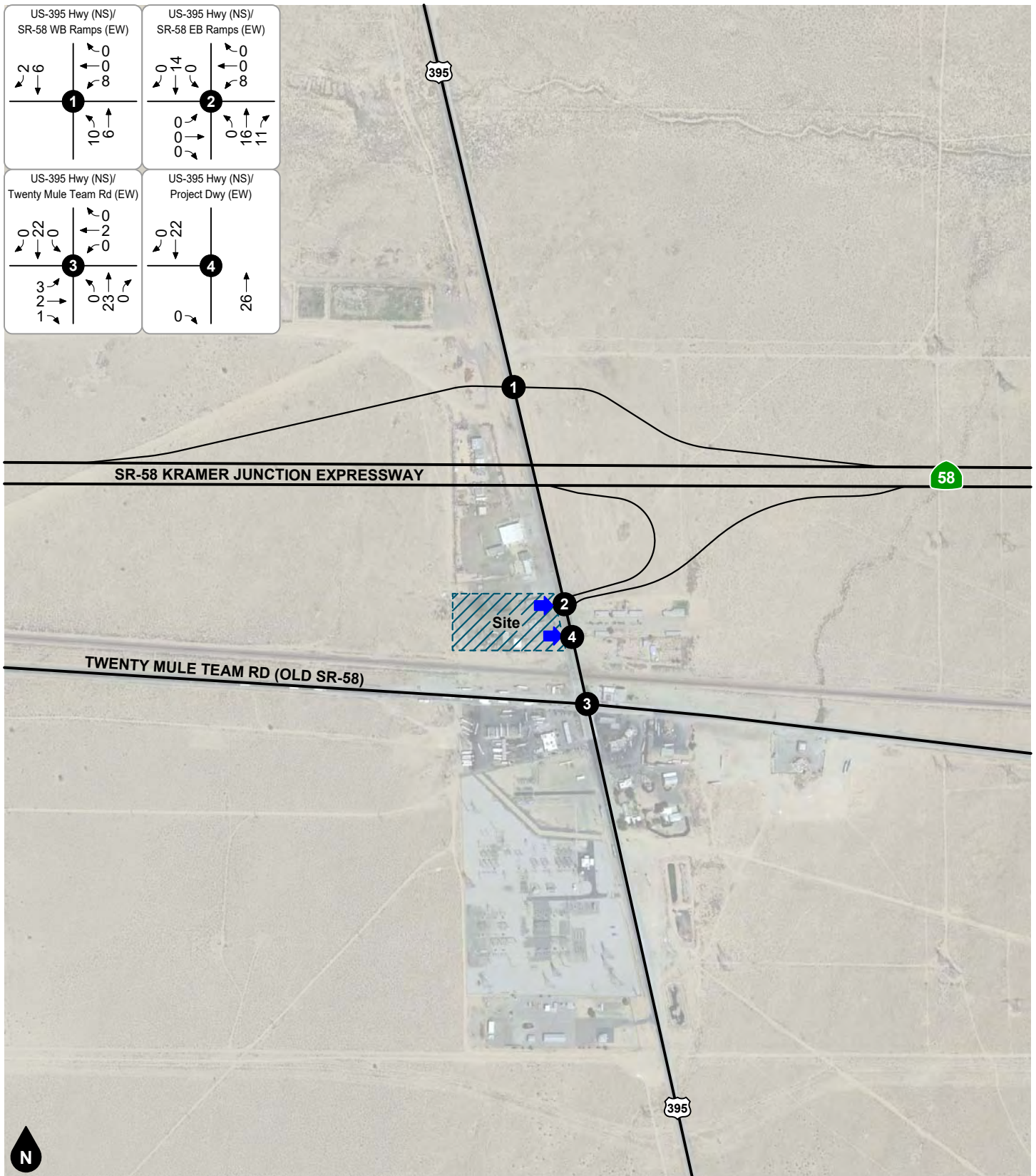
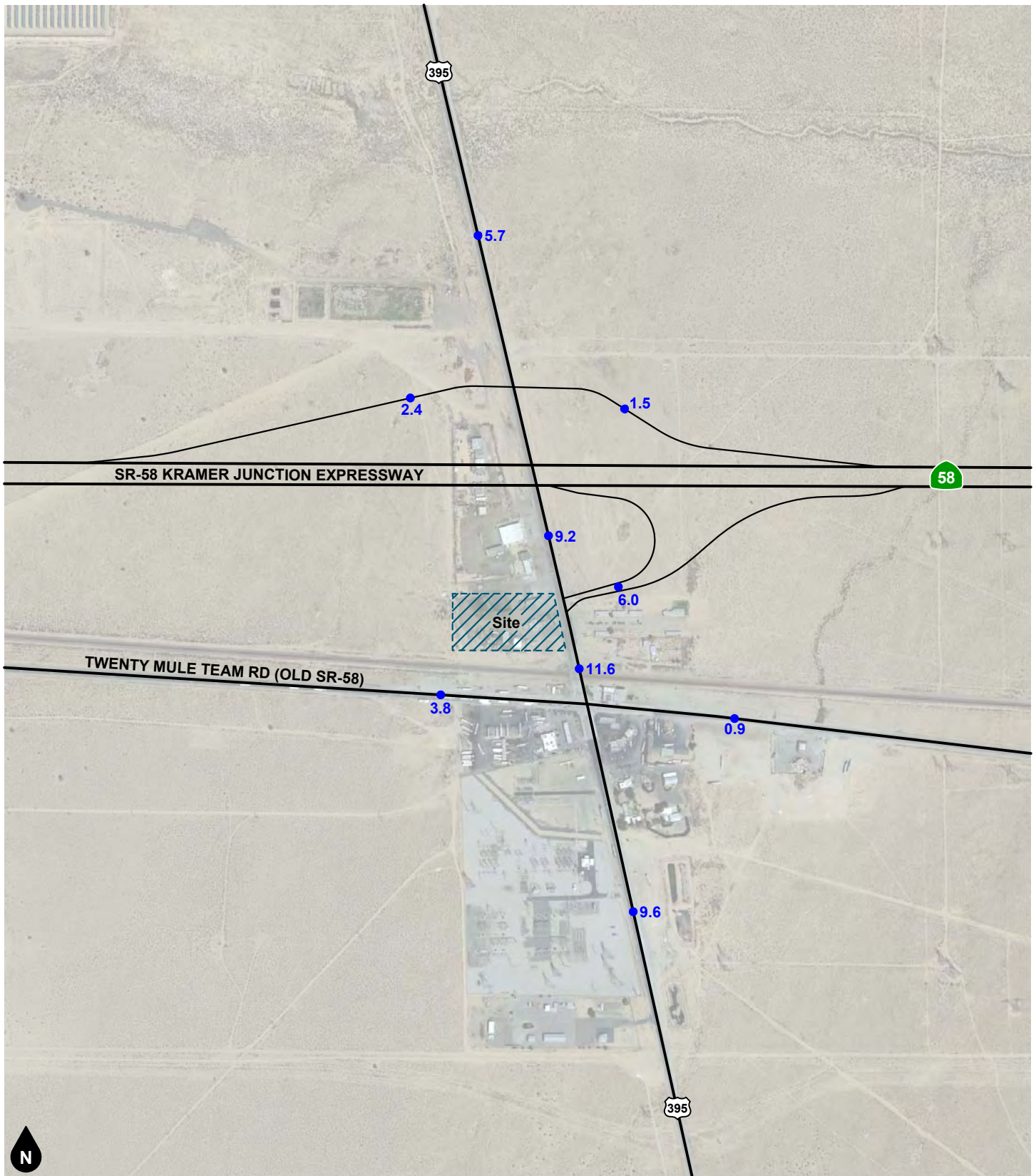


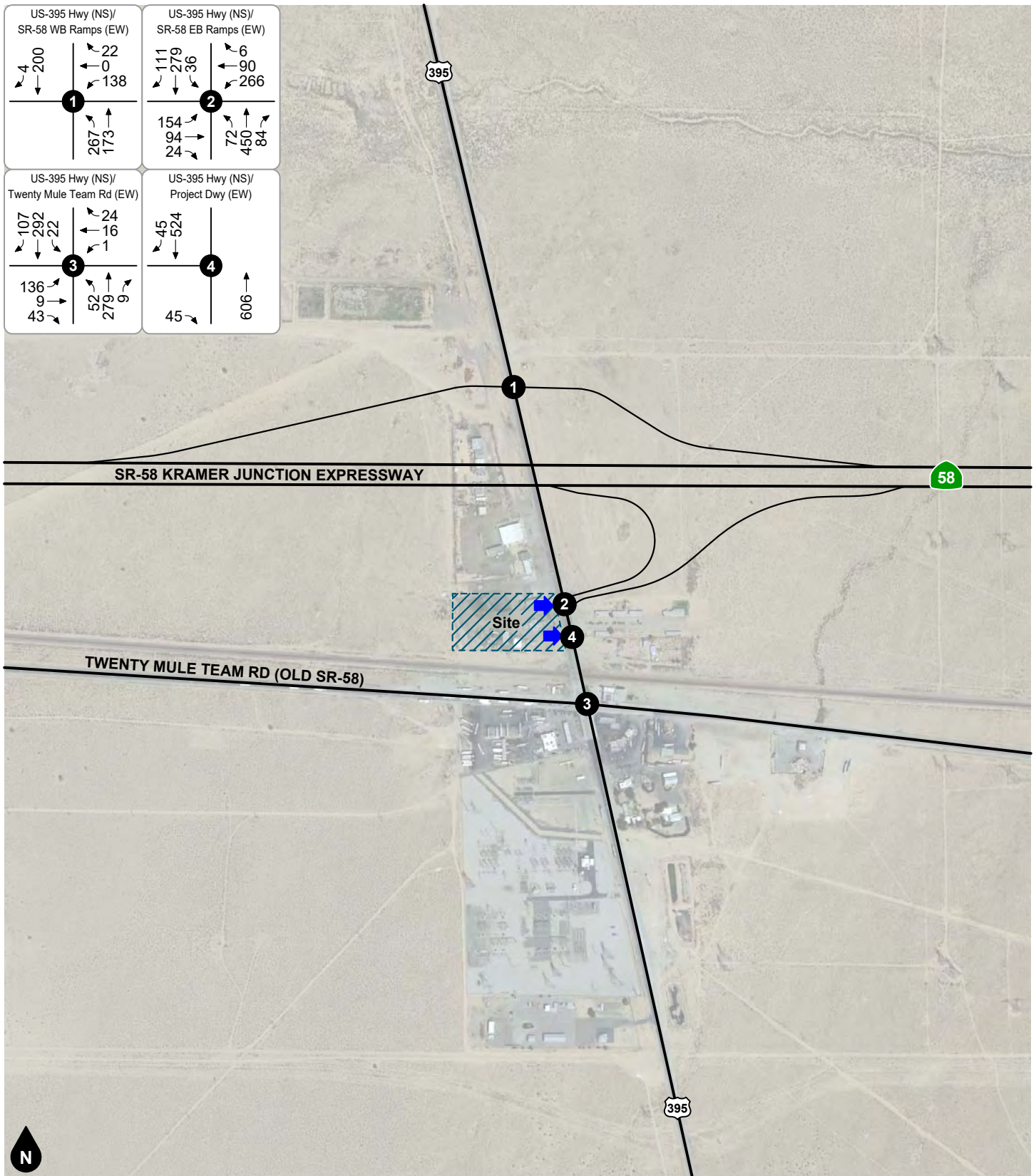
Figure 20
Other Development
PM Peak Hour Intersection Turning Movement Volumes



Legend

●## Vehicles Per Day (1,000's)

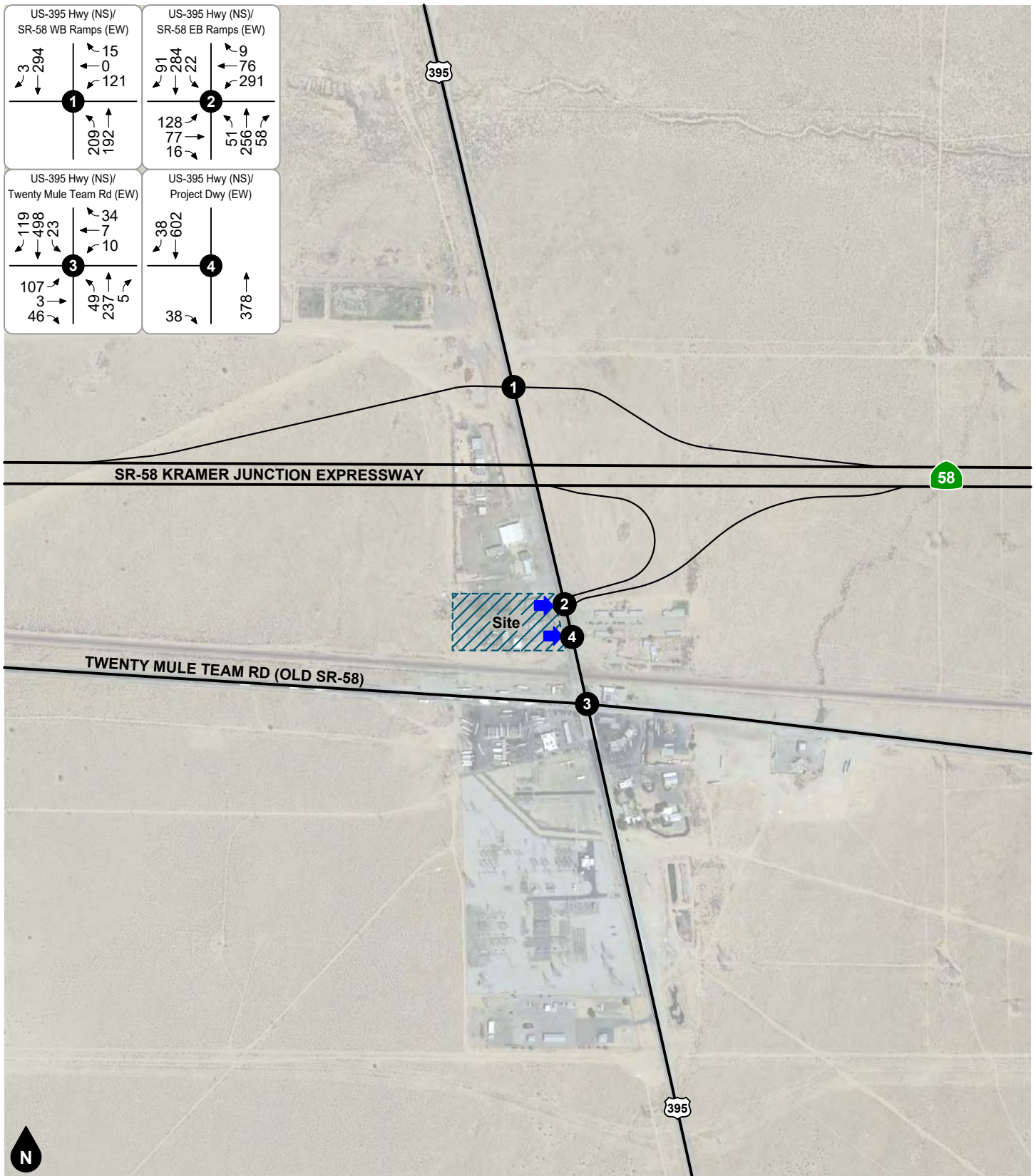
Figure 21
Existing Plus Project Average Daily Traffic Volumes



Legend

- # Study Intersection
- Project Access

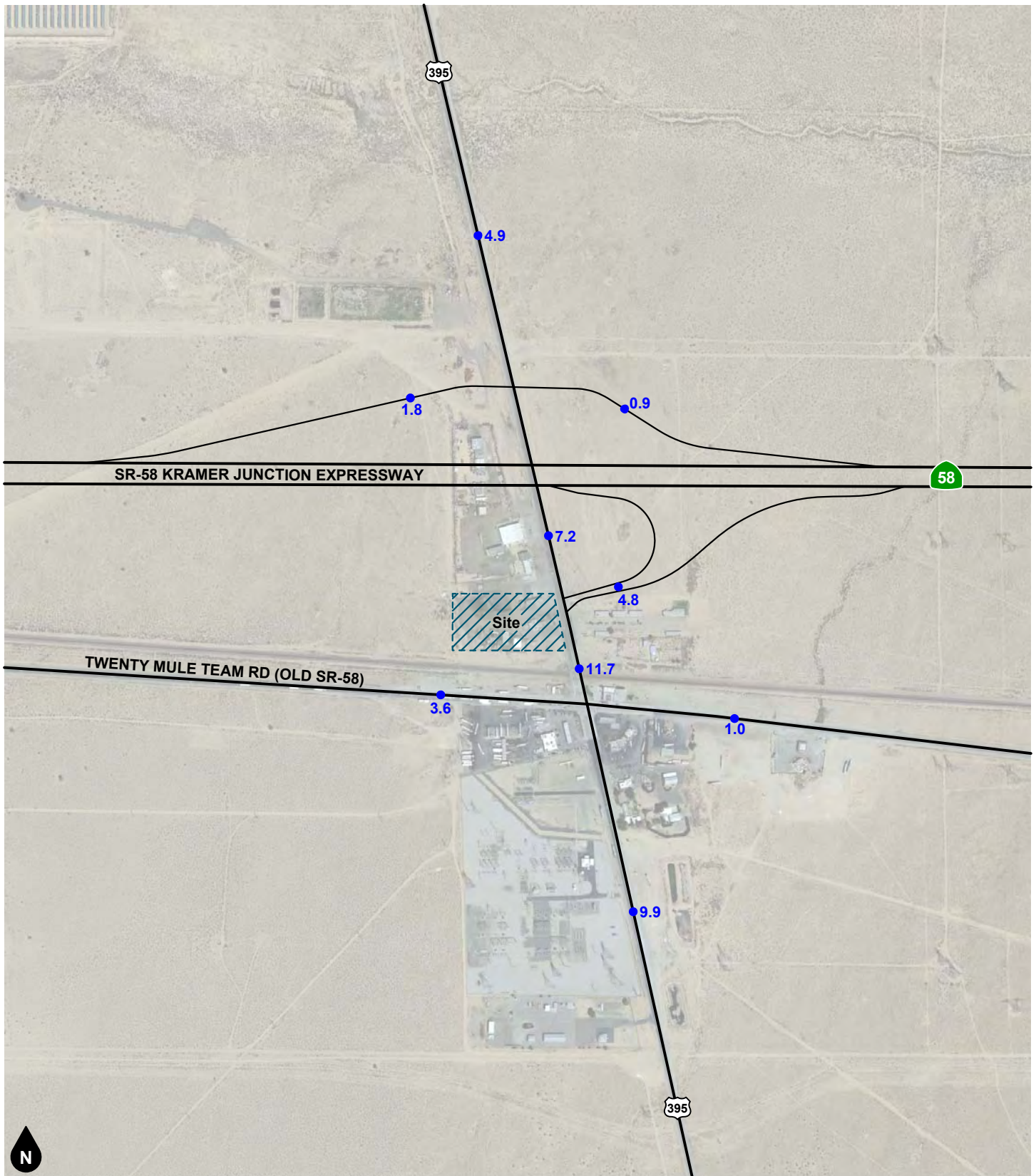
Figure 22
Existing Plus Project
AM Peak Hour Intersection Turning Movement Volumes



Legend

- # Study Intersection
- Project Access

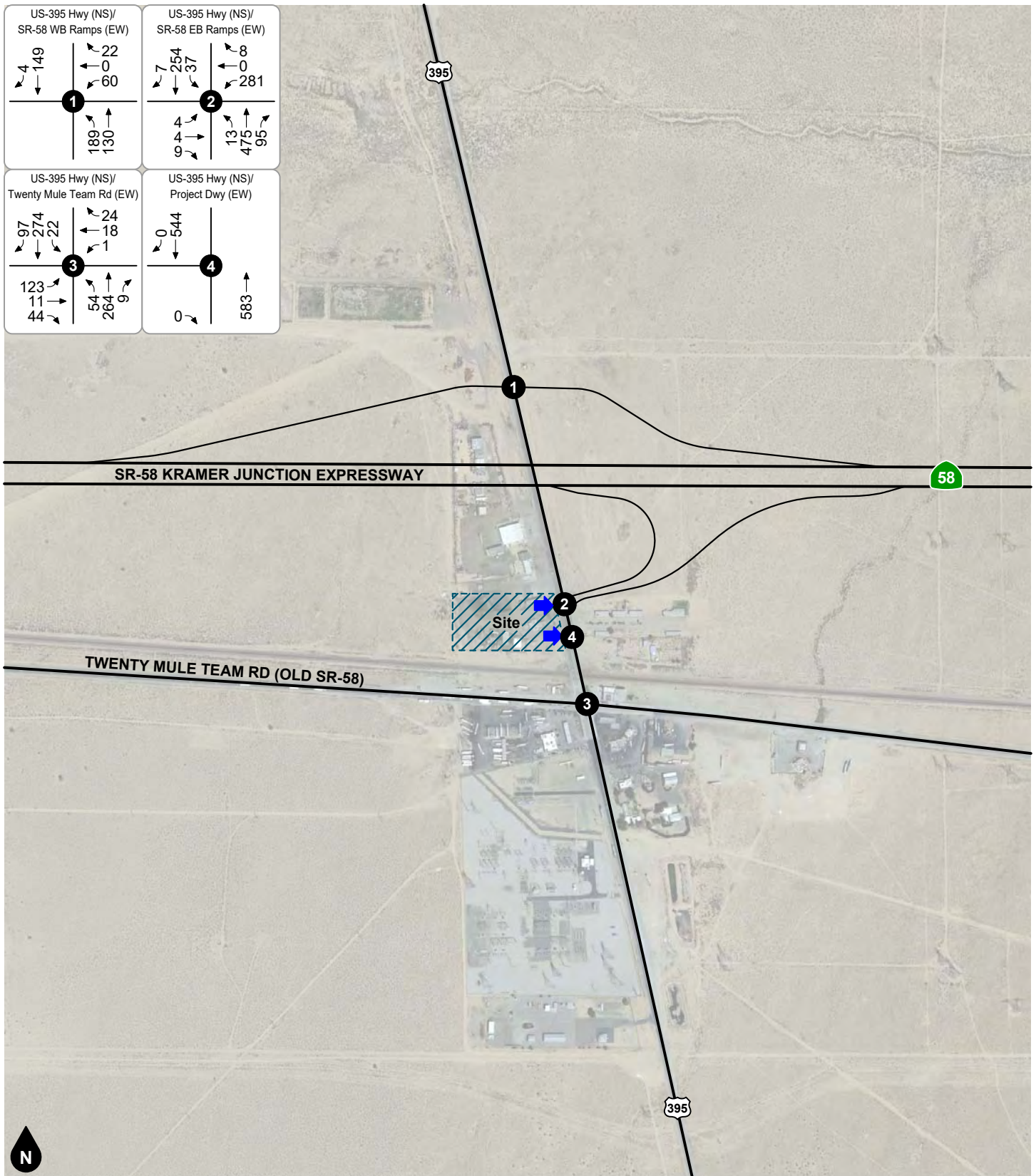
Figure 23
Existing Plus Project
PM Peak Hour Intersection Turning Movement Volumes



Legend

●## Vehicles Per Day (1,000's)

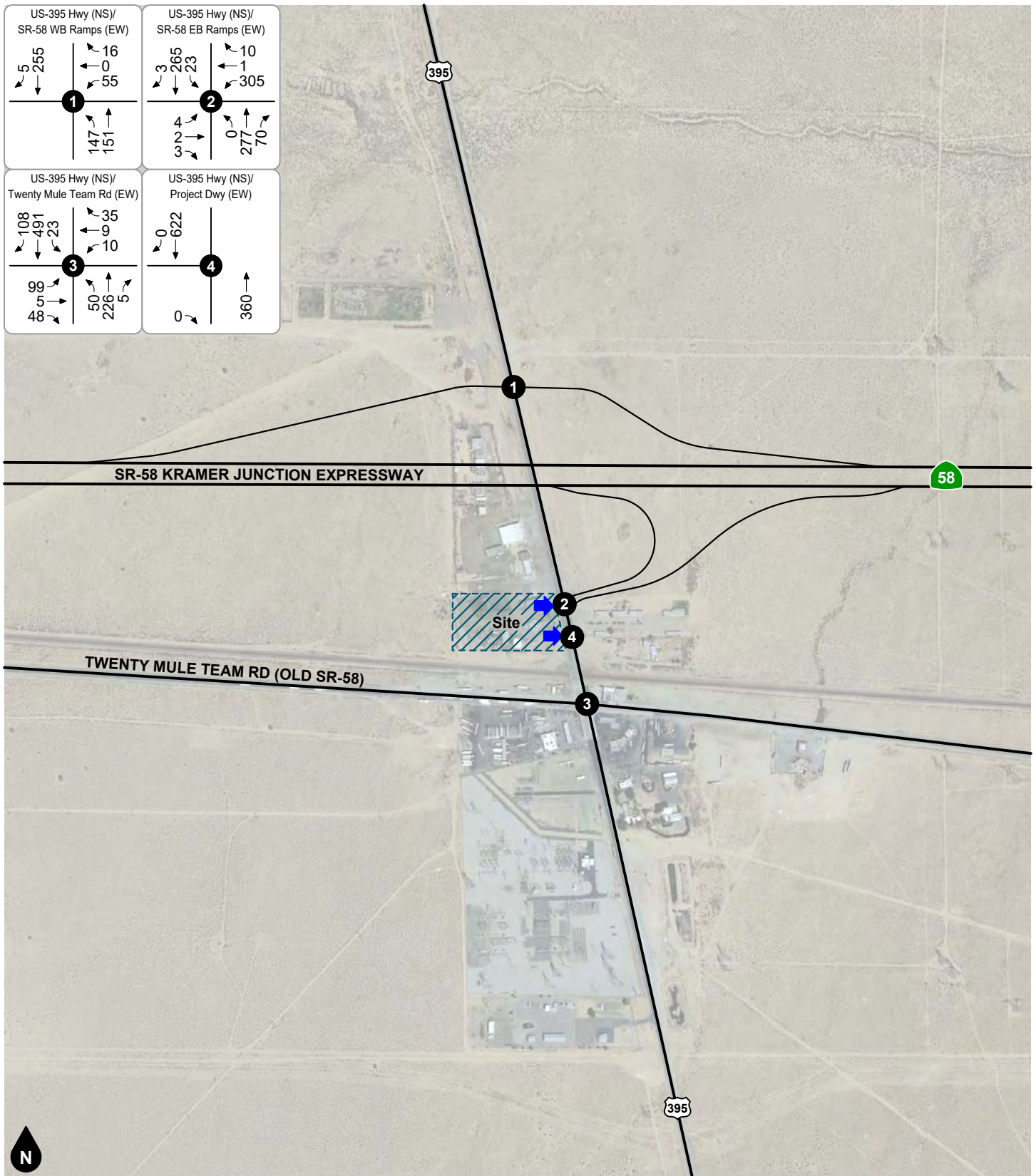
Figure 24
Opening Year (2021) Without Project Average Daily Traffic Volumes



Legend

- # Study Intersection
- Project Access

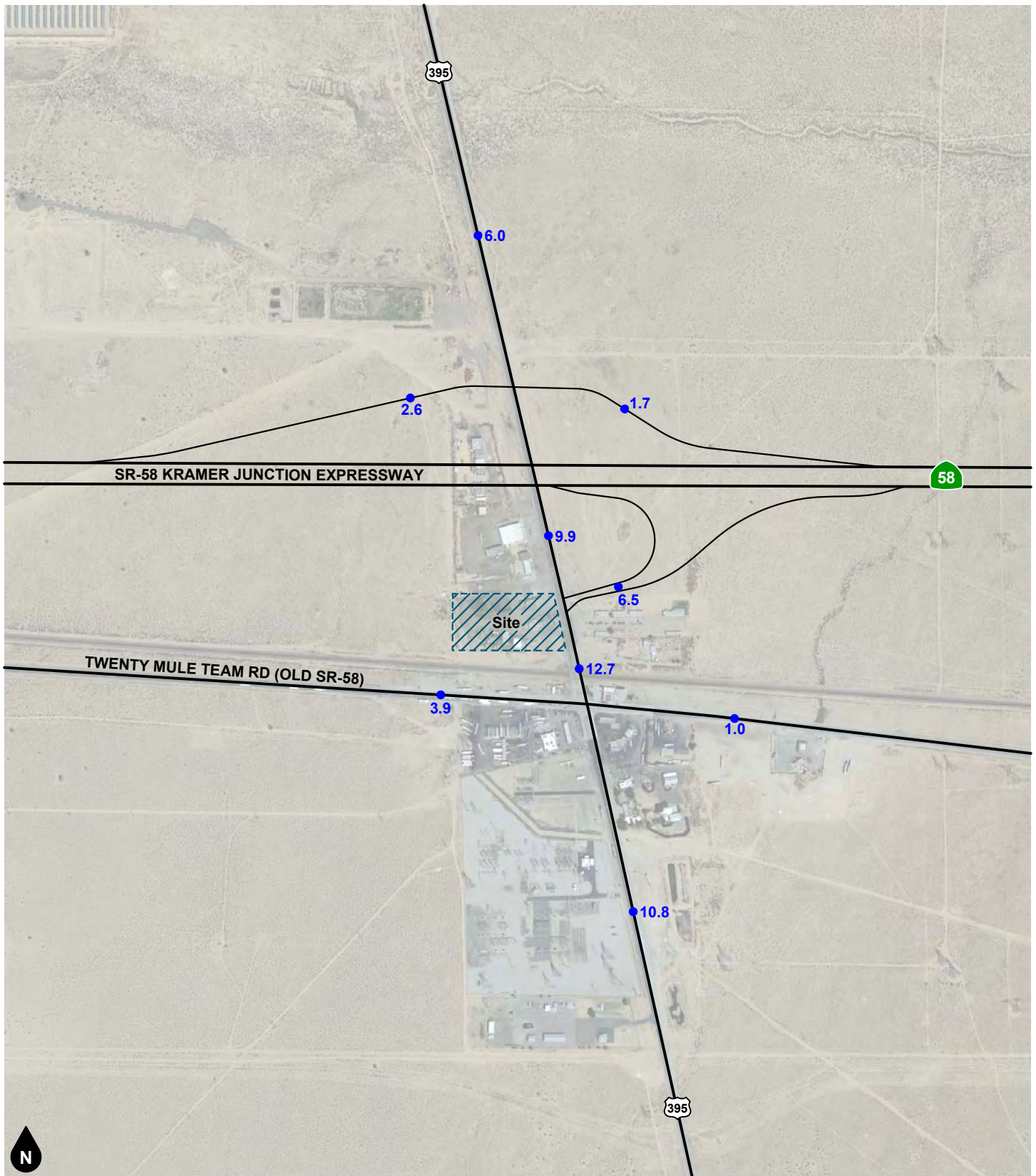
Figure 25
Opening Year (2021) Without Project
AM Peak Hour Intersection Turning Movement Volumes



Legend

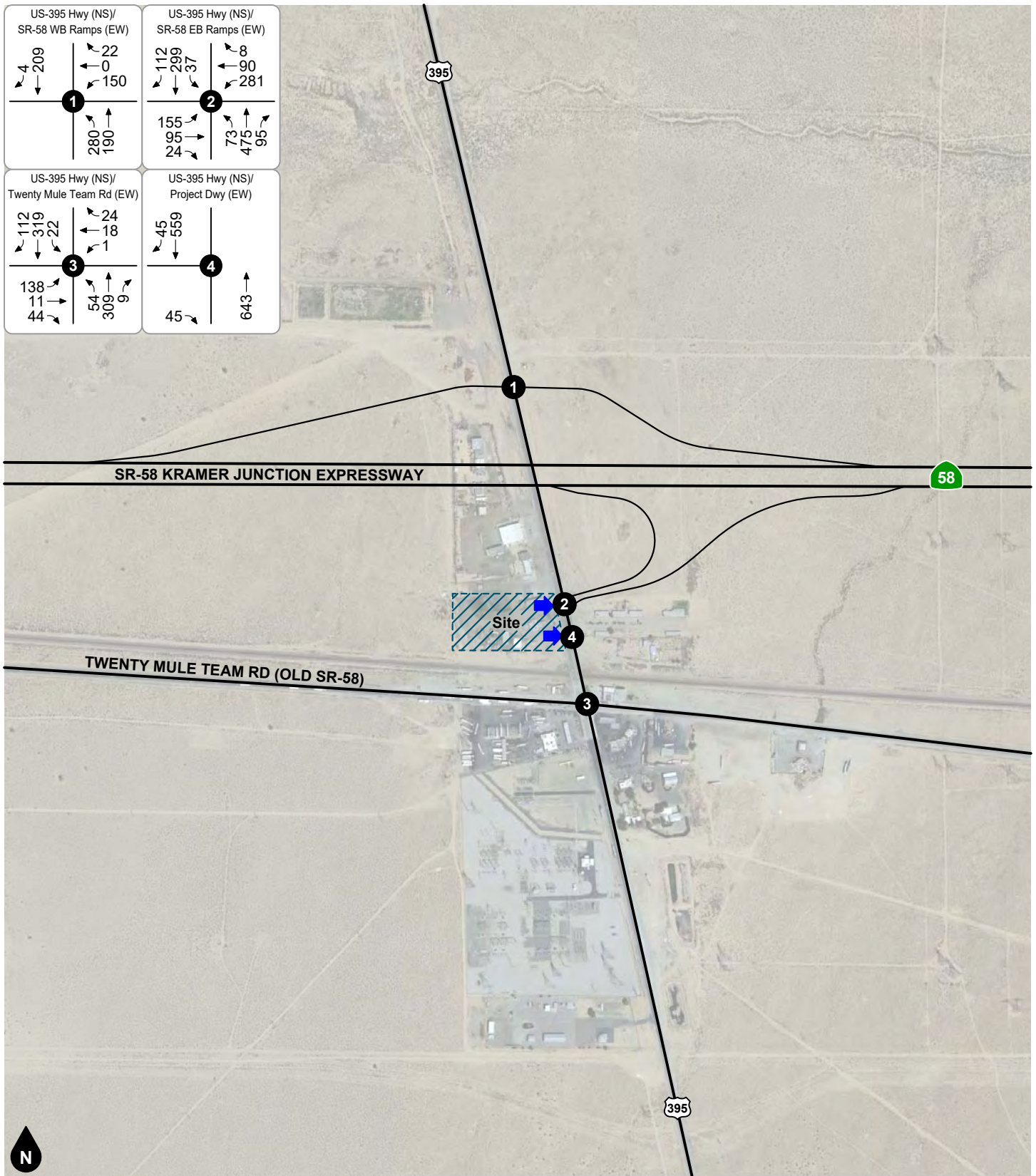
- # Study Intersection
- Project Access

Figure 26
Opening Year (2021) Without Project
PM Peak Hour Intersection Turning Movement Volumes



Legend
 ●## Vehicles Per Day (1,000's)

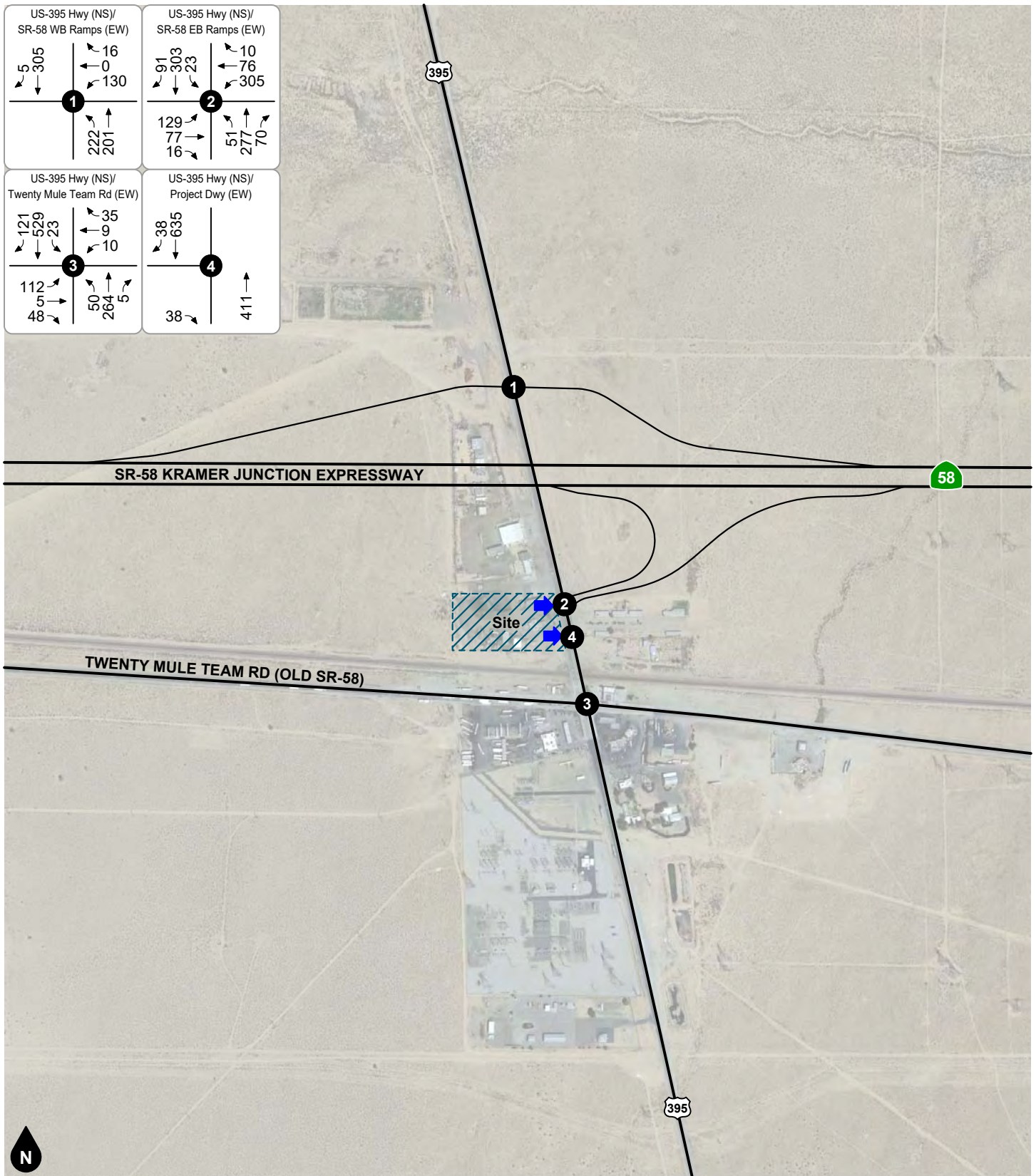
Figure 27
 Opening Year (2021) With Project Average Daily Traffic Volumes

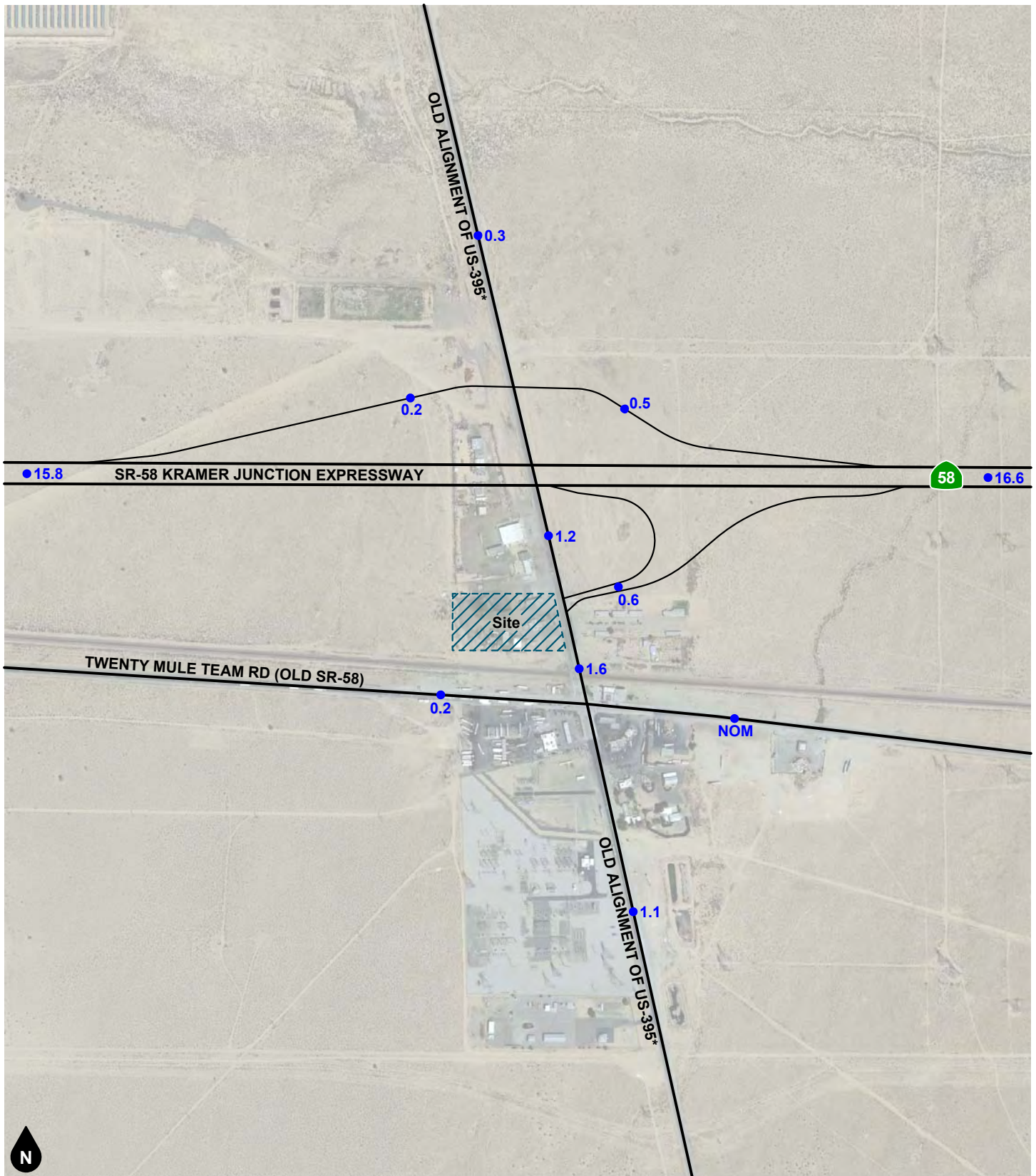


Legend

- # Study Intersection
- Project Access

Figure 28
Opening Year (2021) With Project
AM Peak Hour Intersection Turning Movement Volumes





Legend

- ## Vehicles Per Day (1,000's)
- NOM Nominal; Less Than 50 Vehicles Per Day
- *US-395/SR-58 Interchange East of Current Alignment

Figure 30
General Plan Buildout (Year 2040) Without Project
Average Daily Traffic Volumes

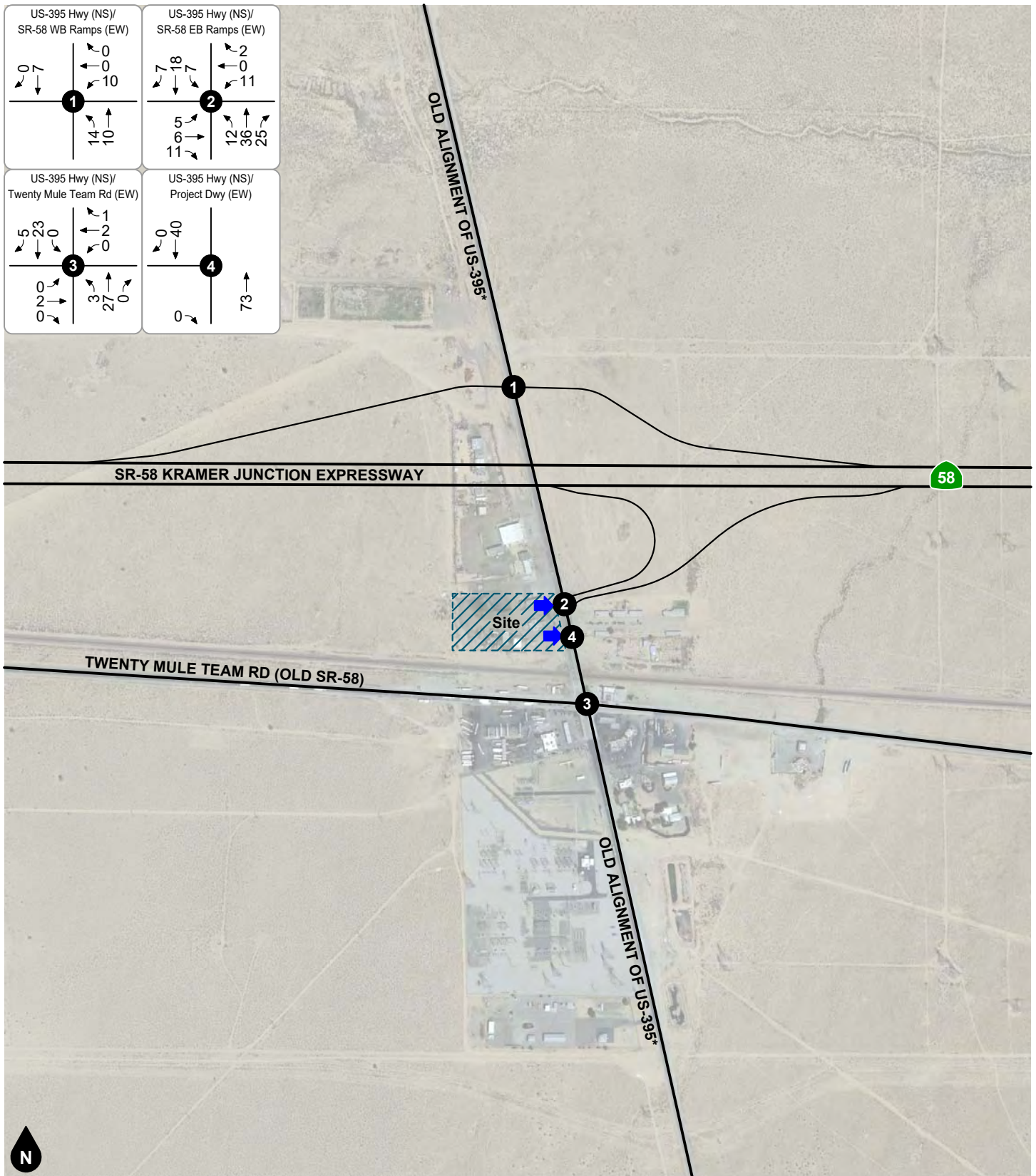
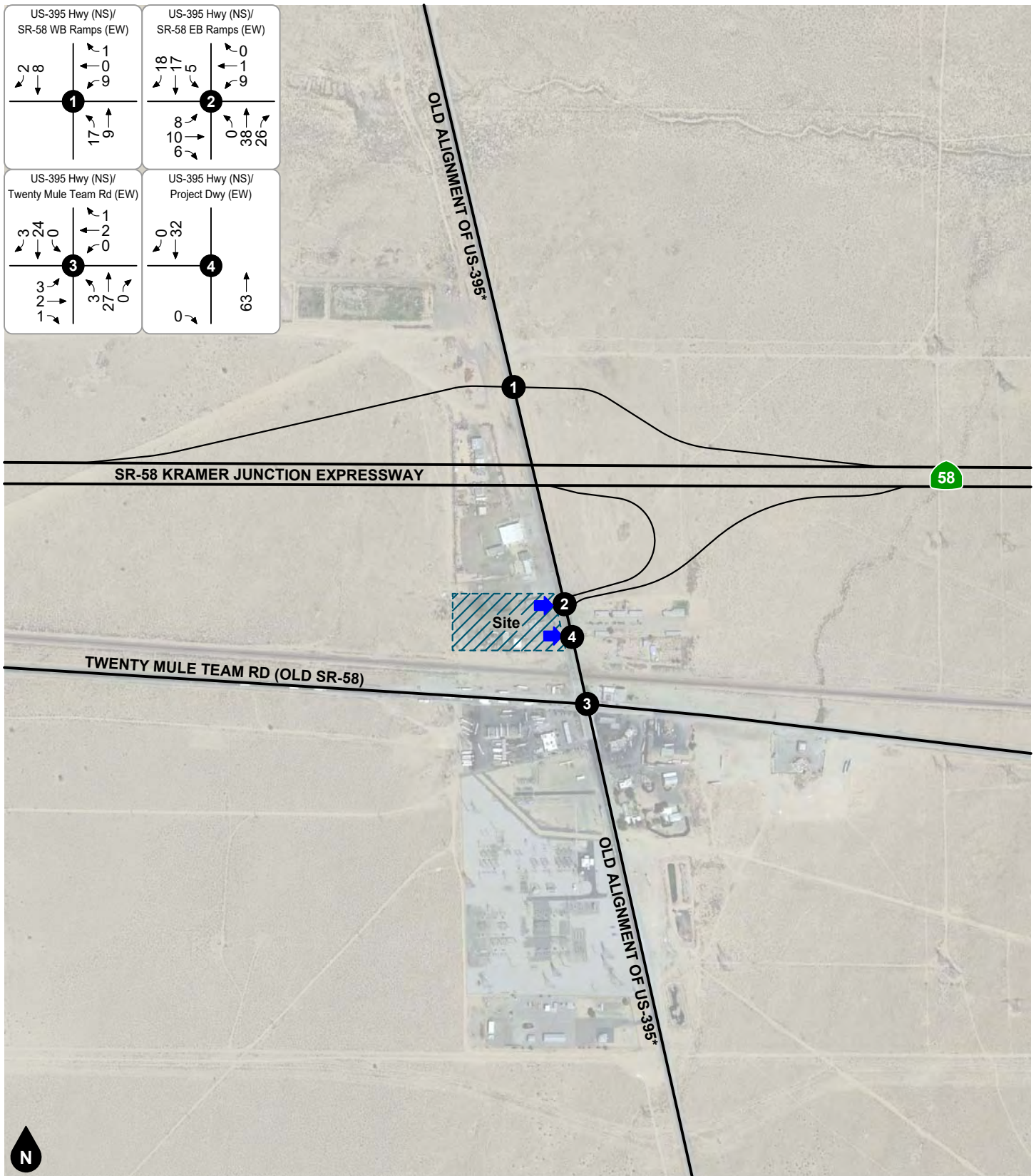


Figure 31
General Plan Buildout (Year 2040) Without Project
AM Peak Hour Intersection Turning Movement Volumes

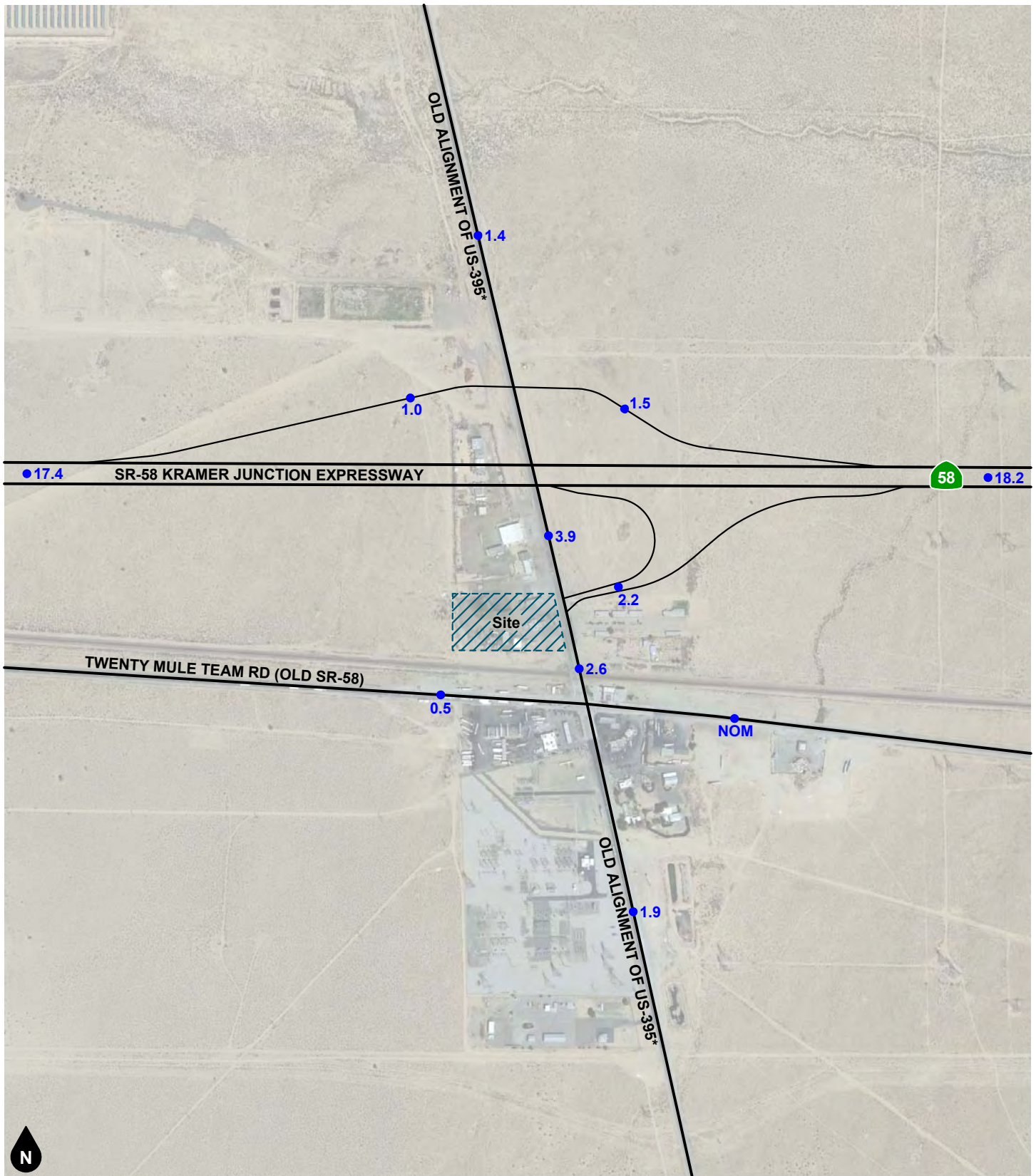


Legend

- # Study Intersection
- Project Access

*US-395/SR-58 Interchange East of Current Alignment

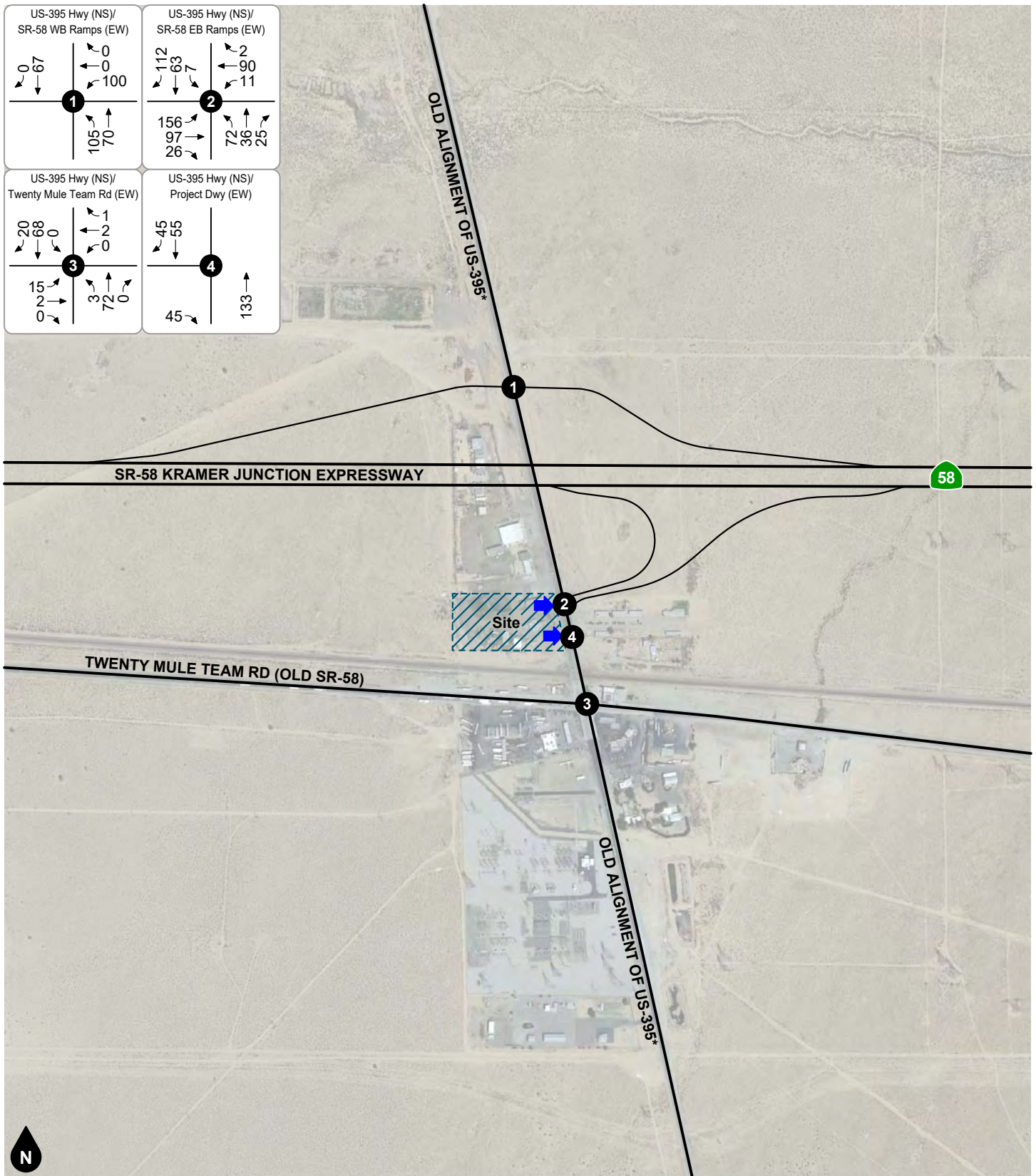
Figure 32
General Plan Buildout (Year 2040) Without Project
PM Peak Hour Intersection Turning Movement Volumes



Legend

- ## Vehicles Per Day (1,000's)
- NOM Nominal; Less Than 50 Vehicles Per Day
- *US-395/SR-58 Interchange East of Current Alignment

Figure 33
General Plan Buildout (Year 2040) With Project
Average Daily Traffic Volumes

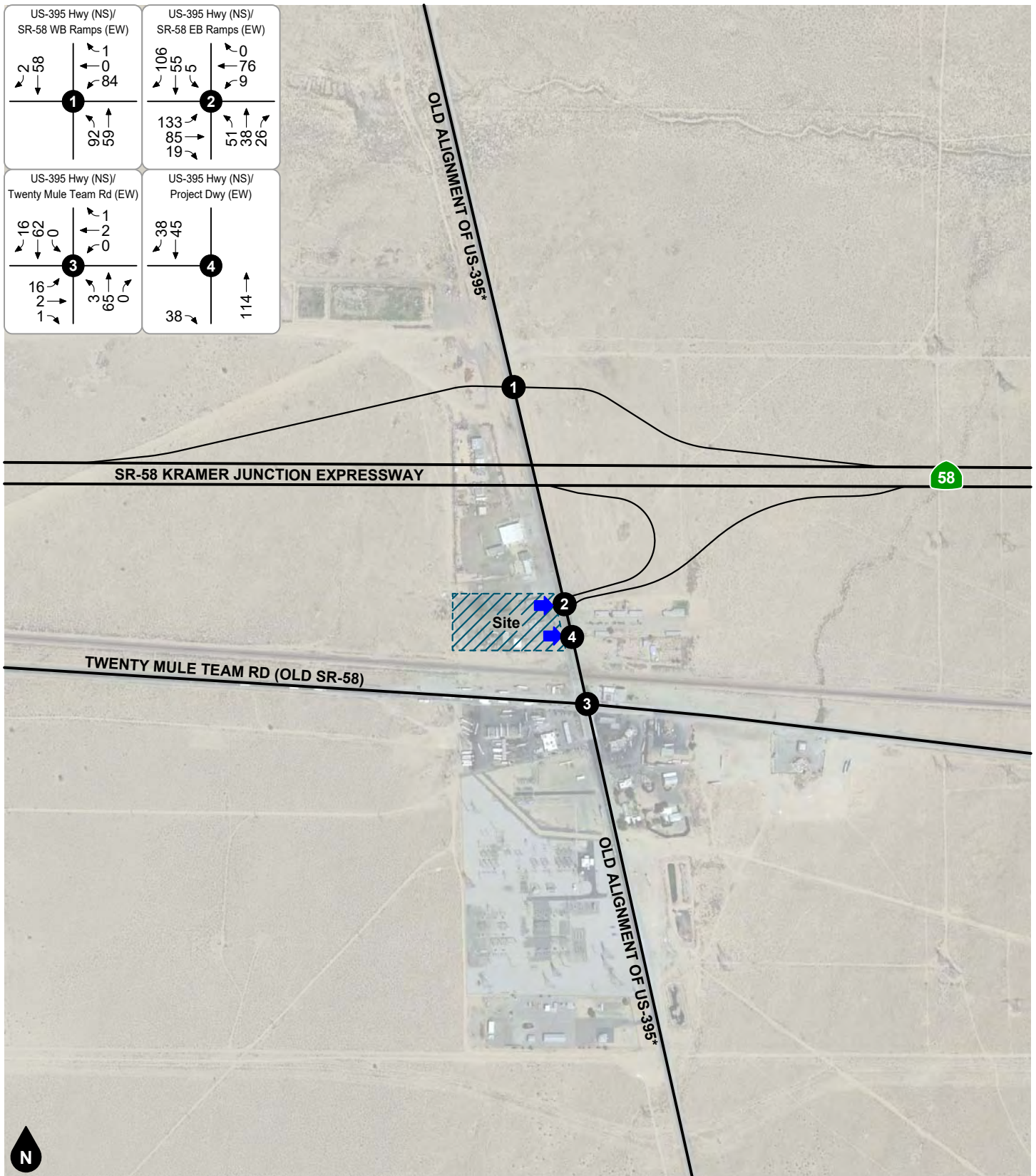


Legend

- # Study Intersection
- Project Access

*US-395/SR-58 Interchange East of Current Alignment

Figure 34
General Plan Buildout (Year 2040) With Project
AM Peak Hour Intersection Turning Movement Volumes



Legend

- # Study Intersection
- Project Access

*US-395/SR-58 Interchange East of Current Alignment

Figure 35
General Plan Buildout (Year 2040) With Project
PM Peak Hour Intersection Turning Movement Volumes

6. FUTURE OPERATIONAL ANALYSIS

Detailed intersection Level of Service calculation worksheets for each of the following analysis scenarios are provided in Appendix F.

EXISTING PLUS PROJECT

The study intersection Levels of Service for Existing Plus Project conditions are shown in Table 5. The study intersections are forecast to operate within acceptable Levels of Service (C or better for County of San Bernardino and D or better for Caltrans) during the peak hours for Existing Plus Project conditions (see Table 5).

OPENING YEAR (2021) WITHOUT PROJECT

The study intersection Levels of Service for Opening Year (2021) Without Project conditions are shown in Table 6. The study intersections are forecast to operate within acceptable Levels of Service (C or better for County of San Bernardino and D or better for Caltrans) during the peak hours for Opening Year (2021) Without Project conditions (see Table 6).

OPENING YEAR (2021) WITH PROJECT

The study intersection Levels of Service for Opening Year (2021) With Project conditions are also shown in Table 6. The study intersections are forecast to operate within acceptable Levels of Service (C or better for County of San Bernardino and D or better for Caltrans) during the peak hours for Opening Year (2021) With Project conditions (see Table 6).

YEAR 2040 WITHOUT PROJECT

The study intersection Levels of Service for Year 2040 Without Project conditions are shown in Table 7. The study intersections are forecast to operate within acceptable Levels of Service (C or better for County of San Bernardino and D or better for Caltrans) during the peak hours for Year 2040 Without Project conditions (see Table 7).

YEAR 2040 WITH PROJECT

The study intersection Levels of Service for Year 2040 With Project conditions are also shown in Table 7. The study intersections are forecast to operate within acceptable Levels of Service (C or better for County of San Bernardino and D or better for Caltrans) during the peak hours for Year 2040 With Project conditions (see Table 7).

Table 5
Existing Plus Project Intersection Levels of Service

ID	Study Intersection	Traffic Control ¹	Existing				Existing Plus Project			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³
1.	US-395 at SR-58 WB Ramps	TS	15.1	B	11.5	B	17.2	B	14.8	B
2.	US-395 at SR-58 EB Ramps	TS	15.3	B	16.2	B	22.3	C	22.7	C
3.	US-395 at Twenty Mule Team Road	TS	17.9	B	15.0	B	18.0	B	15.2	B
4.	US-395 at Project South Access	CSS	-		-		12.8	B	13.6	B

Notes:

- (1) TS = Traffic Signal; CSS = Cross Street Stop.
- (2) Delay is shown in seconds per vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).
- (3) LOS = Level of Service

Table 6
Opening Year (2021) Without Project Intersection Levels of Service

ID	Study Intersection	Traffic Control ¹	Opening Year (2021) Without Project				Opening Year (2021) With Project			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³
1.	US-395 at SR-58 WB Ramps	TS	15.3	B	15.1	B	19.9	B	15.1	B
2.	US-395 at SR-58 EB Ramps	TS	15.6	B	16.2	B	22.6	C	22.8	C
3.	US-395 at Twenty Mule Team Road	TS	18.4	B	15.2	B	18.6	B	15.5	B
4.	US-395 at Project South Access	CSS	-		-		13.3	B	14.1	B

Notes:

- (1) TS = Traffic Signal; CSS = Cross Street Stop.
- (2) Delay is shown in seconds per vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).
- (3) LOS = Level of Service

Table 7
Year 2040 Intersection Levels of Service

ID	Study Intersection	Traffic Control ¹	Year 2040 Without Project				Year 2040 With Project			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³	Delay	LOS
1.	US-395 at SR-58 WB Ramps	TS	18.8	B	18.6	B	19.5	B	19.2	B
2.	US-395 at SR-58 EB Ramps	TS	16.0	B	13.1	B	22.4	C	21.4	C
3.	US-395 at Twenty Mule Team Road	TS	6.8	A	8.6	A	7.1	A	8.7	A
4.	US-395 at Project South Access	CSS	-		-		8.8	A	8.7	A

Notes:

- (1) TS = Traffic Signal; CSS = Cross Street Stop.
- (2) Delay is shown in seconds per vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).
- (3) LOS = Level of Service

7. SITE ACCESS

Additional considerations which may affect the operational characteristics of the project access driveways are discussed below.

PROJECT DESIGN FEATURES

This analysis assumes the following improvements will be constructed by the project to provide project site access:

US-395 (NS) at Project North Access (EW) - #2

- Utilize the existing one left turn lane and one shared through and right turn lane at the existing driveway cut that aligns with the SR-58 eastbound ramps.

US-395 (NS) at Project South Access (EW) - #4

- Install eastbound stop control.
- Construct the eastbound approach to provide access for outbound and inbound right turns.

The proposed project will provide one additional access driveway on US-395. The southern access on US-395 is proposed with inbound and outbound right turn only.

This analysis also assumes the project shall comply with the following conditions as part of the County of San Bernardino standard development review process:

- All roadway design, traffic signing and striping, and traffic control improvements relating to the proposed project should be constructed in accordance with applicable engineering standards and to the satisfaction of the County of San Bernardino.
- Site-adjacent roadways should be constructed or repaired at their ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise required by the County of San Bernardino.
- In conjunction with standard County of San Bernardino development review procedures, on-site traffic signing and striping plans should be prepared in accordance with applicable State and Federal standards.
- Adequate off-street parking should be provided to the satisfaction of County of San Bernardino based on supporting parking and density analysis prepared for the project.
- The final grading, landscaping, and street improvement plans should demonstrate that sight distance standards are met in accordance with applicable County of San Bernardino /California Department of Transportation sight distance standards.

SITE ACCESS QUEUING

Table 8 summarizes the results of a queue analysis for left turn, right turn, or shared through/turn lanes at project driveways based on the forecast 95th-percentile queue lengths, shown in the delay calculation worksheets (see Appendix F), for Opening Year (2021) With Project conditions. As shown on Table 8, adequate storage capacity is forecast to be provided at the study area intersections with the addition of project-generated trips; therefore, the project impact is considered less than significant.

Based on the queuing analysis, adequate storage length is forecast to be provided at the project driveways with no change in the existing US-395 striping or a traffic signal for the project south driveway (Study Intersection #4).

TRAFFIC SIGNAL WARRANT ANALYSIS

The potential need for installation of a traffic signal at unsignalized study intersections was evaluated based on the California Manual on Uniform Traffic Control Devices ("California MUTCD", November 2014), Section 4C-101, peak hour volume warrant (Warrant 3). The project driveway is not forecast to require a traffic signal based on the California MUTCD peak hour volume warrant (Warrant 3). Traffic signal warrant worksheets are provided in Appendix G

Table 8
Project Driveway Queueing Analysis

ID	Intersection	Approach	Lane	Storage Length (Feet) ¹	Peak Hour 95th-Percentile Queue Length (Feet) ²		Adequate Storage Provided	
					AM Peak Hour	PM Peak Hour		
2.	US-395 at SR-58 EB Ramps	Northbound	Left	120	60	50	YES	YES
		Northbound	Thru-Right	280	160	95	YES	YES
		Southbound	Left	200	<25	<25	YES	YES
		Southbound	Thru-Right	1200	110	120	YES	YES
		Eastbound	Left	150	135	130	YES	YES
		Eastbound	Thru-Right	150	95	85	YES	YES
		Westbound	Left	1000	155	180	YES	YES
		Westbound	Shared Lane	1000	160	185	YES	YES
4	US-395 at Project South Access	Southbound	Thru-Right	280	<25	<25	YES	YES
		Eastbound	Right	75	<25	<25	YES	YES

Notes:

- (1) Distance to the adjacent driveway (existing or proposed future development).
- (2) For a more conservative analysis, the forecast 95th-percentile queue lengths shown in the delay calculation worksheets have been rounded up to nearest 5-foot increment. Peak Hour 95th-Percentile Queue Length shown for Opening Year (Year 2021) With Project conditions.

8. STATE HIGHWAY ANALYSIS

This section provides analysis of the project impacts at State highway facilities in accordance with typical California Department of Transportation (Caltrans) requirements.

STATE HIGHWAY SYSTEM

Regional access is provided by US-395 Highway and SR-58 State Route.

US-395 Highway is a two-lane undivided highway classified as a Major Highway on the County of San Bernardino General Plan Circulation Element. North-south US-395 Highway access is provided at grade interchanges north and south of the elevated SR-58 State Route. It currently carries approximately 4,900 to 8,800 vehicles per day in the project vicinity.

SR-58 State Route is a four-lane divided highway classified as a Major Highway east of US-395 and as a State Highway west of US-395 on the County of San Bernardino General Plan Circulation Element. SR-58 State Route access is provided at grade interchanges north and south of the elevated SR-58 State Route. It currently carries approximately 12,000 to 14,400 vehicles per day in the project vicinity.

STATE HIGHWAY ANALYSIS METHODOLOGIES

Intersection Delay Methodology

As previously noted in the Methodology section, the technique used to assess the performance of intersections within the California Department of Transportation jurisdiction is known as the intersection delay methodology based on procedures contained in the Highway Capacity Manual (Transportation Research Board, 6th Edition).

Off-Ramp Queueing Methodology

For freeway off-ramps satisfying the trip contribution criteria, the 95th-percentile queue length has also been assessed based on procedures contained in the Highway Capacity Manual (Transportation Research Board, 6th Edition) and reported in the delay/Level of Service calculation worksheets (see Appendix F).

Thresholds of Significance

As previously noted, a project traffic impact is considered significant if the addition of project generated trips is forecast to cause the performance of a State Highway study intersection to change from acceptable operation (Level of Service D or better) to deficient operation (Level of Service E or F).

For freeway off-ramps, a project impact is considered significant if the addition of project generated trips is forecast to cause or worsen a condition where the queue length exceeds the storage capacity.

FREEWAY MAINLINE AND OFF-RAMP SCREENING CRITERIA

Department of Transportation (Caltrans) District 8 staff was consulted and approved the Scoping Agreement prepared for this project. The study area was defined using San Bernardino County 2016 Congestion Management Program (CMP) guidelines for proposed volume thresholds. Accordingly, arterial highway intersections with 50 or more project trips were included in the study area. Additionally, mainline freeway analysis is not required for this Traffic Impact Analysis as the mainline two-way peak hour volume is less than 100 trips.

TRIP CONTRIBUTION

The project PM peak hour trip contributions on the roadway and highway facilities are shown on Figure 36. As shown on Figure 36, the project is forecast to contribute no more than 44 two-way peak hour trips on US-395 and 66 two-way peak hour trips on SR-58. SR-58 on-ramps and off-ramps are forecast to carry 33 one-way trips per ramp.

FREEWAY RAMP TERMINUS OPERATIONS

Intersection Levels of Service

As shown in the preceding operational analysis, the State highway study intersections are forecast to operate at Level of Service C or better during the peak hour conditions for Opening Year (2021) With Project conditions.

Off-Ramp Queueing

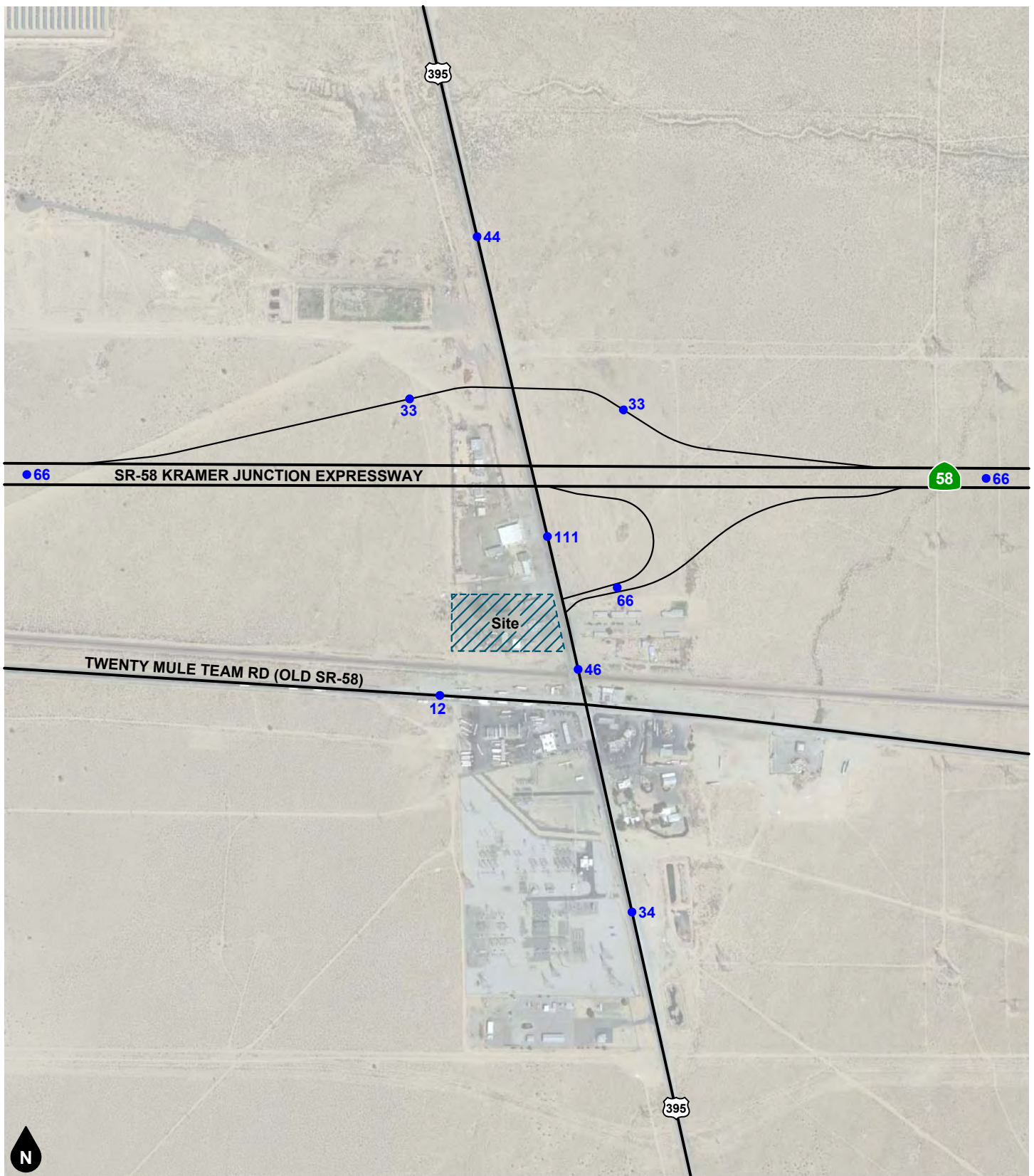
Table 9 summarizes the results of a queuing analysis for the SR-58 off-ramps at US-395 based on Opening Year (2021) With Project conditions. As shown on Table 9, adequate off-ramp storage capacity is forecast to be adequate at the study off-ramps with the addition of project-generated trips; therefore, the project impact is considered less than significant.

Table 9
Freeway Off-Ramp Queueing Analysis

ID	Intersection	Approach	Lane	Queue Length / Distance (Feet)					Adequate Storage Provided		
				Designated Turning Lane Storage Length ¹	Distance From End of Designated Lane to Gore Point ²	Peak Hour 95th-Percentile Queue Length ³		Queue Length Exceeding Turning Lane Storage			
						AM	PM	AM	PM	AM	PM
1.	US-395 at SR-58 WB Ramps	Westbound	Left-Thru	1200	750	140	120	0	0	YES	YES
		Westbound	Right	1200		<25	<25	0	0		
2.	US-395 at SR-58 EB Ramps	Westbound	Left	1000	500	155	180	0	0	YES	YES
		Westbound	Shared Lane	1000		160	185	0	0		

Notes:

- (1) Ramp length = Length from stop bar to gore point. When a designated turning lane does not exist, the original ramp lane designated storage with improvements is equal to the new storage length of the adjacent lane.
- (2) Full lane development of two-lane off-ramp from the gore point to stop bar. Full ramp length shown on the two center lanes.
- (3) Peak Hour 95th-Percentile Queue Length shown for Opening Year (Year 2021) With Project conditions.



Legend

●## PM Peak Hour Volumes

Note:

Project Volumes Do Not Include Pass-by Volumes.
These Are Net New Trips.

Figure 36
Project Trip Contribution

9. CONGESTION MANAGEMENT PROGRAM (CMP)

This section provides analysis of the project impacts at County facilities in accordance with typical San Bernardino County Congestion Management Program requirements.

CMP ANALYSIS REQUIREMENTS

The San Bernardino County 2016 Congestion Management Program (CMP), Section 4, provides guidelines for report thresholds that:

“CMP TIA Reports shall be prepared by or at the direction of the local jurisdiction with land use authority when a change in land use, a development project, or at local discretion, a group of projects are forecast to generate 250 two-way peak hour trips based on trip generation rates published for the applicable use or uses in the Institute of Transportation Engineers’ Trip Generation or other CMA-approved data source. Pass-by trips are excluded in this determination.”

Furthermore, the San Bernardino County CMP states that the study area for CMP TIA must include the following:

- CMP arterial highways shall be analyzed if they are projected to carry at least 50 two-way peak hour trips and freeway segments shall be analyzed if they carry at least 100 two-way peak hour trips.
- If a TIA Report indicates that the project or projects would add 50 or more 2-way peak hour trips to a CMP arterial within an adjacent jurisdiction or 100 or more 2-way peak hour trips to a freeway within an adjacent jurisdiction, the TIA Report shall be submitted to the adjacent jurisdictions as well.
- These volume thresholds also define the limit of the geographic area that needs to be analyzed in a TIA Report (i.e., the analysis does not need to be conducted for any intersections or segments when the number of project-related peak hour trips is less than the specified volume thresholds).
- If a project will distribute traffic onto the State Highway System, consult Caltrans for their TIA report guidelines regarding when TIA reports may be required.

Based on the project trip assignment, the proposed project is forecast to contribute fewer than 50 (or more) weekday peak hour trips to a CMP-monitored intersection or 100 (or more) weekday peak hour trips to a mainline freeway monitoring location. Therefore, a Congestion Management Program impact analysis is not required for this project.

This report for the proposed project includes all intersections forecast to contribute 50 or more weekday peak hour trips. The local agency, County of San Bernardino, and Caltrans were consulted prior to proceeding with the report analysis.

10. VEHICLE MILES TRAVELED (VMT) ANALYSIS

This section provides the VMT assessment in accordance with the San Bernardino Transportation Impact Study Guidelines.

BACKGROUND

California Senate Bill 743 (SB 743) directs the State Office of Planning and Research (OPR) to amend the California Environmental Quality Act (CEQA) Guidelines for evaluating transportation impacts to provide alternatives to Level of Service that “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” In December 2018, the California Natural Resources Agency certified and adopted the updated CEQA Guidelines package. The amended CEQA Guidelines, specifically Section 15064.3, recommend the use of Vehicle Miles Travelled (VMT) as the primary metric for the evaluation of transportation impacts associated with land use and transportation projects. Currently, agencies may opt-in to applying the updated CEQA guidelines for VMT analysis and implementation is required State-wide by July 1, 2020.

The updated CEQA Guidelines allow for lead agency discretion in establishing methodologies and thresholds provided there is substantial evidence to demonstrate that the established procedures promote the intended goals of the legislation. Where quantitative models or methods are unavailable, Section 15064.3 allows agencies to assess VMT qualitatively using factors such as availability of transit and proximity to other destinations. The Technical Advisory on Evaluating Transportation Impacts in CEQA (State of California, December 2018) [“CEQA Transportation Technical Advisory”] provides technical considerations regarding methodologies and thresholds with a focus on office, residential, and retail developments as these projects tend to have the greatest influence on VMT. The Technical Advisory also provides recommendations for screening criteria that may be used to determine that a project’s VMT impact is presumed less than significant.

Many jurisdictions are currently in the process of developing updated procedures for VMT analysis, however, few have fully implemented the new metric. The County of San Bernardino has provided VMT methodologies and thresholds in the Transportation Impact Study Guidelines dated July 9, 2019. San Bernardino County Transportation Authority (SBCTA) is leading a SB 743 Implementation Study which will further refine the methodology identified in this section and will create tools to assist in VMT screening. The County will monitor those efforts for applicability for VMT assessment for subsequent projects and update the guidance accordingly as new information and tools become available for use in the County.

VMT ASSESSMENT

According to the Transportation Impact Study (TIS) Guidelines, projects which serve the local community and have the potential to reduce VMT should not be required to complete a VMT assessment. These projects are noted below:

- K-12 schools
- Local-serving retail less than 50,000 sq. ft.
- Local parks
- Day care centers
- Local serving gas stations
- Local serving banks
- Student housing projects
- Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS
- Projects generating less than 110 daily vehicles
- Projects located within a Transit Priority Area (TPA) as determined by the most recent SCAG RTP/SCS

- Projects located within a low VMT generating area as determined by the analyst (e.g. development in efficient areas of the County will reduce VMT per person/employee and is beneficial to the region)

Since the proposed project is a local serving gas station including a convenience market, the project is not required to complete a VMT assessment based on the TIS guidelines. The project will also serve the traffic that are already on the highways.

11. CONCLUSIONS

This section summarizes the findings and mitigation measures identified through the operational analysis in described previous sections.

PROJECT DESIGN FEATURES

This analysis assumes the following improvements will be constructed by the project to provide project site access:

US-395 (NS) at Project North Access (EW) - #2

- Utilize the existing one left turn lane and one shared through and right turn lane at the existing driveway cut that aligns with the SR-58 eastbound ramps.

US-395 (NS) at Project South Access (EW) - #4

- Install eastbound stop control.
- Construct the eastbound approach to provide access for outbound and inbound right turns.

The proposed project will provide one additional access driveway on US-395. The southern access on US-395 is proposed with inbound and outbound right turn only.

This analysis also assumes the project shall comply with the following conditions as part of the County of San Bernardino standard development review process:

- All roadway design, traffic signing and striping, and traffic control improvements relating to the proposed project should be constructed in accordance with applicable engineering standards and to the satisfaction of the County of San Bernardino.
- Site-adjacent roadways should be constructed or repaired at their ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise required by the County of San Bernardino.
- In conjunction with standard County of San Bernardino development review procedures, on-site traffic signing and striping plans should be prepared in accordance with applicable State and Federal standards.
- Adequate off-street parking should be provided to the satisfaction of County of San Bernardino based on supporting parking and density analysis prepared for the project.
- The final grading, landscaping, and street improvement plans should demonstrate that sight distance standards are met in accordance with applicable County of San Bernardino /California Department of Transportation sight distance standards.

Figure 37 graphically illustrates the identified improvements. Improvements at the project driveways are project design features which shall be constructed by the project. Site-adjacent improvements shall be constructed in conjunction with the project.

IMPACT SUMMARY

The proposed project is forecast to result in no significant traffic impacts at the study intersections for the scenarios analyzed based on the City and Caltrans-established thresholds of significance.

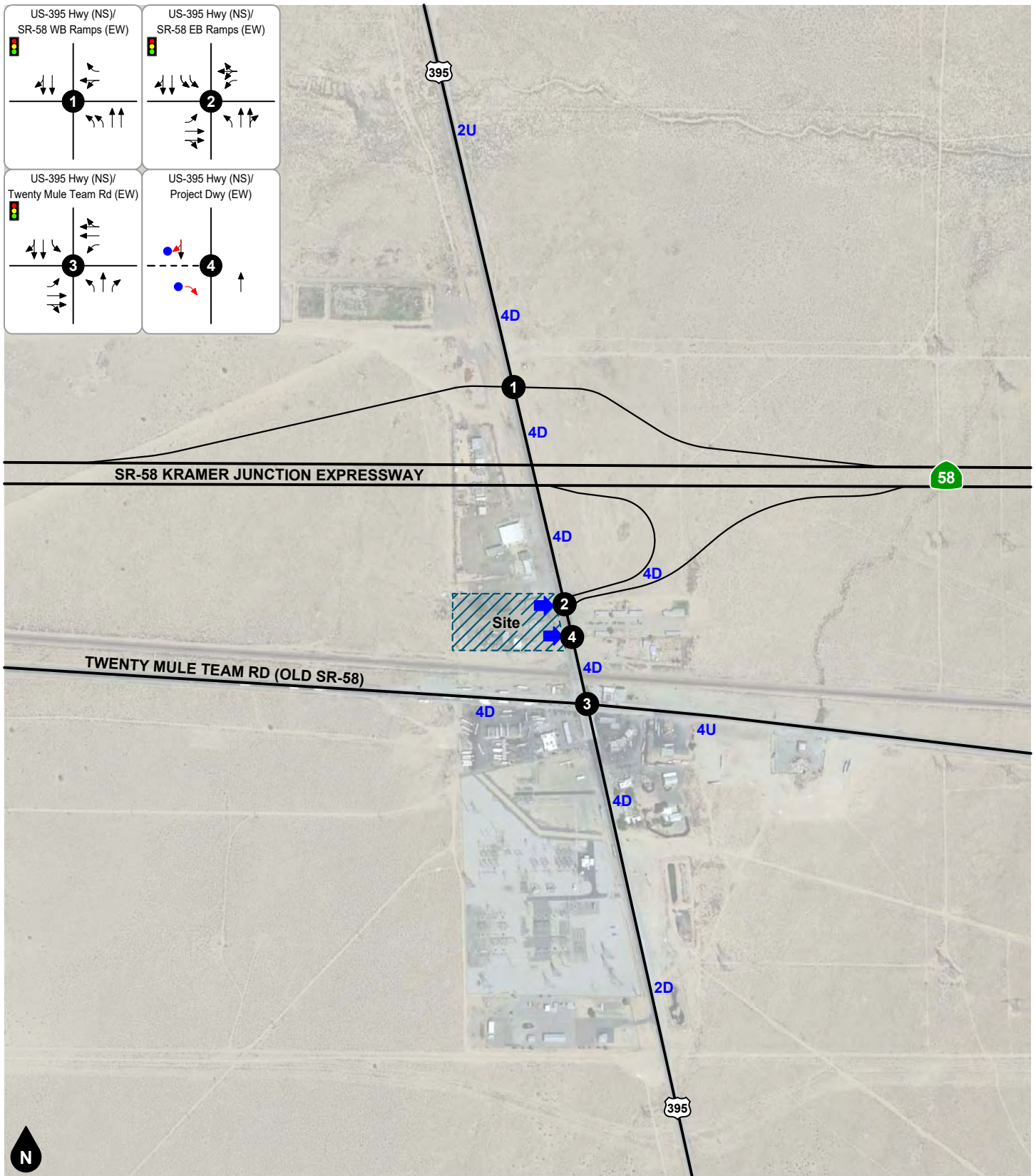
MITIGATION MEASURES

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

CONSTRUCTION TRAFFIC CONTROL MEASURES

A construction work site traffic control plan shall be submitted to the City for review and approval prior to the start of any construction work. The plans shall show the location of any roadway, sidewalk, bike route, bus stop or driveway closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. Temporary traffic controls used around the construction area should adhere to the standards set forth in the California Manual of Uniform Traffic Control Devices (2014) and construction activities should adhere to applicable local ordinances.

Site development would require the use of haul trucks during site clearing and excavation and the use of a variety of other construction vehicles throughout the construction work at the site. Transportation of heavy construction equipment and or materials, which requires the use of oversized vehicles, will require the appropriate transportation permit.



Legend

- Traffic Signal
- Project Driveway
- #D #Lane Divided Roadway
- #U #Lane Undivided Roadway
- Existing Lane
- De Facto Right Turn Lane
- Project Access
- Improvements

Figure 37
Proposed Lane Geometry and Traffic Control

APPENDIX A

GLOSSARY

GLOSSARY OF TERMS

ACRONYMS

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 average 24-hour volume for a stated period divided by the number of days in that period. For example, Annual Average Daily Traffic is the total volume during a year divided by 365 days.

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

BOTTLENECK: A point of constriction along a roadway 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.

CONTROL DELAY: The component of delay, typically expressed in seconds per vehicle, resulting from the type of traffic control at an intersection. Control delay is measured by comparison with the uncontrolled condition; it includes delay incurred by slowing down, stopping/waiting, and speeding up.

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

CORNER SIGHT DISTANCE: The minimum sight distance required by the driver of a vehicle to cross or enter the lanes of the major roadway without requiring approaching traffic travelling at a given speed to radically alter their speed or trajectory. Corner sight distance is measured from the driver's eye at 42 inches above the pavement to an object height of 36 inches above the pavement in the center of the nearest approach lane.

CYCLE LENGTH: The time period in seconds required for a traffic signal to complete one full cycle of indications.

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

DAILY CAPACITY: A theoretical value representing the daily traffic volume that will typically result in a peak hour volume 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 EQUIVALENT (PCE): A metric used to assess the impact of larger vehicles, such as trucks, recreational vehicles, and buses, by converting the traffic volume of larger vehicles to an equivalent number of passenger cars.

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.

QUEUE: The number of vehicles waiting at a service area such as a traffic signal, stop sign, or access gate.

QUEUE LENGTH: The length of vehicle queue, typically expressed in feet, waiting at a service area such as a traffic signal, stop sign, or access gate.

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

SHARED/RECIPROCAL PARKING AGREEMENT: A written binding document executed between property owners to provide a designated number of off-street parking stalls within a designated area to be available for specified businesses or land uses.

SIGHT DISTANCE: The continuous length of roadway visible to a driver or roadway user.

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.

STACKING DISTANCE: The length of area available behind a service area, such as a traffic signal or gate, for vehicle queueing to occur.

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

STOPPING SIGHT DISTANCE: The minimum distance required by the driver of a vehicle on the major roadway travelling at a given speed to bring the vehicle to a stop after an object on the road becomes visible. Stopping sight distance is measured from the driver's eye at 42 inches above the pavement to an object height of 6 inches above the pavement.

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.

TURNING RADIUS: The circular arc formed by the smallest turning path radius of the front outside tire of a vehicle, such as that performed by a U-turn maneuver. This is based on the length and width of the wheel base as well as the steering mechanism of the vehicle.

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

SCOPING AGREEMENT

Perrie Ilercil

From: MATHEW, JACOB K@DOT <Jacob.MATHEW@dot.ca.gov>
Sent: Wednesday, February 19, 2020 10:05 AM
To: Perrie Ilercil
Cc: Gonzalez, Magda; Tom Huang; Clark, Rosa F@DOT
Subject: Boron Beyond Food Mart P2019-00052 Traffic Scoping

Good afternoon,

Thank you for providing the California Department of Transportation (Caltrans) the opportunity to review and comment on the Scoping Agreement for Traffic Impact Analysis (TIA) for the Baron Beyond Food Mart (project), located at the southwest corner of SR-58 and US-395 in unincorporated County of San Bernardino. This project proposes to renovate existing site and construct a service station with a super convenience market. The presented scope appears to be appropriate and adequate, however we request that the following considerations also be included:

- 1) Include traffic analysis for existing year, opening year and horizon year.
- 2) There is an inconsistency between the provided Location Map and Study Intersections in the Scope. Show the locations of US-395 Highway/Project North and South Driveways (Xtn#4 & 5 in the Study Intersections) on the Project Location Map (Figure 2).
- 3) Please be aware that there is an access control along US-395 within the vicinity of the study intersections. Access locations as proposed for this development may not be allowed.
- 4) Submit the conceptual Striping Plan along with Traffic Study. The Striping Plan should verify that proposed lane configurations matches with Traffic Study. Plan should clearly show existing and proposed striping, existing and proposed right-of-way, storage lengths, and roadway dimensions. Also, include existing and proposed driveways at locations that are not in conflict with access control.

Please provide one hard copy along with an electronic copy of the Hydrology/Drainage Report for our review. A truck turning template (STAA Design Vehicle – HDM Figures 404.5A or B) needs to be submitted for review by our Truck Service Unit. Also, we will need a Site Plan that shows the existing and proposed roadway features with driveways and improvements to complete the IGR review process. Do not hesitate to contact me for any additional information regarding this project.

Thanks,
Jacob Mathew
D-8, Planning

From: Perrie Ilercil <perrie@ganddini.com>
Sent: Tuesday, January 28, 2020 8:32 AM
To: Clark, Rosa F@DOT <rosa.f.clark@dot.ca.gov>; Dennis, Talvin L@DOT <talvin.L.dennis@dot.ca.gov>
Cc: magda.gonzalez@lus.sbcounty.gov; Tom Huang <tom@ganddini.com>
Subject: FW: Boron Beyond Food Mart P2019-00052 Traffic Scoping

CAUTION: External email. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Rosa / Talvin,

See the attached Scoping Agreement for Boron Beyond Food Mart P2019-00052 at Kramer Junction (SR58/US395) east of Boron, CA.

Does the Traffic Division have a pdf copy of the traffic study associated with the new US395/SR58 Kramer Junction Expressway intersection which they can provide?

The traffic counts and SBTAM model data has been ordered for these intersections/study area.

The project owners have been working with the County/Caltrans with regard to the land acquisition of property for the re-alignment of SR-58, and hope for a quick turn around on the review process to begin construction.

Let me know if you have any questions either by email or phone to provide quick resolution of any questions/concerns.

Sincerely,

Perrie Ilercil, PE (AZ)
Senior Engineer



GANDDINI GROUP, INC.
550 Parkcenter Drive, Suite 202
Santa Ana, CA 92705
c. 949 257-3126
e: perrie@ganddini.com

From: Shanabo, Eanas - DPW <Eanas.Shanabo@dpw.sbcounty.gov>
Sent: Friday, January 24, 2020 9:26 AM
To: Perrie Ilercil <perrie@ganddini.com>
Cc: Pham, Anthony - DPW <Anthony.Pham@dpw.sbcounty.gov>; Johnson, Jeremy - DPW <Jeremy.Johnson@dpw.sbcounty.gov>; Mitri, Marc - DPW <Marc.Mitri@dpw.sbcounty.gov>
Subject: RE: Boron Beyond Food Mart P2019-00052 Traffic Scoping

Hi Perrie,

We do not have a copy here that I'm aware of.

In the scoping agreement on page #4 for the study intersections please revise all intersections to be 100% Caltrans.

The scoping agreement looks acceptable to us but we encourage you to submit the scoping agreement to Caltrans before submitting the final traffic study, also we encourage you to submit the final traffic study to the county and to Caltrans simultaneously.

If you have any question please let me know.

Thank you,

Eanas Shanabo

Department of Public Works

Phone: 909-387-8186

Fax: 909-387-7809

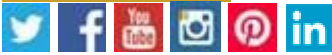
825 E. Third Street

San Bernardino, CA 92415



Our job is to create a county in which those who reside and invest can prosper and achieve well-being.

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From: Perrie Ilercil [<mailto:perrie@ganddini.com>]

Sent: Wednesday, January 22, 2020 1:09 PM

To: Shanabo, Eanas - DPW <Eanas.Shanabo@dpw.sbcounty.gov>

Subject: RE: Boron Beyond Food Mart P2019-00052 Traffic Scoping

Hi Eanas,

I have ordered the model data and the counts.

Does the Traffic Division have a copy of the traffic study associated with the new US395/SR58 Kramer Junction Expressway intersection?

Given your work load, do you have an estimated ETA for the scoping agreement review?

Sincerely,

Perrie Ilercil, PE (AZ)

Senior Engineer



GANDDINI GROUP, INC.

550 Parkcenter Drive, Suite 202

Santa Ana, CA 92705

c. 949 257-3126

e: perrie@ganddini.com

From: Perrie Ilercil

Sent: Tuesday, January 14, 2020 5:09 PM

To: 'Eanas Shanabo' (Eanas.Shanabo@dpw.sbcounty.gov)' <Eanas.Shanabo@dpw.sbcounty.gov>

Cc: Pham, Anthony - DPW <Anthony.Pham@dpw.sbcounty.gov>; magda.gonzalez@lus.sbcounty.gov

Subject: Boron Beyond Food Mart P2019-00052 Traffic Scoping

Hi Eanas,

See the attached Scoping Agreement for Boron Beyond Food Mart P2019-00052 at Kramer Junction (SR58/US395) east of Boron, CA.

The project owners have been working with the County with regard to the land acquisition of property for the re-alignment of SR-58, and hope for a quick turn around on the review process to begin construction.

Let me know if you have any questions either by email or phone to provide quick resolution of any questions/concerns.

Sincerely,

Perrie Ilercil, PE (AZ)

Senior Engineer



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550 Parkcenter Drive, Suite 202

Santa Ana, CA 92705

o. 714 795 3100 x 103

c. 949 257-3126

e: perrie@ganddini.com

www.ganddini.com



SCOPE FOR TRAFFIC STUDY

Project Name:	Boron Beyond Food Mart Project (P2019-00052)
----------------------	---

This Scope for Traffic Study acknowledges San Bernardino County Department of Public Works, Traffic Division requirements of traffic impact analysis for the project and is subject to change:

Project Address:	40808 W US-395 Highway Boron, CA		
Project Description:	Renovate existing site; removing existing buildings and constructing service station - convenience market with drive-thru window.		
City:	Unincorporated Area of Boron, CA		
Project Buildout Year:	2021	Ambient Growth Rate per Year:	SBTAM
Closest Intersection (Xtn) to the Project			
Xtn N/S Street Name:	US-395 Highway (west side of roadway)		
Xtn E/W Street Name:	SR-58 Highway (south of new alignment)		
Thomas Guide Pg+Grid:	34.994/- 117.542	County Supervisorial District:	1

	Engineer	Developer
Company:	GANDDINI GROUP, INC.	BORON OIL, INC.
Name:	Ms. Perrie Ilercil, P.E., (AZ)	Mr. Michael Ramirez,
Address:	550 Parkcenter Drive, Suite 202	4300 Edison Avenue
City, State, Zip Code:	Santa Ana, CA 92705	Chino, CA
Phone #:	714-795-3100 EXT 103	760-810-8548
CELL:	949-257-3126 cell	
Email:	perrie@ganddini.com	mramirez@beyondfoodmart.com

By:

Reviewed By:

Print Name: Perrie Ilercil

2020.01.08
2020.02.19

Print Name:

**Consultant/Developer's
Representative**

Date

Traffic Division Representative

Date



SCOPE FOR TRAFFIC STUDY

Project Name:	Boron Beyond Food Mart Project (P2019-00052)
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- 1. Traffic Distribution:** Please insert or attach Figure(s) illustrating project trip distribution in percentages and volumes at the study intersections analyzed.

See Figures:

- Figure 1/2 Project Location Map,
- Figure 3 Site Plan
- Figures 4 Project Trip Distribution

- 2. Trip Credit:** Exact amount of credit subject to approval by Traffic Division.

Transportation Demand Management (TDM)	Yes/no	NO
Existing Active Land Use	Yes/no	NO
Previous Land Use	Yes/no	YES
Internal Trip Reduction	Yes/no	NO
Pass-by Trip Reduction	Yes/no	YES

- 3. Related Projects:** Consultant should check with Planning in the San Bernardino County Department of Land Use Services and planning departments of adjoining Cities. Documentation of the consultation from these agencies shall be included in the traffic study. Related projects list shall be submitted to Traffic Division for our review and approval before being incorporated in the study.

- 4. Freeway Analysis:** The potential traffic impact on the following Freeway(s) must be considered.

US-395 Highway & SR-58 Highway

The applicant shall consult with the State of California Department of Transportation (Caltrans) to determine the California Environmental Quality Act levels of significance with regard to traffic impacts on Caltrans' freeway facilities. This consultation shall also include a determination of Caltrans requirements for the study of traffic impacts to its facilities and the mitigation of any such impacts. This analysis must follow the most current Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) and can be obtained from <http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tiguide.pdf>. If Caltrans finds that the project has a significant impact on the freeway, Caltrans shall be requested to include the basis for this finding in their response. If fees are proposed to mitigate the freeway impact, Caltrans shall be requested to identify the specific project to which the fees will apply. These written comments from Caltrans shall be included with the traffic study and submitted to Public Works for review and approval. If a documented good faith effort is made to consult with Caltrans and written comments cannot be obtained from within a reasonable amount of time, an analysis of the freeway impact shall be made using HCM procedures. Appendix A of the SANBAG CMP outlines allowable modifications to these procedures. The SANBAG CMP can be viewed online at: http://www.sanbag.ca.gov/planning/subr_congestion.html



SCOPE FOR TRAFFIC STUDY

Boron Beyond Food Mart Project
(P2019-00052)

[illegible]

For ITE Land Uses provide number and name of Land Use. e.g. LU 814 - Variety Store		

1. Source: Drawing A1.01 Site Plan for Project: Food Mart and Fuel Station with Drive-Thru., received January 2, 2020.



Project Name:	Boron Beyond Food Mart Project (P2019-00052)
----------------------	---

6. Study Intersections: At minimum, the study shall include the following intersections. The list is subject to change after related projects, trip generation and distribution are determined. Consultant should check with adjoining Cities regarding their requirements in addition to the following County/City intersections. Documentation of the consultation from these agencies shall be included in the traffic study.

[illegible]

Cites to be consulted: Unincorporated Boron

¹ Intersection located in the County of San Bernardino and under Caltrans jurisdiction.



SCOPE FOR TRAFFIC STUDY

Project Name:	Boron Beyond Food Mart Project (P2019-00052)
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7. Other:

Traffic counts may be conducted immediately per the following:
• Must be taken on Tuesdays, Wednesdays or Thursdays.
• Must exclude holidays, and the first weekdays before and after the holiday.
• Must be taken on days when local schools or colleges are in session.
• Must be taken on days of good weather, and avoid atypical conditions (e.g., road construction, detours, or major traffic incidents).
• Traffic counts used for other traffic studies in the area shall NOT be reused again, unless 25% of the counts conducted for that particular traffic study are validated with new counts. The difference in volumes between the old and new counts at each corresponding movement should not be more than 10%.
• New traffic counts shall be checked to ensure the difference in volumes at corresponding approaches, if applicable, between two adjacent intersections is no more than 10% unless the difference can be justified.
• For all proposed mitigation measures, a conceptual plan for the improvements shall be submitted to our Traffic Studies section for review and approval prior to the approval of the Traffic Impact Analysis. All proposed improvements shall be within the right-of-way.
• For all cumulative mitigation measures, a cost estimate for the improvement shall be submitted.

This analysis must follow the most current Traffic Impact Study Guidelines for the County as stated in the County's Road Planning and Design Standards.

8. Fees

The County charges on an actual cost basis for review of traffic studies. An initial deposit of \$3400 is required at the time that a land use application is filed with the Department of Land Use Services. If the review costs exceed the initial deposit, the applicant will be expected to provide additional funds and the review will be suspended until the additional funds are deposited.



SCOPE FOR TRAFFIC STUDY

Project Name:	Boron Beyond Food Mart Project (P2019-00052)
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9. Contact Information:

Please submit a signed copy of this scope for approval by the Traffic Division. Draft scopes may be sent electronically. Final scope with signature should be submitted in person or by US Mail to:

County of San Bernardino
Dept. of Public Works, Traffic Division
825 E. 3rd Street, Rm 115
San Bernardino, CA 92415-0835

909-387-8239

Anthony Pham

Anthony.Pham@lus.sbcounty.gov

Jeremy Johnson

Jeremy.Johnson@dpw.sbcounty.gov

Table 1
Project Trip Generation

Trip Generation Rates												
Land Use	Source ¹	Units ²	AM Peak Hour			PM Peak Hour			Weekday Daily	Saturday Midday Peak Hour		
			% In	% Out	Rate	% In	% Out	Rate		% In	% Out	Rate
Super Convenience Market with Gas Pumps	ITE 960	TSF	50%	50%	83.14	50%	50%	69.28	837.58	50%	50%	63.80

Trips Generated												
Land Use	Quantity	Units ²	AM Peak Hour			PM Peak Hour			Weekday Daily	Saturday Midday Peak Hour		
			In	Out	Total	In	Out	Total		In	Out	Total
Proposed Uses ³												
Super Convenience Market with Gas Pumps	7,250	TSF	301	302	603	251	251	502	6,072	231	232	463
Pass-by ⁴ Convenience Service Station ⁵			-187	-187	-374	-141	-140	-281	-655	-	-	-
NET PROJECT TRIPS GENERATED			114	115	229	110	111	221	5,417	231	232	463

Notes:

- (1) Source: ITE = Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017; ### = Land Use Code(s).
- (2) TSF = Thousand of Square Feet
- (3) Source: Drawing A1.01 Site Plan for Project: Food Mart and Fuel Station with Drive-Thru., received January 2, 2020
- (4) Pass-by rates obtained from ITE Trip Generation Handbook (3rd Edition, 2017). Daily pass-by values are a sum of the peak hour values when no daily rate is available.
- (5) Pass-by rates for Convenience Market with Gas Station are based on ITE 945 rates.

Table 2
Previous Land Use Trip Generation Comparison

Trip Generation Rates												
Land Use	Source ¹	Units ²	AM Peak Hour			PM Peak Hour			Weekday Daily	Saturday Midday Peak Hour		
			% In	% Out	Rate	% In	% Out	Rate		% In	% Out	Rate
General Light Industrial	ITE 110	TSF	88%	12%	0.70	13%	87%	0.63	4.96	47%	53%	0.41
Single-Family Detached Housing	ITE 210	DU	25%	75%	0.74	63%	37%	0.99	9.44	54%	46%	0.93
Fast Food with Drive-Thru	ITE 934	TSF	51%	49%	40.19	52%	48%	32.67	470.95	51%	49%	54.86
Automobile Care Center	ITE 942[a]	BAY	68%	32%	1.52	48%	52%	2.17	17.90	47%	53%	1.34
Gasoline/Service Station	ITE 944	FP	50%	50%	10.28	50%	50%	14.03	172.01	50%	50%	12.77
Super Convenience Market with Gas Pumps	ITE 960	TSF	50%	50%	83.14	50%	50%	69.28	837.58	50%	50%	63.80

Trips Generated												
Land Use	Quantity ³	Units ²	AM Peak Hour			PM Peak Hour			Weekday Daily	Saturday Midday Peak Hour		
			In	Out	Total	In	Out	Total		In	Out	Total
<u>Previous Uses To Be Displaced</u>												
General Light Industrial	-11.825	TSF	-7	-1	-8	-1	-6	-7	-59	-2	-3	-5
Single-Family Detached Housing	-1	DU	0	-1	-1	-1	0	-1	-9	-1	0	-1
Automobile Care Center	-1	BAY	-1	-1	-2	-1	-1	-2	-18	-1	0	-1
Gasoline/Service Station	-4	FP	-21	-20	-41	-28	-28	-56	-688	-26	-25	-51
Fast Food with Drive-Thru	-1.450	TSF	-30	-28	-58	-25	-22	-47	-683	-41	-39	-80
Pass-by ⁴ Gas Station ⁵			12	12	24	12	12	24	48	-	-	-
Pass-by ⁴ Fast Food with Drive-Thru ⁶			15	13	28	13	11	24	52	-	-	-
Subtotal - Existing Trips Generated			-32	-26	-58	-31	-34	-65	-1,357	-71	-67	-138
<u>Proposed Uses</u>												
Super Convenience Market with Gas Pumps	7.250	TSF	301	302	603	251	251	502	6,072	231	232	463
Pass-by ⁴ Convenience Service Station ⁷			-187	-187	-374	-141	-140	-281	-655	-	-	-
NET PROJECT TRIPS GENERATED			82	89	171	79	77	156	4,060	160	165	325

Notes:

- (1) Source: ITE = Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017; ### = Land Use Code(s).
[a] = Automobile care center PM inbound and outbound rates based on ITE942(TSF), and daily rate based on proportion of ITE941(BAY) daily rate in comparison to PM rates.
- (2) TSF = Thousand of Square Feet; DU = Dwelling Units; BAY = Service Bays; FP = Fuel Position.
- (3) Source: Drawing A1.01 Site Plan for Project: Food Mart and Fuel Station with Drive-Thru., received January 2, 2020
- (4) Pass-by rates obtained from ITE Trip Generation Handbook (3rd Edition, 2017). Daily pass-by values are a sum of the peak hour values when no daily rate is available.
- (5) Pass-by rates for Gas Station are based on ITE 944 rates.
- (6) Pass-by rates for Fast Food with Drive-thru are based on ITE 934 rates.
- (7) Pass-by rates for Convenience Market with Gas Station are based on ITE 945 rates.

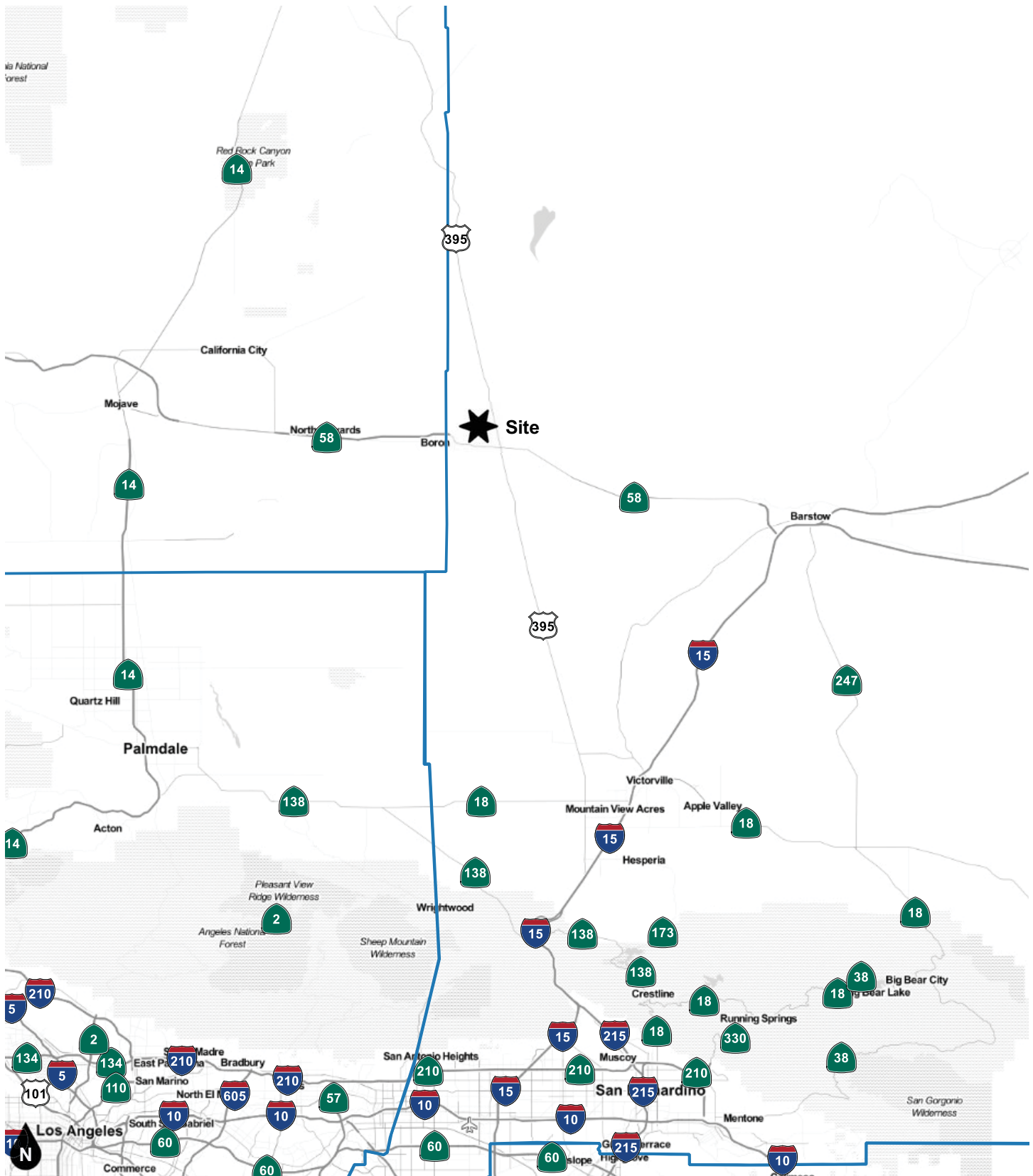
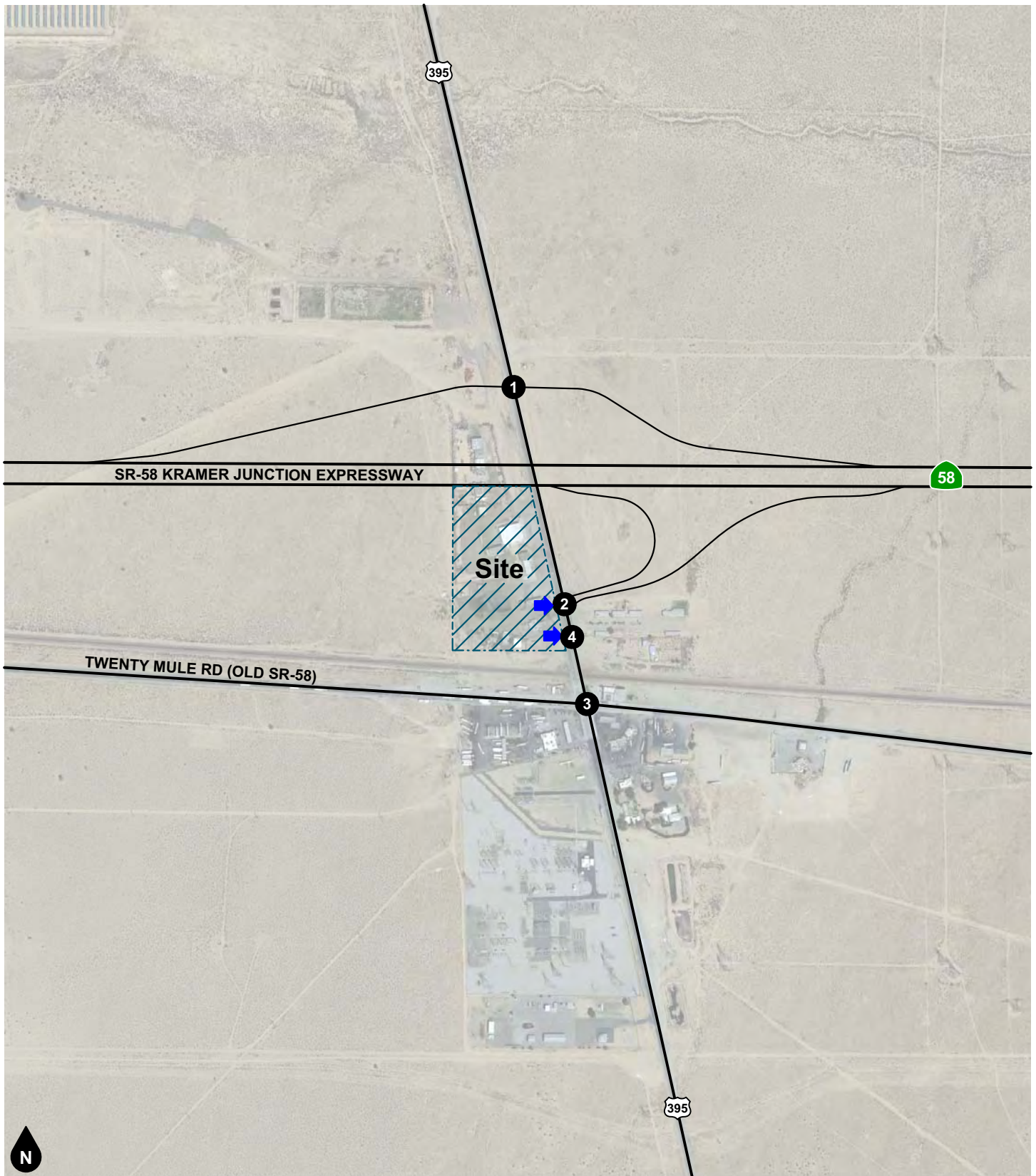


Figure 1
Project Regional Map



Legend

- # Study Intersection
- ➡ Project Access

Figure 2
Project Location Map

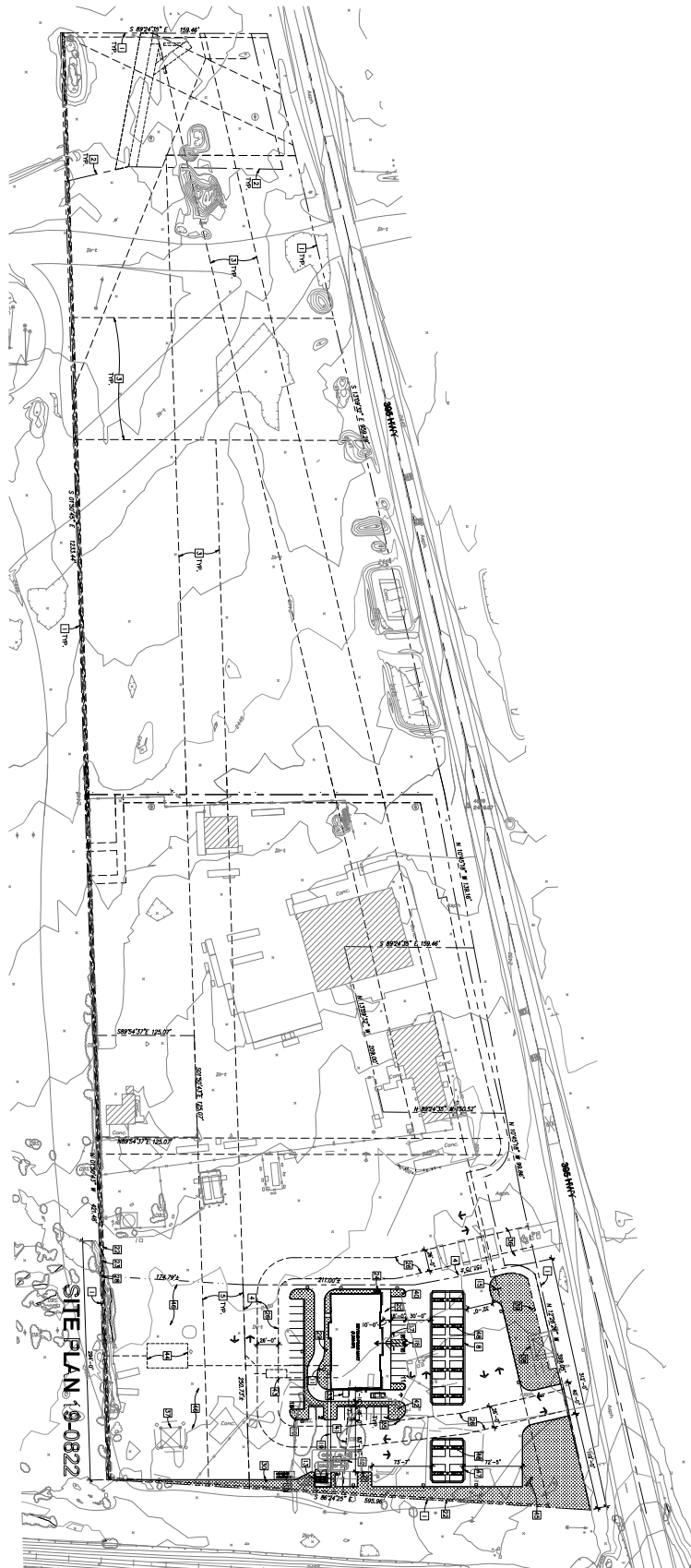
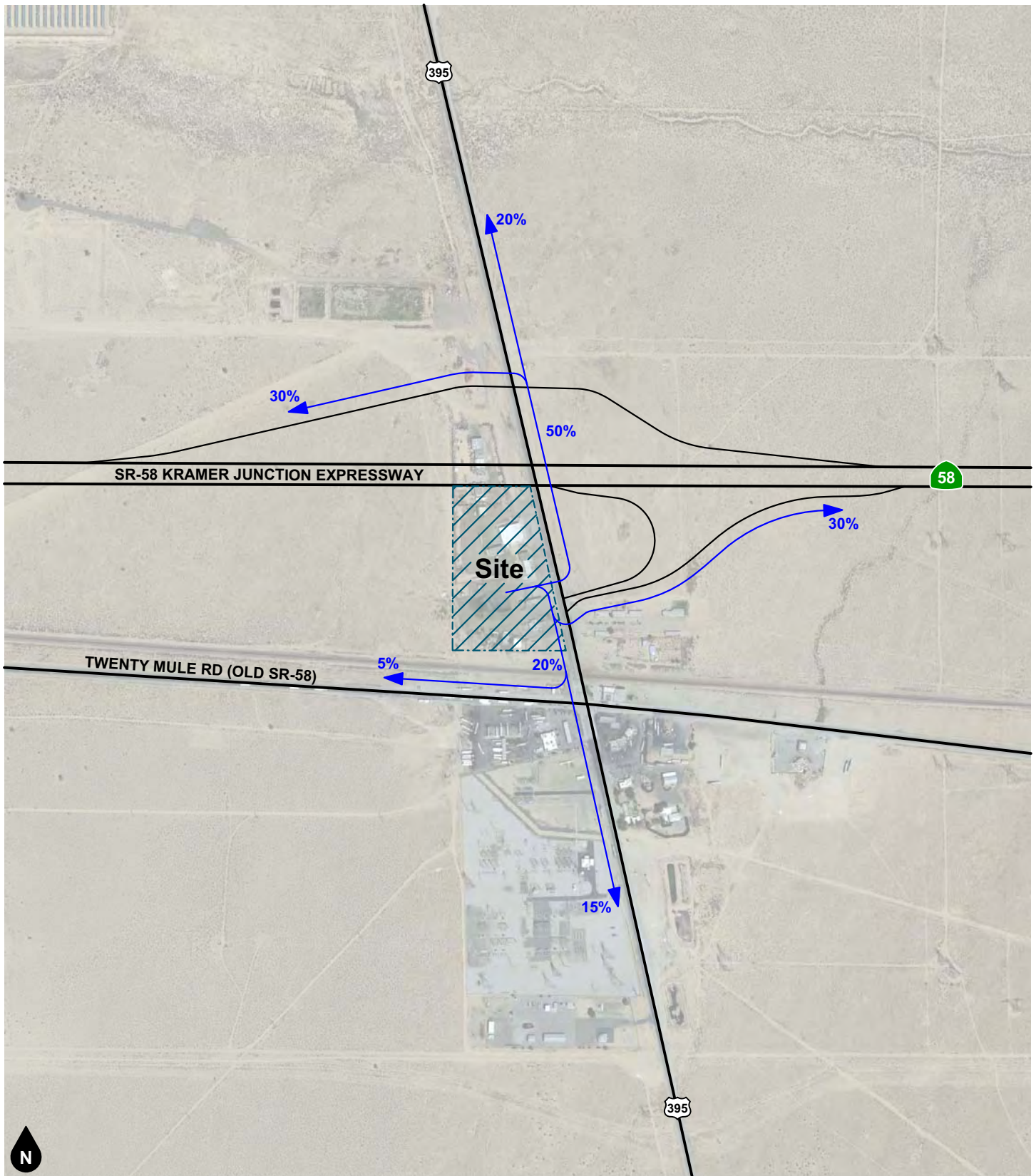


Figure 3 Site Plan



Legend

← 10% Percent To/From Project

Figure 4
Project Trip Distribution

APPENDIX C

VOLUME COUNT WORKSHEETS

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W AM
Site Code : 22520048
Start Date : 1/28/2020
Page No : 1

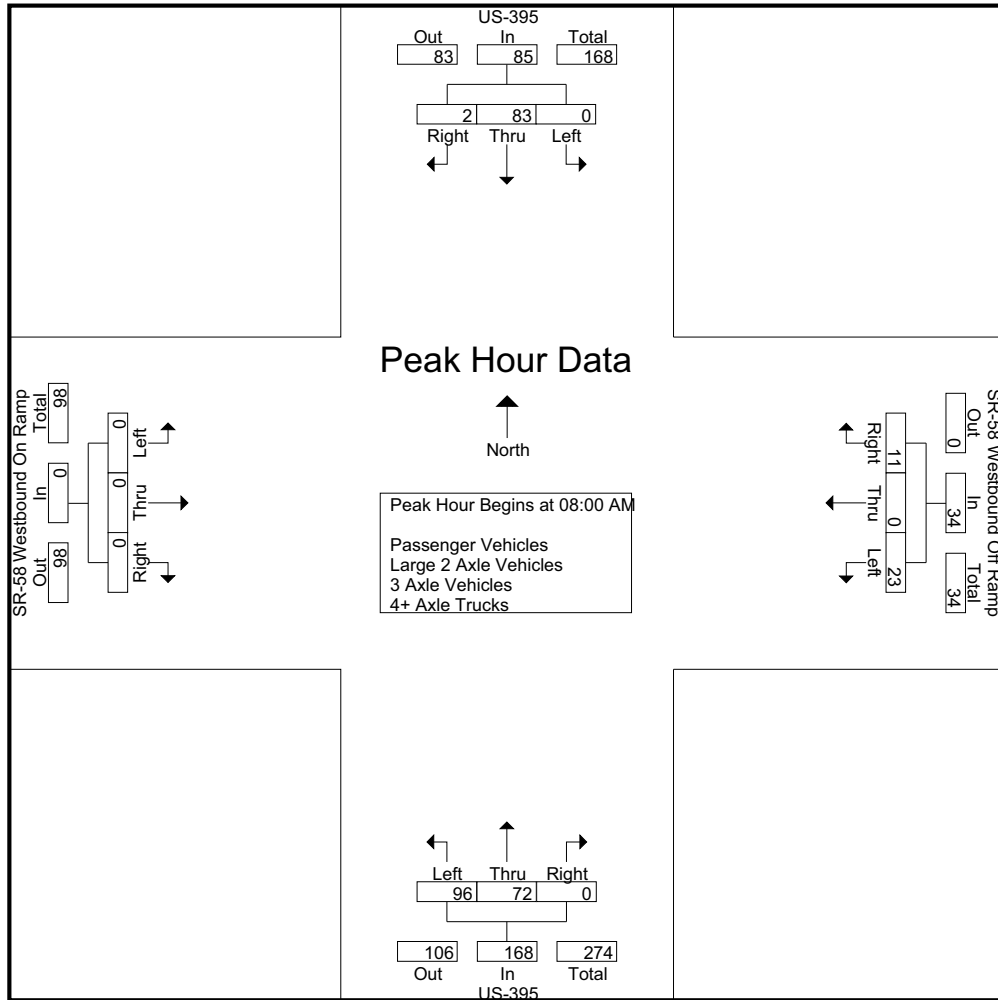
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	11	2	13	4	0	2	6	44	35	0	79	0	0	0	0	98
07:15 AM	0	9	3	12	2	0	2	4	21	19	0	40	0	0	0	0	56
07:30 AM	0	9	0	9	5	1	3	9	26	20	0	46	0	0	0	0	64
07:45 AM	0	17	1	18	4	1	1	6	20	18	0	38	0	0	0	0	62
Total	0	46	6	52	15	2	8	25	111	92	0	203	0	0	0	0	280
08:00 AM	0	17	0	17	6	0	2	8	19	14	0	33	0	0	0	0	58
08:15 AM	0	13	0	13	4	0	4	8	18	14	0	32	0	0	0	0	53
08:30 AM	0	22	0	22	9	0	1	10	38	27	0	65	0	0	0	0	97
08:45 AM	0	31	2	33	4	0	4	8	21	17	0	38	0	0	0	0	79
Total	0	83	2	85	23	0	11	34	96	72	0	168	0	0	0	0	287
Grand Total	0	129	8	137	38	2	19	59	207	164	0	371	0	0	0	0	567
Apprch %	0	94.2	5.8		64.4	3.4	32.2		55.8	44.2	0		0	0	0		
Total %	0	22.8	1.4	24.2	6.7	0.4	3.4	10.4	36.5	28.9	0	65.4	0	0	0	0	
Passenger Vehicles	0	80	3	83	16	1	9	26	108	111	0	219	0	0	0	0	328
% Passenger Vehicles	0	62	37.5	60.6	42.1	50	47.4	44.1	52.2	67.7	0	59	0	0	0	0	57.8
Large 2 Axle Vehicles	0	3	1	4	5	0	2	7	11	9	0	20	0	0	0	0	31
% Large 2 Axle Vehicles	0	2.3	12.5	2.9	13.2	0	10.5	11.9	5.3	5.5	0	5.4	0	0	0	0	5.5
3 Axle Vehicles	0	0	0	0	0	0	0	0	5	4	0	9	0	0	0	0	9
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	2.4	2.4	0	2.4	0	0	0	0	1.6
4+ Axle Trucks	0	46	4	50	17	1	8	26	83	40	0	123	0	0	0	0	199
% 4+ Axle Trucks	0	35.7	50	36.5	44.7	50	42.1	44.1	40.1	24.4	0	33.2	0	0	0	0	35.1

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	17	0	17	6	0	2	8	19	14	0	33	0	0	0	0	58
08:15 AM	0	13	0	13	4	0	4	8	18	14	0	32	0	0	0	0	53
08:30 AM	0	22	0	22	9	0	1	10	38	27	0	65	0	0	0	0	97
08:45 AM	0	31	2	33	4	0	4	8	21	17	0	38	0	0	0	0	79
Total Volume	0	83	2	85	23	0	11	34	96	72	0	168	0	0	0	0	287
% App. Total	0	97.6	2.4		67.6	0	32.4		57.1	42.9	0		0	0	0		
PHF	.000	.669	.250	.644	.639	.000	.688	.850	.632	.667	.000	.646	.000	.000	.000	.000	.740

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W AM
Site Code : 22520048
Start Date : 1/28/2020
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:

	08:00 AM				08:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	17	0	17	6	0	2	8	44	35	0	79	0	0	0	0
+15 mins.	0	13	0	13	4	0	4	8	21	19	0	40	0	0	0	0
+30 mins.	0	22	0	22	9	0	1	10	26	20	0	46	0	0	0	0
+45 mins.	0	31	2	33	4	0	4	8	20	18	0	38	0	0	0	0
Total Volume	0	83	2	85	23	0	11	34	111	92	0	203	0	0	0	0
% App. Total	0	97.6	2.4		67.6	0	32.4		54.7	45.3	0		0	0	0	
PHF	.000	.669	.250	.644	.639	.000	.688	.850	.631	.657	.000	.642	.000	.000	.000	.000

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W AM
Site Code : 22520048
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Page No : 1

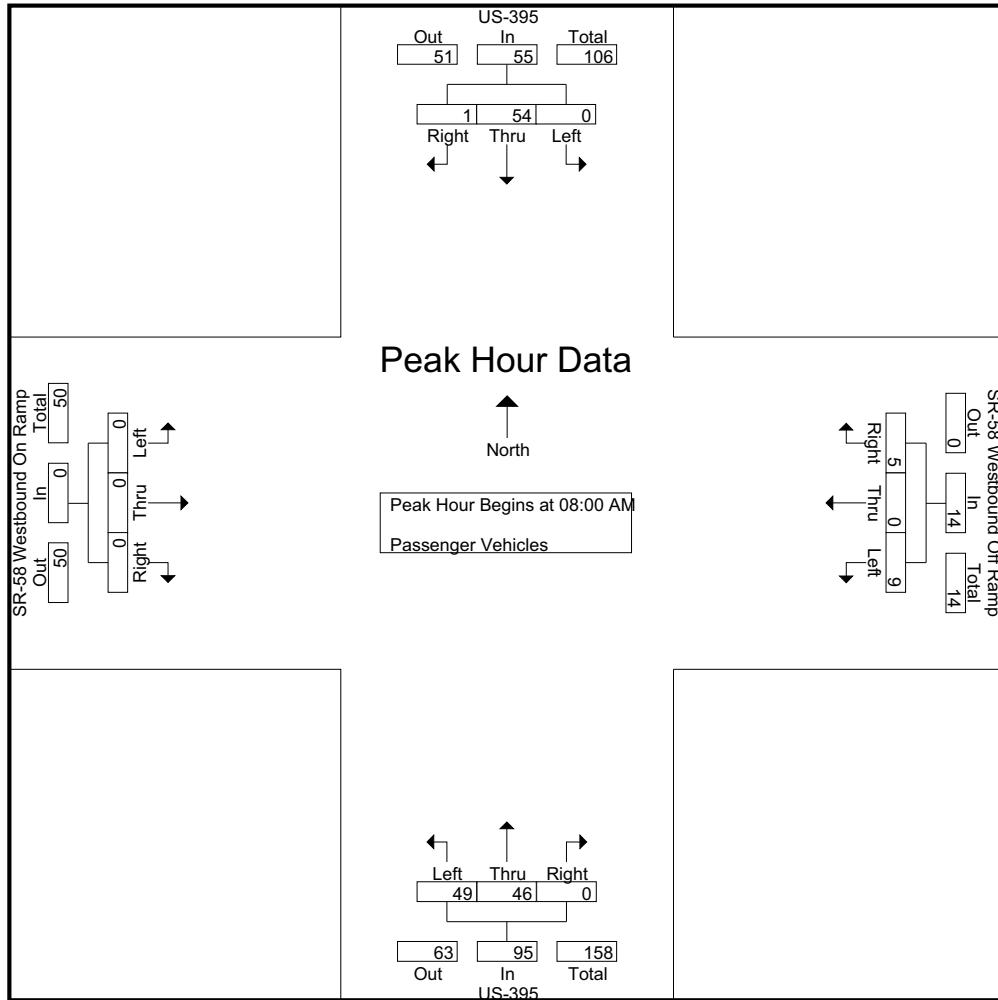
Groups Printed- Passenger Vehicles

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	7	1	8	3	0	2	5	25	20	0	45	0	0	0	0	58
07:15 AM	0	4	1	5	1	0	1	2	12	14	0	26	0	0	0	0	33
07:30 AM	0	5	0	5	2	1	1	4	13	15	0	28	0	0	0	0	37
07:45 AM	0	10	0	10	1	0	0	1	9	16	0	25	0	0	0	0	36
Total	0	26	2	28	7	1	4	12	59	65	0	124	0	0	0	0	164
08:00 AM	0	15	0	15	1	0	1	2	10	7	0	17	0	0	0	0	34
08:15 AM	0	9	0	9	3	0	2	5	9	8	0	17	0	0	0	0	31
08:30 AM	0	10	0	10	4	0	1	5	19	19	0	38	0	0	0	0	53
08:45 AM	0	20	1	21	1	0	1	2	11	12	0	23	0	0	0	0	46
Total	0	54	1	55	9	0	5	14	49	46	0	95	0	0	0	0	164
Grand Total	0	80	3	83	16	1	9	26	108	111	0	219	0	0	0	0	328
Apprch %	0	96.4	3.6		61.5	3.8	34.6		49.3	50.7	0		0	0	0		
Total %	0	24.4	0.9	25.3	4.9	0.3	2.7	7.9	32.9	33.8	0	66.8	0	0	0	0	

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	15	0	15	1	0	1	2	10	7	0	17	0	0	0	0	34
08:15 AM	0	9	0	9	3	0	2	5	9	8	0	17	0	0	0	0	31
08:30 AM	0	10	0	10	4	0	1	5	19	19	0	38	0	0	0	0	53
08:45 AM	0	20	1	21	1	0	1	2	11	12	0	23	0	0	0	0	46
Total Volume	0	54	1	55	9	0	5	14	49	46	0	95	0	0	0	0	164
% App. Total	0	98.2	1.8		64.3	0	35.7		51.6	48.4	0		0	0	0		
PHF	.000	.675	.250	.655	.563	.000	.625	.700	.645	.605	.000	.625	.000	.000	.000	.000	.774

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W AM
Site Code : 22520048
Start Date : 1/28/2020
Page No : 2



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

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	15	0	15	1	0	1	2	10	7	0	17	0	0	0	0
+15 mins.	0	9	0	9	3	0	2	5	9	8	0	17	0	0	0	0
+30 mins.	0	10	0	10	4	0	1	5	19	19	0	38	0	0	0	0
+45 mins.	0	20	1	21	1	0	1	2	11	12	0	23	0	0	0	0
Total Volume	0	54	1	55	9	0	5	14	49	46	0	95	0	0	0	0
% App. Total	0	98.2	1.8		64.3	0	35.7		51.6	48.4	0		0	0	0	
PHF	.000	.675	.250	.655	.563	.000	.625	.700	.645	.605	.000	.625	.000	.000	.000	.000

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
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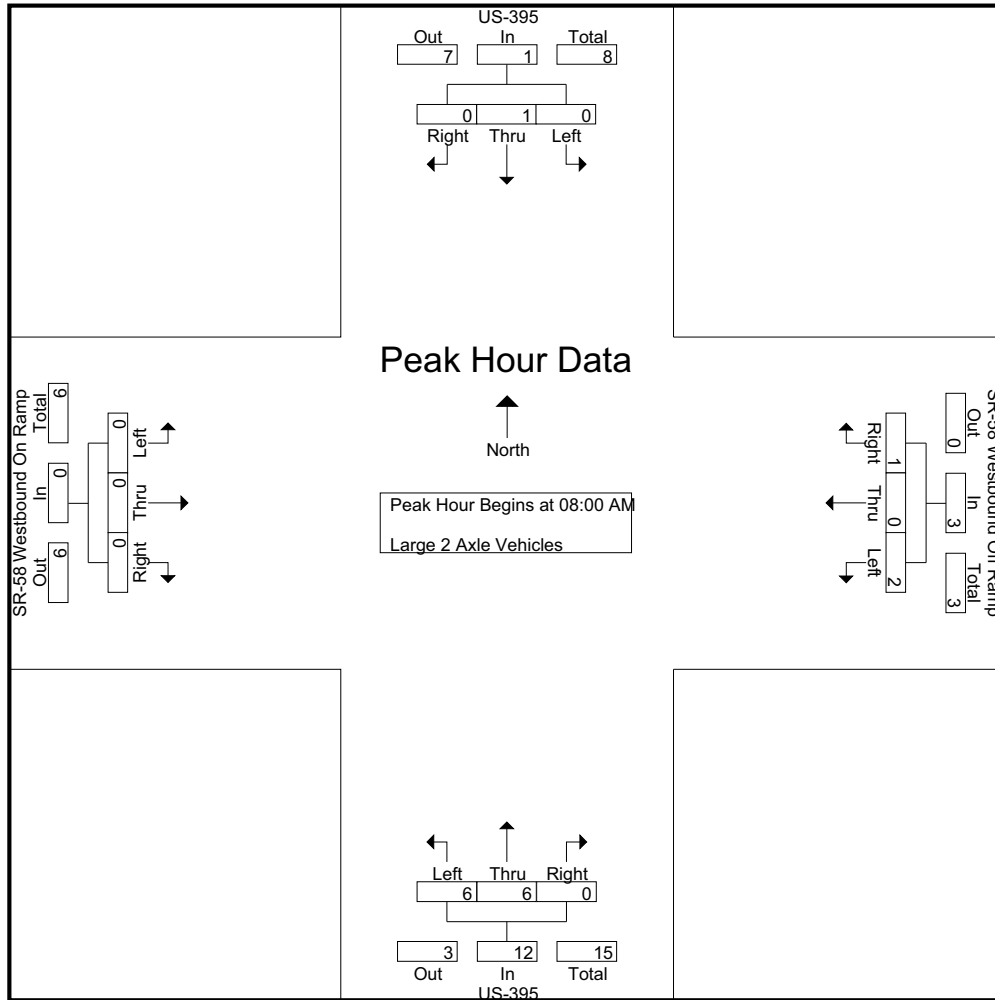
Groups Printed- Large 2 Axle Vehicles

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	1	0	0	1	1	1	0	2	0	0	0	0	3
07:15 AM	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	0	2
07:30 AM	0	0	0	0	1	0	0	1	1	1	0	2	0	0	0	0	3
07:45 AM	0	2	0	2	1	0	1	2	2	1	0	3	0	0	0	0	7
Total	0	2	1	3	3	0	1	4	5	3	0	8	0	0	0	0	15
08:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:15 AM	0	0	0	0	1	0	0	1	2	2	0	4	0	0	0	0	5
08:30 AM	0	1	0	1	0	0	0	0	3	1	0	4	0	0	0	0	5
08:45 AM	0	0	0	0	1	0	1	2	1	1	0	2	0	0	0	0	4
Total	0	1	0	1	2	0	1	3	6	6	0	12	0	0	0	0	16
Grand Total	0	3	1	4	5	0	2	7	11	9	0	20	0	0	0	0	31
Apprch %	0	75	25		71.4	0	28.6		55	45	0		0	0	0		
Total %	0	9.7	3.2	12.9	16.1	0	6.5	22.6	35.5	29	0	64.5	0	0	0	0	

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:15 AM	0	0	0	0	1	0	0	1	2	2	0	4	0	0	0	0	5
08:30 AM	0	1	0	1	0	0	0	0	3	1	0	4	0	0	0	0	5
08:45 AM	0	0	0	0	1	0	1	2	1	1	0	2	0	0	0	0	4
Total Volume	0	1	0	1	2	0	1	3	6	6	0	12	0	0	0	0	16
% App. Total	0	100	0		66.7	0	33.3		50	50	0		0	0	0		
PHF	.000	.250	.000	.250	.500	.000	.250	.375	.500	.750	.000	.750	.000	.000	.000	.000	.800

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W AM
Site Code : 22520048
Start Date : 1/28/2020
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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
+15 mins.	0	0	0	0	1	0	0	1	2	2	0	4	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	3	1	0	4	0	0	0	0
+45 mins.	0	0	0	0	1	0	1	2	1	1	0	2	0	0	0	0
Total Volume	0	1	0	1	2	0	1	3	6	6	0	12	0	0	0	0
% App. Total	0	100	0		66.7	0	33.3		50	50	0		0	0	0	
PHF	.000	.250	.000	.250	.500	.000	.250	.375	.500	.750	.000	.750	.000	.000	.000	.000

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W AM
Site Code : 22520048
Start Date : 1/28/2020
Page No : 1

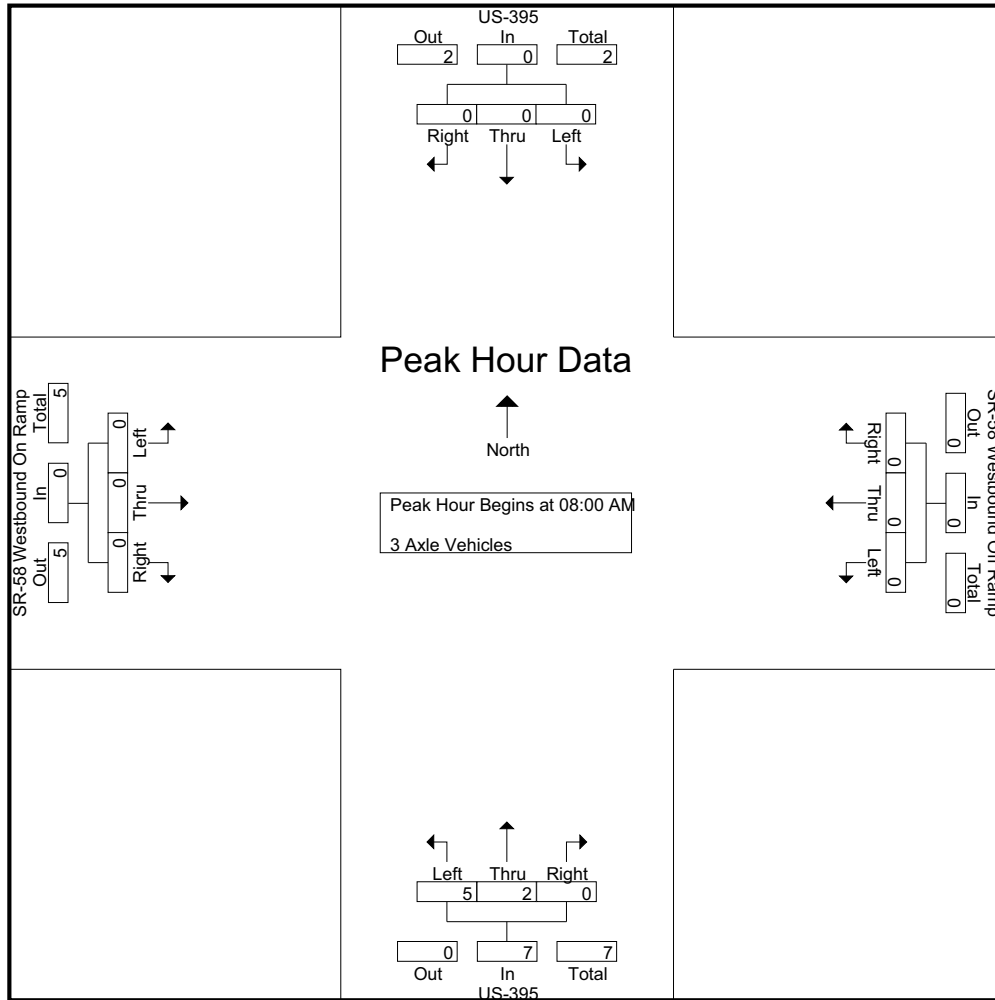
Groups Printed- 3 Axle Vehicles

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
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	2	0	2	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	4	1	0	5	0	0	0	0	5
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	5	2	0	7	0	0	0	0	7
Grand Total	0	0	0	0	0	0	0	0	5	4	0	9	0	0	0	0	9
Apprch %	0	0	0		0	0	0		55.6	44.4	0		0	0	0		
Total %	0	0	0		0	0	0		55.6	44.4	0	100	0	0	0		

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	4	1	0	5	0	0	0	0	5
08:45 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	5	2	0	7	0	0	0	0	7
% App. Total	0	0	0		0	0	0		71.4	28.6	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.313	.500	.000	.350	.000	.000	.000	.000	.350

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W AM
Site Code : 22520048
Start Date : 1/28/2020
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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	1	0	0	1	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	4	1	0	5	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	5	2	0	7	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	71.4	28.6	0		0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.313	.500	.000	.350	.000	.000	.000	.000

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W AM
Site Code : 22520048
Start Date : 1/28/2020
Page No : 1

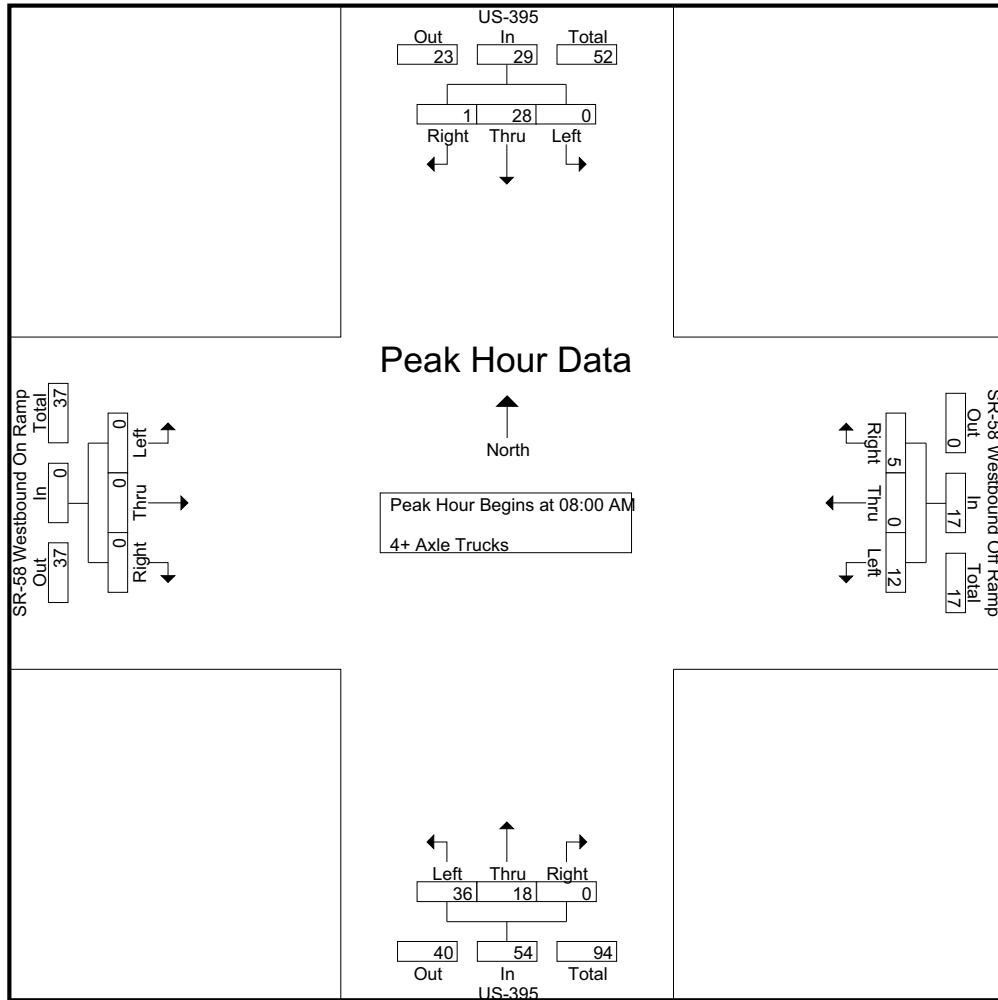
Groups Printed- 4+ Axle Trucks

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	4	1	5	0	0	0	0	18	12	0	30	0	0	0	0	35
07:15 AM	0	5	1	6	1	0	1	2	8	5	0	13	0	0	0	0	21
07:30 AM	0	4	0	4	2	0	2	4	12	4	0	16	0	0	0	0	24
07:45 AM	0	5	1	6	2	1	0	3	9	1	0	10	0	0	0	0	19
Total	0	18	3	21	5	1	3	9	47	22	0	69	0	0	0	0	99
08:00 AM	0	2	0	2	5	0	1	6	8	5	0	13	0	0	0	0	21
08:15 AM	0	4	0	4	0	0	2	2	7	3	0	10	0	0	0	0	16
08:30 AM	0	11	0	11	5	0	0	5	12	6	0	18	0	0	0	0	34
08:45 AM	0	11	1	12	2	0	2	4	9	4	0	13	0	0	0	0	29
Total	0	28	1	29	12	0	5	17	36	18	0	54	0	0	0	0	100
Grand Total	0	46	4	50	17	1	8	26	83	40	0	123	0	0	0	0	199
Apprch %	0	92	8		65.4	3.8	30.8		67.5	32.5	0		0	0	0		
Total %	0	23.1	2	25.1	8.5	0.5	4	13.1	41.7	20.1	0	61.8	0	0	0	0	

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	2	0	2	5	0	1	6	8	5	0	13	0	0	0	0	21
08:15 AM	0	4	0	4	0	0	2	2	7	3	0	10	0	0	0	0	16
08:30 AM	0	11	0	11	5	0	0	5	12	6	0	18	0	0	0	0	34
08:45 AM	0	11	1	12	2	0	2	4	9	4	0	13	0	0	0	0	29
Total Volume	0	28	1	29	12	0	5	17	36	18	0	54	0	0	0	0	100
% App. Total	0	96.6	3.4		70.6	0	29.4		66.7	33.3	0		0	0	0		
PHF	.000	.636	.250	.604	.600	.000	.625	.708	.750	.750	.000	.750	.000	.000	.000	.000	.735

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W AM
Site Code : 22520048
Start Date : 1/28/2020
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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	2	0	2	5	0	1	6	8	5	0	13	0	0	0	0
+15 mins.	0	4	0	4	0	0	2	2	7	3	0	10	0	0	0	0
+30 mins.	0	11	0	11	5	0	0	5	12	6	0	18	0	0	0	0
+45 mins.	0	11	1	12	2	0	2	4	9	4	0	13	0	0	0	0
Total Volume	0	28	1	29	12	0	5	17	36	18	0	54	0	0	0	0
% App. Total	0	96.6	3.4		70.6	0	29.4		66.7	33.3	0		0	0	0	
PHF	.000	.636	.250	.604	.600	.000	.625	.708	.750	.750	.000	.750	.000	.000	.000	.000

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W PM
Site Code : 22520048
Start Date : 1/28/2020
Page No : 1

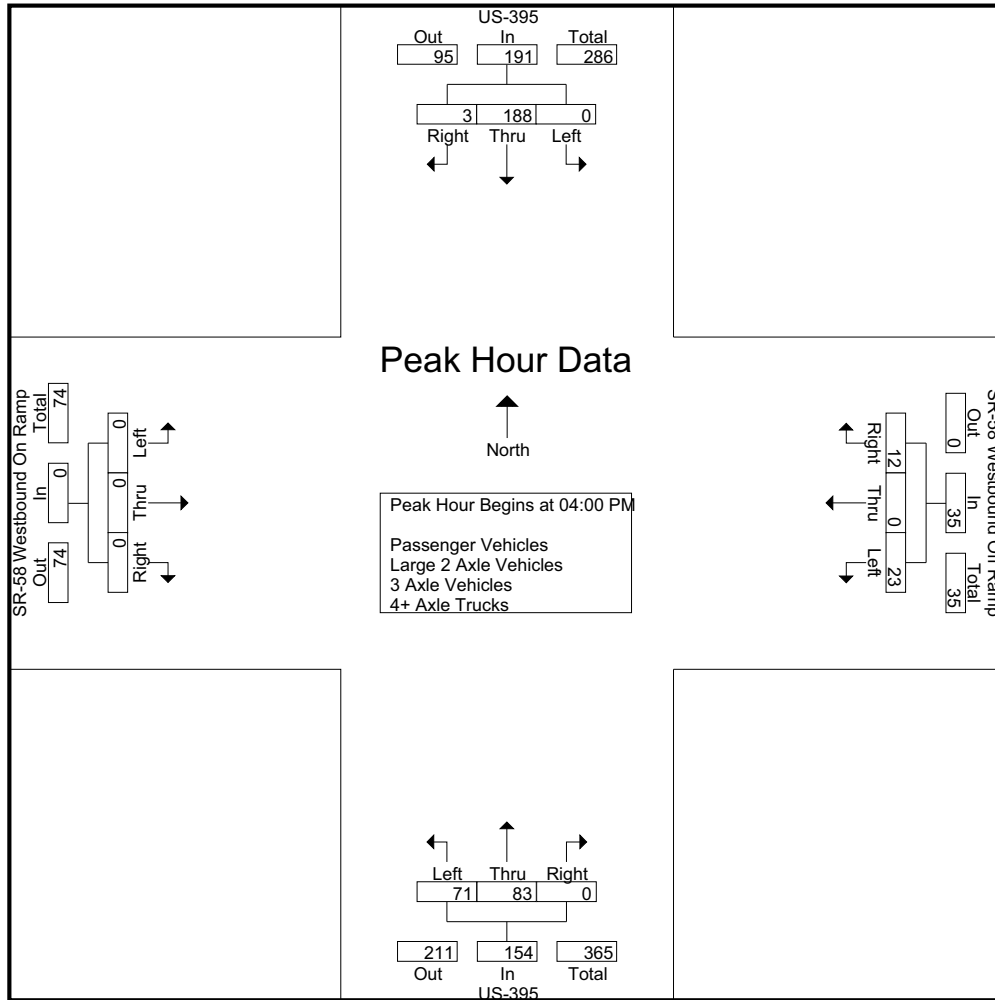
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	63	0	63	7	0	4	11	20	19	0	39	0	0	0	0	113
04:15 PM	0	30	1	31	6	0	6	12	15	17	0	32	0	0	0	0	75
04:30 PM	0	59	2	61	5	0	1	6	24	32	0	56	0	0	0	0	123
04:45 PM	0	36	0	36	5	0	1	6	12	15	0	27	0	0	0	0	69
Total	0	188	3	191	23	0	12	35	71	83	0	154	0	0	0	0	380
05:00 PM	0	46	0	46	0	0	1	1	24	12	0	36	0	0	0	0	83
05:15 PM	0	27	0	27	4	0	2	6	18	13	0	31	0	0	0	0	64
05:30 PM	0	33	1	34	4	0	3	7	24	9	0	33	0	0	0	0	74
05:45 PM	0	25	0	25	5	0	7	12	15	9	0	24	0	0	0	0	61
Total	0	131	1	132	13	0	13	26	81	43	0	124	0	0	0	0	282
Grand Total	0	319	4	323	36	0	25	61	152	126	0	278	0	0	0	0	662
Apprch %	0	98.8	1.2		59	0	41		54.7	45.3	0		0	0	0		
Total %	0	48.2	0.6	48.8	5.4	0	3.8	9.2	23	19	0	42	0	0	0	0	
Passenger Vehicles	0	264	4	268	20	0	21	41	87	79	0	166	0	0	0	0	475
% Passenger Vehicles	0	82.8	100	83	55.6	0	84	67.2	57.2	62.7	0	59.7	0	0	0	0	71.8
Large 2 Axle Vehicles	0	5	0	5	2	0	2	4	2	1	0	3	0	0	0	0	12
% Large 2 Axle Vehicles	0	1.6	0	1.5	5.6	0	8	6.6	1.3	0.8	0	1.1	0	0	0	0	1.8
3 Axle Vehicles	0	2	0	2	0	0	0	0	2	0	0	2	0	0	0	0	4
% 3 Axle Vehicles	0	0.6	0	0.6	0	0	0	0	1.3	0	0	0.7	0	0	0	0	0.6
4+ Axle Trucks	0	48	0	48	14	0	2	16	61	46	0	107	0	0	0	0	171
% 4+ Axle Trucks	0	15	0	14.9	38.9	0	8	26.2	40.1	36.5	0	38.5	0	0	0	0	25.8

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	63	0	63	7	0	4	11	20	19	0	39	0	0	0	0	113
04:15 PM	0	30	1	31	6	0	6	12	15	17	0	32	0	0	0	0	75
04:30 PM	0	59	2	61	5	0	1	6	24	32	0	56	0	0	0	0	123
04:45 PM	0	36	0	36	5	0	1	6	12	15	0	27	0	0	0	0	69
Total Volume	0	188	3	191	23	0	12	35	71	83	0	154	0	0	0	0	380
% App. Total	0	98.4	1.6		65.7	0	34.3		46.1	53.9	0		0	0	0		
PHF	.000	.746	.375	.758	.821	.000	.500	.729	.740	.648	.000	.688	.000	.000	.000	.000	.772

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W PM
Site Code : 22520048
Start Date : 1/28/2020
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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				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	63	0	63	7	0	4	11	20	19	0	39	0	0	0	0
+15 mins.	0	30	1	31	6	0	6	12	15	17	0	32	0	0	0	0
+30 mins.	0	59	2	61	5	0	1	6	24	32	0	56	0	0	0	0
+45 mins.	0	36	0	36	5	0	1	6	12	15	0	27	0	0	0	0
Total Volume	0	188	3	191	23	0	12	35	71	83	0	154	0	0	0	0
% App. Total	0	98.4	1.6		65.7	0	34.3		46.1	53.9	0		0	0	0	
PHF	.000	.746	.375	.758	.821	.000	.500	.729	.740	.648	.000	.688	.000	.000	.000	.000

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W PM
Site Code : 22520048
Start Date : 1/28/2020
Page No : 1

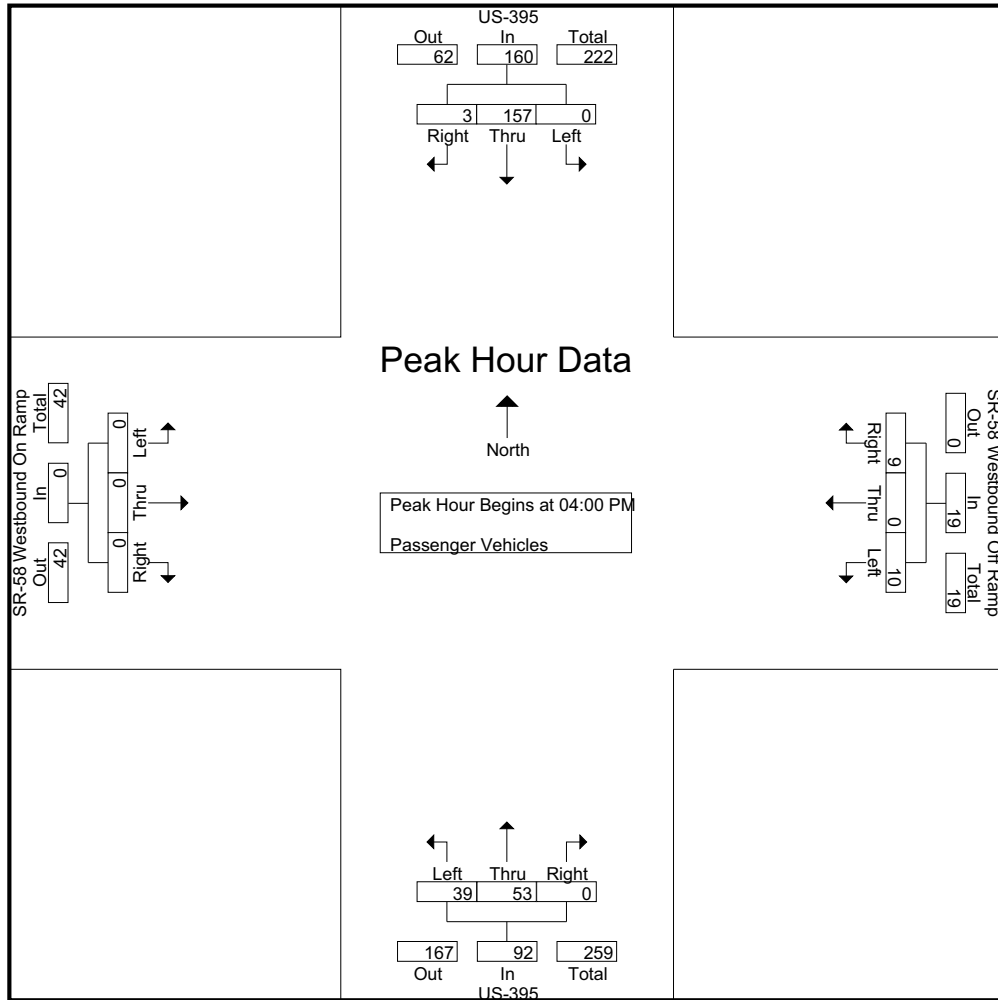
Groups Printed- Passenger Vehicles

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	56	0	56	2	0	3	5	10	8	0	18	0	0	0	0	79
04:15 PM	0	25	1	26	1	0	4	5	9	11	0	20	0	0	0	0	51
04:30 PM	0	47	2	49	4	0	1	5	11	25	0	36	0	0	0	0	90
04:45 PM	0	29	0	29	3	0	1	4	9	9	0	18	0	0	0	0	51
Total	0	157	3	160	10	0	9	19	39	53	0	92	0	0	0	0	271
05:00 PM	0	38	0	38	0	0	1	1	18	7	0	25	0	0	0	0	64
05:15 PM	0	24	0	24	4	0	2	6	9	8	0	17	0	0	0	0	47
05:30 PM	0	27	1	28	2	0	2	4	16	7	0	23	0	0	0	0	55
05:45 PM	0	18	0	18	4	0	7	11	5	4	0	9	0	0	0	0	38
Total	0	107	1	108	10	0	12	22	48	26	0	74	0	0	0	0	204
Grand Total	0	264	4	268	20	0	21	41	87	79	0	166	0	0	0	0	475
Apprch %	0	98.5	1.5		48.8	0	51.2		52.4	47.6	0		0	0	0		
Total %	0	55.6	0.8	56.4	4.2	0	4.4	8.6	18.3	16.6	0	34.9	0	0	0	0	

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	56	0	56	2	0	3	5	10	8	0	18	0	0	0	0	79
04:15 PM	0	25	1	26	1	0	4	5	9	11	0	20	0	0	0	0	51
04:30 PM	0	47	2	49	4	0	1	5	11	25	0	36	0	0	0	0	90
04:45 PM	0	29	0	29	3	0	1	4	9	9	0	18	0	0	0	0	51
Total Volume	0	157	3	160	10	0	9	19	39	53	0	92	0	0	0	0	271
% App. Total	0	98.1	1.9		52.6	0	47.4		42.4	57.6	0		0	0	0		
PHF	.000	.701	.375	.714	.625	.000	.563	.950	.886	.530	.000	.639	.000	.000	.000	.000	.753

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W PM
Site Code : 22520048
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	56	0	56	2	0	3	5	10	8	0	18	0	0	0	0
+15 mins.	0	25	1	26	1	0	4	5	9	11	0	20	0	0	0	0
+30 mins.	0	47	2	49	4	0	1	5	11	25	0	36	0	0	0	0
+45 mins.	0	29	0	29	3	0	1	4	9	9	0	18	0	0	0	0
Total Volume	0	157	3	160	10	0	9	19	39	53	0	92	0	0	0	0
% App. Total	0	98.1	1.9		52.6	0	47.4		42.4	57.6	0		0	0	0	
PHF	.000	.701	.375	.714	.625	.000	.563	.950	.886	.530	.000	.639	.000	.000	.000	.000

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W PM
Site Code : 22520048
Start Date : 1/28/2020
Page No : 1

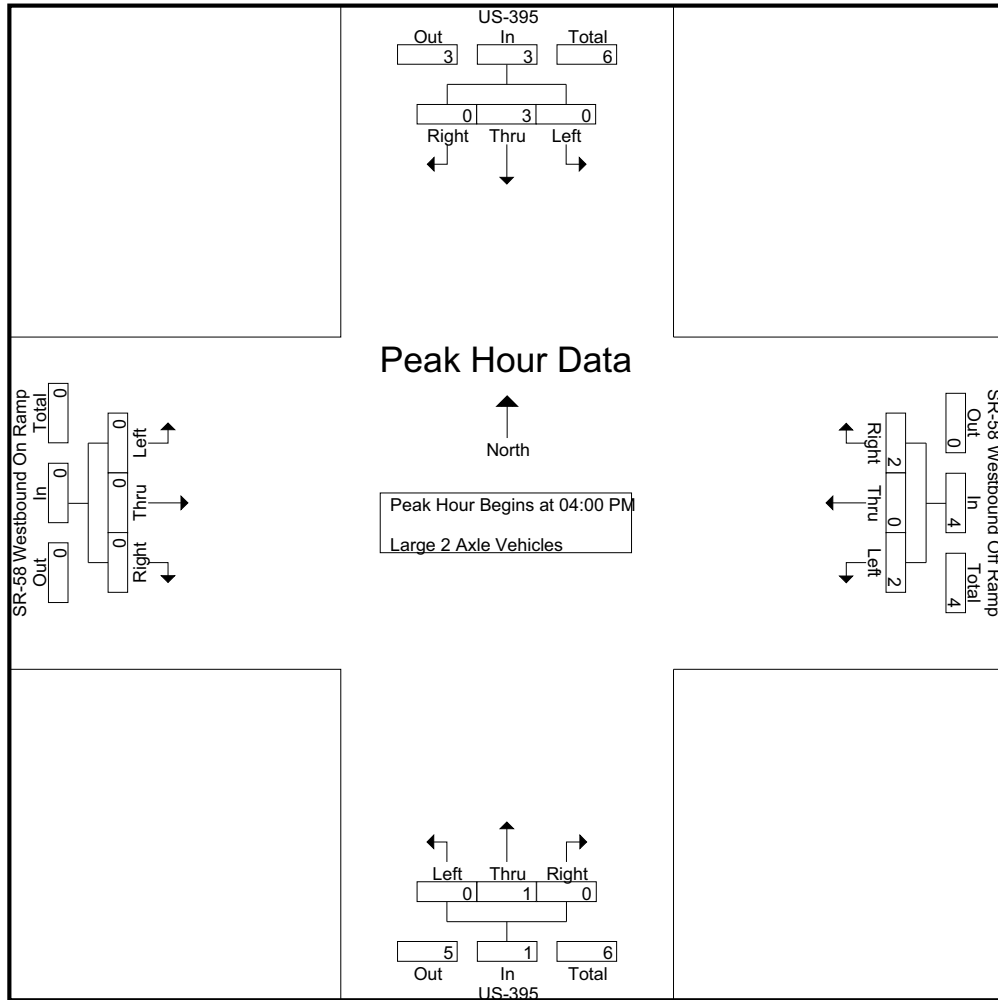
Groups Printed- Large 2 Axle Vehicles

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	0	1	2	0	0	2	0	1	0	1	0	0	0	0	4
04:15 PM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
04:30 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	3	0	3	2	0	2	4	0	1	0	1	0	0	0	0	8
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	1	0	0	0	0	2	0	0	2	0	0	0	0	3
05:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	2	0	0	0	0	2	0	0	2	0	0	0	0	4
Grand Total	0	5	0	5	2	0	2	4	2	1	0	3	0	0	0	0	12
Apprch %	0	100	0		50	0	50		66.7	33.3	0		0	0	0		
Total %	0	41.7	0	41.7	16.7	0	16.7	33.3	16.7	8.3	0	25	0	0	0	0	

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	1	0	1	2	0	0	2	0	1	0	1	0	0	0	0	4
04:15 PM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
04:30 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	3	0	3	2	0	2	4	0	1	0	1	0	0	0	0	8
% App. Total	0	100	0		50	0	50		0	100	0		0	0	0		
PHF	.000	.375	.000	.375	.250	.000	.250	.500	.000	.250	.000	.250	.000	.000	.000	.000	.500

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W PM
Site Code : 22520048
Start Date : 1/28/2020
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	1	0	1	2	0	0	2	0	1	0	1	0	0	0	0
+15 mins.	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0
+30 mins.	0	2	0	2	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	3	0	3	2	0	2	4	0	1	0	1	0	0	0	0
% App. Total	0	100	0		50	0	50		0	100	0		0	0	0	
PHF	.000	.375	.000	.375	.250	.000	.250	.500	.000	.250	.000	.250	.000	.000	.000	.000

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W PM
Site Code : 22520048
Start Date : 1/28/2020
Page No : 1

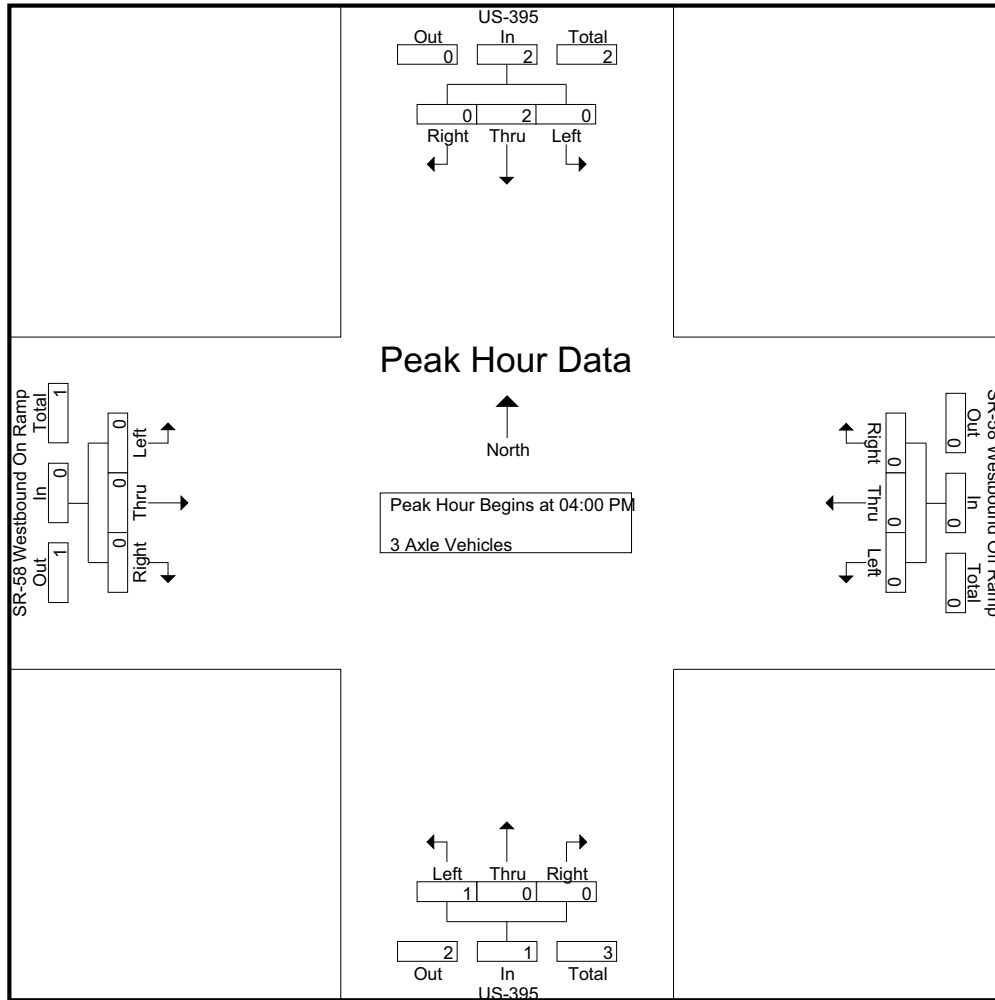
Groups Printed- 3 Axle Vehicles

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	2	0	0	0	0	1	0	0	1	0	0	0	0	3
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	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Grand Total	0	2	0	2	0	0	0	0	2	0	0	2	0	0	0	0	4
Apprch %	0	100	0		0	0	0		100	0	0		0	0	0		
Total %	0	50	0	50	0	0	0	0	50	0	0	50	0	0	0	0	

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	1	0	0	1	0	0	0	0	3
% App. Total	0	100	0		0	0	0		100	0	0		0	0	0		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.375

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W PM
Site Code : 22520048
Start Date : 1/28/2020
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	1	0	1	0	0	0	0	1	0	0	1	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	1	0	1	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	2	0	2	0	0	0	0	1	0	0	1	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	100	0	0	0	0	0	0	0
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W PM
Site Code : 22520048
Start Date : 1/28/2020
Page No : 1

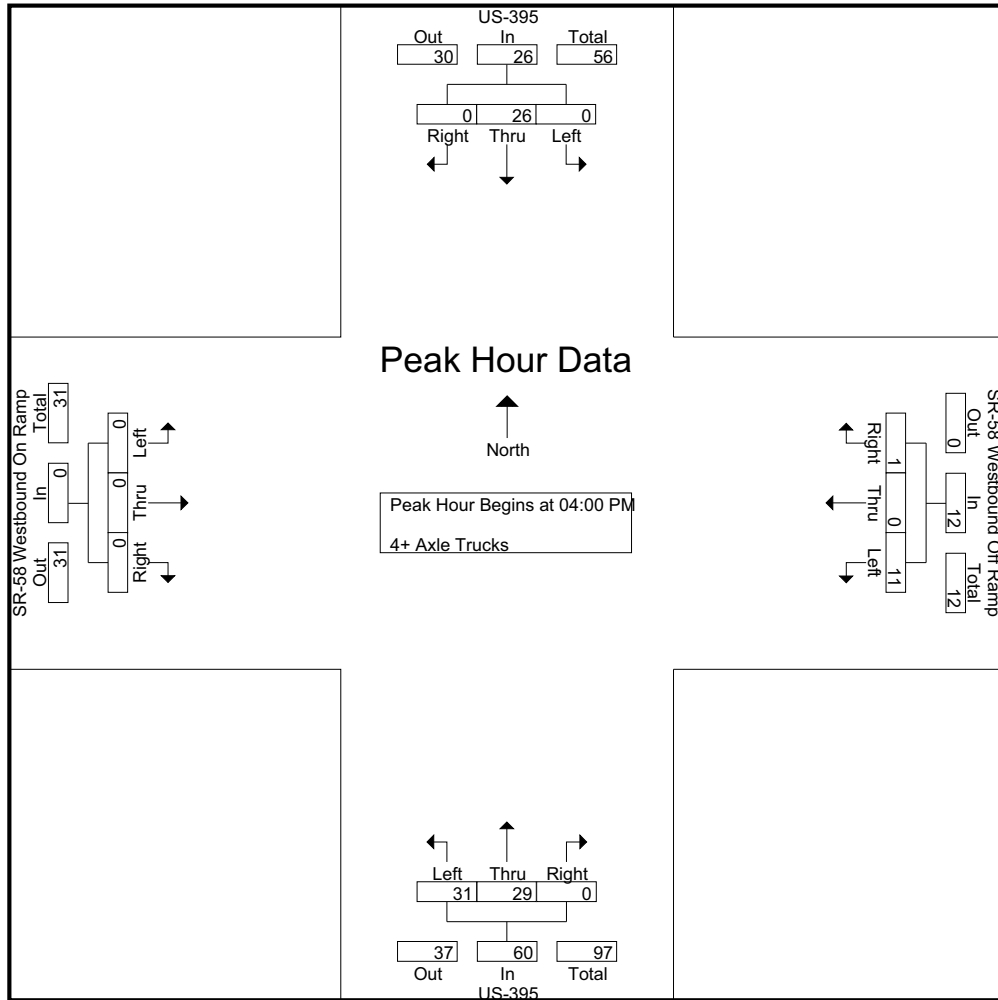
Groups Printed- 4+ Axle Trucks

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	5	0	5	3	0	1	4	9	10	0	19	0	0	0	0	28
04:15 PM	0	5	0	5	5	0	0	5	6	6	0	12	0	0	0	0	22
04:30 PM	0	9	0	9	1	0	0	1	13	7	0	20	0	0	0	0	30
04:45 PM	0	7	0	7	2	0	0	2	3	6	0	9	0	0	0	0	18
Total	0	26	0	26	11	0	1	12	31	29	0	60	0	0	0	0	98
05:00 PM	0	8	0	8	0	0	0	0	6	5	0	11	0	0	0	0	19
05:15 PM	0	2	0	2	0	0	0	0	7	5	0	12	0	0	0	0	14
05:30 PM	0	5	0	5	2	0	1	3	8	2	0	10	0	0	0	0	18
05:45 PM	0	7	0	7	1	0	0	1	9	5	0	14	0	0	0	0	22
Total	0	22	0	22	3	0	1	4	30	17	0	47	0	0	0	0	73
Grand Total	0	48	0	48	14	0	2	16	61	46	0	107	0	0	0	0	171
Apprch %	0	100	0		87.5	0	12.5		57	43	0		0	0	0		
Total %	0	28.1	0	28.1	8.2	0	1.2	9.4	35.7	26.9	0	62.6	0	0	0	0	

	US-395 Southbound				SR-58 Westbound Off Ramp Westbound				US-395 Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	5	0	5	3	0	1	4	9	10	0	19	0	0	0	0	28
04:15 PM	0	5	0	5	5	0	0	5	6	6	0	12	0	0	0	0	22
04:30 PM	0	9	0	9	1	0	0	1	13	7	0	20	0	0	0	0	30
04:45 PM	0	7	0	7	2	0	0	2	3	6	0	9	0	0	0	0	18
Total Volume	0	26	0	26	11	0	1	12	31	29	0	60	0	0	0	0	98
% App. Total	0	100	0		91.7	0	8.3		51.7	48.3	0		0	0	0		
PHF	.000	.722	.000	.722	.550	.000	.250	.600	.596	.725	.000	.750	.000	.000	.000	.000	.817

County of San Bernardino
N/S: US-395
E/W: SR-58 Westbound Ramps
Weather: Clear

File Name : 01_CSB_US395_SR58W PM
Site Code : 22520048
Start Date : 1/28/2020
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	5	0	5	3	0	1	4	9	10	0	19	0	0	0	0
+15 mins.	0	5	0	5	5	0	0	5	6	6	0	12	0	0	0	0
+30 mins.	0	9	0	9	1	0	0	1	13	7	0	20	0	0	0	0
+45 mins.	0	7	0	7	2	0	0	2	3	6	0	9	0	0	0	0
Total Volume	0	26	0	26	11	0	1	12	31	29	0	60	0	0	0	0
% App. Total	0	100	0		91.7	0	8.3		51.7	48.3	0		0	0	0	
PHF	.000	.722	.000	.722	.550	.000	.250	.600	.596	.725	.000	.750	.000	.000	.000	.000

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E AM
Site Code : 22520048
Start Date : 1/28/2020
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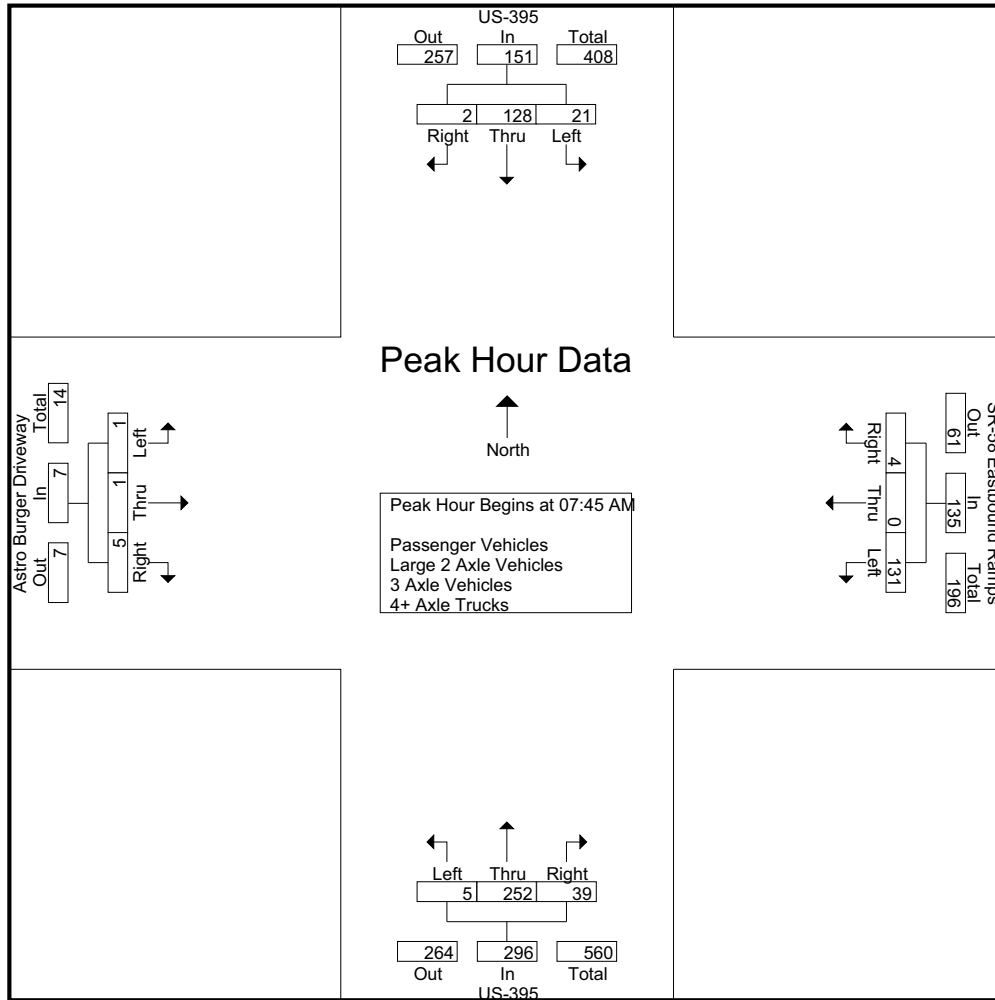
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	14	20	0	34	25	1	3	29	0	110	5	115	0	0	0	0	178
07:15 AM	4	13	0	17	25	1	0	26	0	64	5	69	0	0	1	1	113
07:30 AM	2	23	0	25	22	0	3	25	0	76	7	83	1	0	0	1	134
07:45 AM	8	26	1	35	50	0	0	50	3	56	8	67	1	0	2	3	155
Total	28	82	1	111	122	2	6	130	3	306	25	334	2	0	3	5	580
08:00 AM	5	38	0	43	28	0	2	30	0	57	12	69	0	1	3	4	146
08:15 AM	3	27	0	30	24	0	0	24	0	60	10	70	0	0	0	0	124
08:30 AM	5	37	1	43	29	0	2	31	2	79	9	90	0	0	0	0	164
08:45 AM	8	29	0	37	22	0	2	24	3	60	8	71	1	0	0	1	133
Total	21	131	1	153	103	0	6	109	5	256	39	300	1	1	3	5	567
Grand Total	49	213	2	264	225	2	12	239	8	562	64	634	3	1	6	10	1147
Apprch %	18.6	80.7	0.8		94.1	0.8	5		1.3	88.6	10.1		30	10	60		
Total %	4.3	18.6	0.2	23	19.6	0.2	1	20.8	0.7	49	5.6	55.3	0.3	0.1	0.5	0.9	
Passenger Vehicles	23	80	0	103	68	0	5	73	2	220	15	237	0	0	2	2	415
% Passenger Vehicles	46.9	37.6	0	39	30.2	0	41.7	30.5	25	39.1	23.4	37.4	0	0	33.3	20	36.2
Large 2 Axle Vehicles	0	2	0	2	5	0	0	5	0	11	2	13	0	0	0	0	20
% Large 2 Axle Vehicles	0	0.9	0	0.8	2.2	0	0	2.1	0	2	3.1	2.1	0	0	0	0	1.7
3 Axle Vehicles	23	80	0	103	68	0	5	73	2	220	15	237	0	0	2	2	415
% 3 Axle Vehicles	46.9	37.6	0	39	30.2	0	41.7	30.5	25	39.1	23.4	37.4	0	0	33.3	20	36.2
4+ Axle Trucks	3	51	2	56	84	2	2	88	4	111	32	147	3	1	2	6	297
% 4+ Axle Trucks	6.1	23.9	100	21.2	37.3	100	16.7	36.8	50	19.8	50	23.2	100	100	33.3	60	25.9

	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	8	26	1	35	50	0	0	50	3	56	8	67	1	0	2	3	155
08:00 AM	5	38	0	43	28	0	2	30	0	57	12	69	0	1	3	4	146
08:15 AM	3	27	0	30	24	0	0	24	0	60	10	70	0	0	0	0	124
08:30 AM	5	37	1	43	29	0	2	31	2	79	9	90	0	0	0	0	164
Total Volume	21	128	2	151	131	0	4	135	5	252	39	296	1	1	5	7	589
% App. Total	13.9	84.8	1.3		97	0	3		1.7	85.1	13.2		14.3	14.3	71.4		
PHF	.656	.842	.500	.878	.655	.000	.500	.675	.417	.797	.813	.822	.250	.250	.417	.438	.898

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E AM
Site Code : 22520048
Start Date : 1/28/2020
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				07:00 AM				07:15 AM			
+0 mins.	5	38	0	43	50	0	0	50	0	110	5	115	0	0	1	1
+15 mins.	3	27	0	30	28	0	2	30	0	64	5	69	1	0	0	1
+30 mins.	5	37	1	43	24	0	0	24	0	76	7	83	1	0	2	3
+45 mins.	8	29	0	37	29	0	2	31	3	56	8	67	0	1	3	4
Total Volume	21	131	1	153	131	0	4	135	3	306	25	334	2	1	6	9
% App. Total	13.7	85.6	0.7		97	0	3		0.9	91.6	7.5		22.2	11.1	66.7	
PHF	.656	.862	.250	.890	.655	.000	.500	.675	.250	.695	.781	.726	.500	.250	.500	.563

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E AM
Site Code : 22520048
Start Date : 1/28/2020
Page No : 1

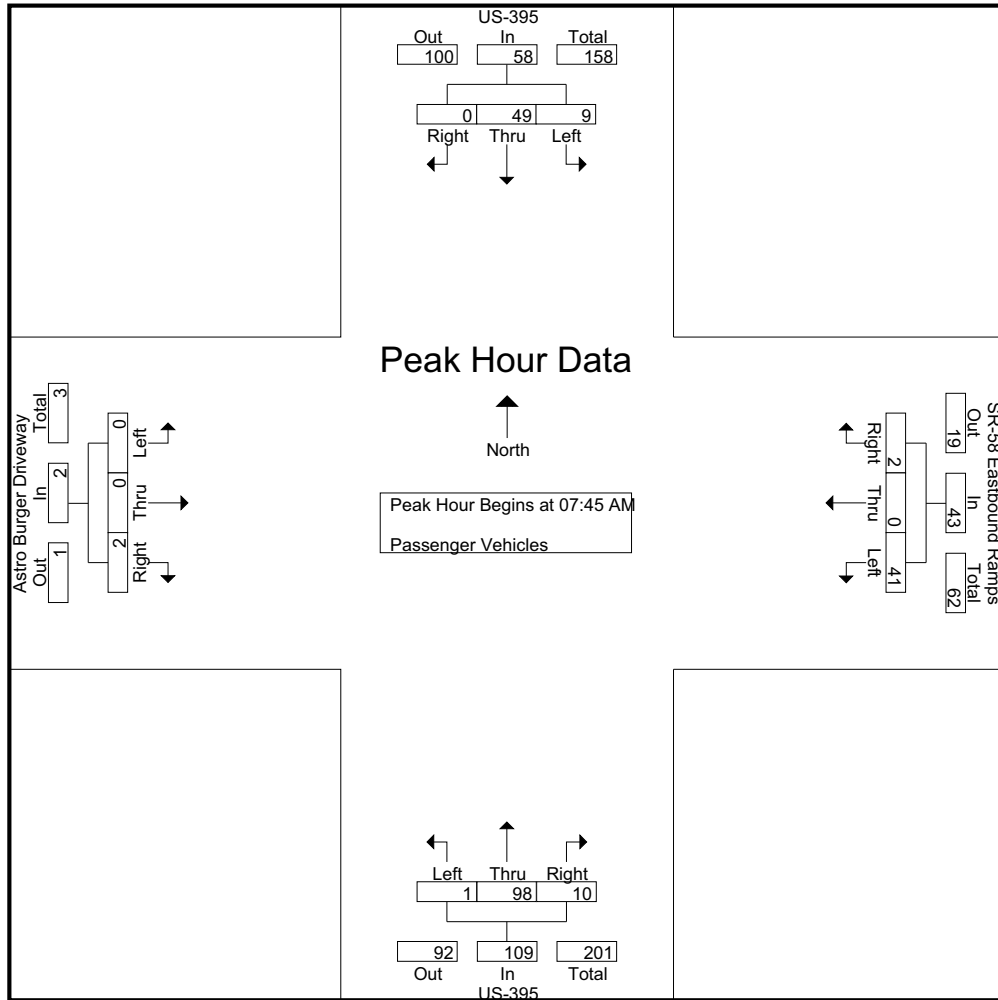
Groups Printed- Passenger Vehicles

	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	7	8	0	15	7	0	1	8	0	42	1	43	0	0	0	0	66
07:15 AM	2	4	0	6	5	0	0	5	0	26	1	27	0	0	0	0	38
07:30 AM	1	8	0	9	8	0	1	9	0	30	1	31	0	0	0	0	49
07:45 AM	4	11	0	15	19	0	0	19	1	23	3	27	0	0	1	1	62
Total	14	31	0	45	39	0	2	41	1	121	6	128	0	0	1	1	215
08:00 AM	2	15	0	17	10	0	1	11	0	21	1	22	0	0	1	1	51
08:15 AM	1	12	0	13	5	0	0	5	0	23	4	27	0	0	0	0	45
08:30 AM	2	11	0	13	7	0	1	8	0	31	2	33	0	0	0	0	54
08:45 AM	4	11	0	15	7	0	1	8	1	24	2	27	0	0	0	0	50
Total	9	49	0	58	29	0	3	32	1	99	9	109	0	0	1	1	200
Grand Total	23	80	0	103	68	0	5	73	2	220	15	237	0	0	2	2	415
Apprch %	22.3	77.7	0		93.2	0	6.8		0.8	92.8	6.3		0	0	100		
Total %	5.5	19.3	0	24.8	16.4	0	1.2	17.6	0.5	53	3.6	57.1	0	0	0.5	0.5	

	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	4	11	0	15	19	0	0	19	1	23	3	27	0	0	1	1	62
08:00 AM	2	15	0	17	10	0	1	11	0	21	1	22	0	0	1	1	51
08:15 AM	1	12	0	13	5	0	0	5	0	23	4	27	0	0	0	0	45
08:30 AM	2	11	0	13	7	0	1	8	0	31	2	33	0	0	0	0	54
Total Volume	9	49	0	58	41	0	2	43	1	98	10	109	0	0	2	2	212
% App. Total	15.5	84.5	0		95.3	0	4.7		0.9	89.9	9.2		0	0	100		
PHF	.563	.817	.000	.853	.539	.000	.500	.566	.250	.790	.625	.826	.000	.000	.500	.500	.855

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E AM
Site Code : 22520048
Start Date : 1/28/2020
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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	4	11	0	15	19	0	0	19	1	23	3	27	0	0	1	1
+15 mins.	2	15	0	17	10	0	1	11	0	21	1	22	0	0	1	1
+30 mins.	1	12	0	13	5	0	0	5	0	23	4	27	0	0	0	0
+45 mins.	2	11	0	13	7	0	1	8	0	31	2	33	0	0	0	0
Total Volume	9	49	0	58	41	0	2	43	1	98	10	109	0	0	2	2
% App. Total	15.5	84.5	0		95.3	0	4.7		0.9	89.9	9.2		0	0	100	
PHF	.563	.817	.000	.853	.539	.000	.500	.566	.250	.790	.625	.826	.000	.000	.500	.500

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E AM
Site Code : 22520048
Start Date : 1/28/2020
Page No : 1

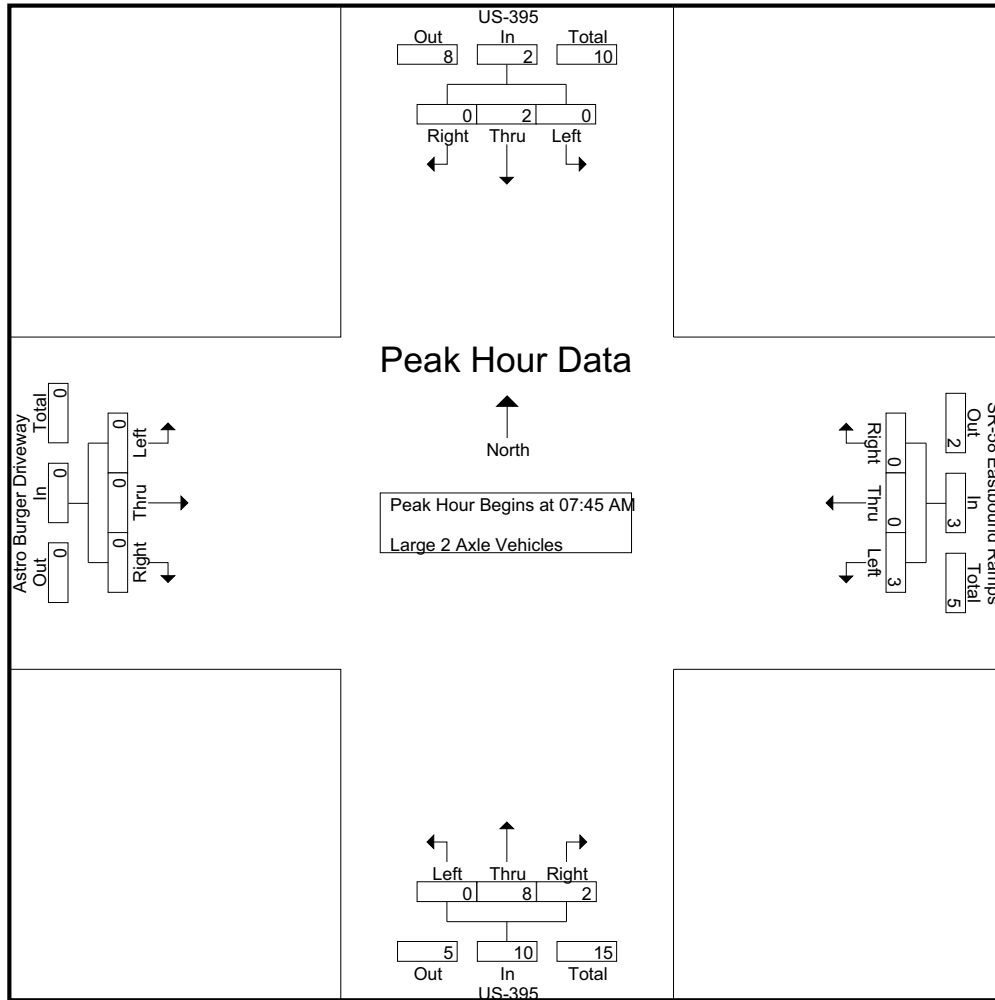
Groups Printed- Large 2 Axle Vehicles

Start Time	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway 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	2	0	0	2	0	2	0	2	0	0	0	0	4
07:45 AM	0	1	0	1	1	0	0	1	0	2	1	3	0	0	0	0	5
Total	0	1	0	1	3	0	0	3	0	4	1	5	0	0	0	0	9
08:00 AM	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	3
08:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:30 AM	0	1	0	1	2	0	0	2	0	2	0	2	0	0	0	0	5
08:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	1	0	1	2	0	0	2	0	7	1	8	0	0	0	0	11
Grand Total	0	2	0	2	5	0	0	5	0	11	2	13	0	0	0	0	20
Apprch %	0	100	0		100	0	0		0	84.6	15.4		0	0	0		
Total %	0	10	0	10	25	0	0	25	0	55	10	65	0	0	0	0	

	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	1	0	1	1	0	0	1	0	2	1	3	0	0	0	0	5
08:00 AM	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	3
08:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:30 AM	0	1	0	1	2	0	0	2	0	2	0	2	0	0	0	0	5
Total Volume	0	2	0	2	3	0	0	3	0	8	2	10	0	0	0	0	15
% App. Total	0	100	0		100	0	0		0	80	20		0	0	0		
PHF	.000	.500	.000	.500	.375	.000	.000	.375	.000	1.00	.500	.833	.000	.000	.000	.000	.750

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E AM
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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	0	1	0	1	1	0	0	1	0	2	1	3	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
+45 mins.	0	1	0	1	2	0	0	2	0	2	0	2	0	0	0	0
Total Volume	0	2	0	2	3	0	0	3	0	8	2	10	0	0	0	0
% App. Total	0	100	0	0	100	0	0	0	0	80	20	0	0	0	0	0
PHF	.000	.500	.000	.500	.375	.000	.000	.375	.000	1.000	.500	.833	.000	.000	.000	.000

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E AM
Site Code : 22520048
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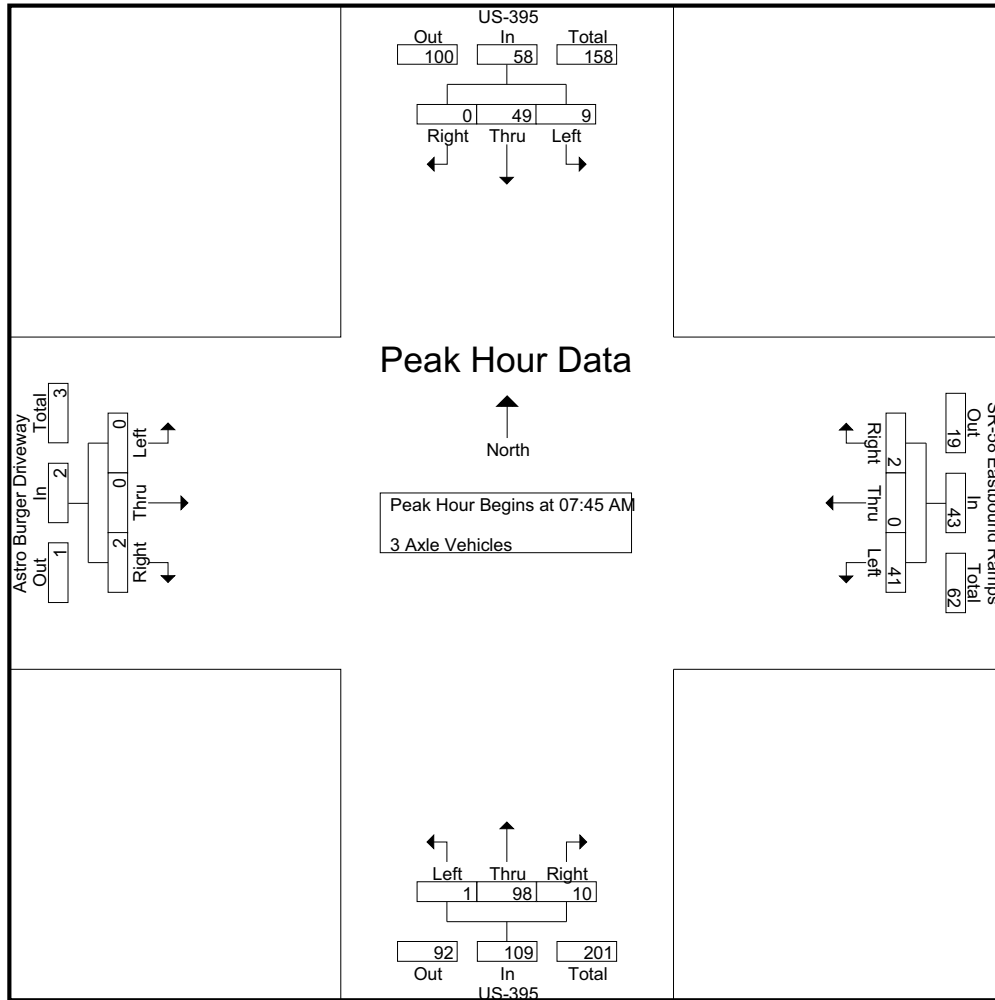
Groups Printed- 3 Axle Vehicles

	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	7	8	0	15	7	0	1	8	0	42	1	43	0	0	0	0	66
07:15 AM	2	4	0	6	5	0	0	5	0	26	1	27	0	0	0	0	38
07:30 AM	1	8	0	9	8	0	1	9	0	30	1	31	0	0	0	0	49
07:45 AM	4	11	0	15	19	0	0	19	1	23	3	27	0	0	1	1	62
Total	14	31	0	45	39	0	2	41	1	121	6	128	0	0	1	1	215
08:00 AM	2	15	0	17	10	0	1	11	0	21	1	22	0	0	1	1	51
08:15 AM	1	12	0	13	5	0	0	5	0	23	4	27	0	0	0	0	45
08:30 AM	2	11	0	13	7	0	1	8	0	31	2	33	0	0	0	0	54
08:45 AM	4	11	0	15	7	0	1	8	1	24	2	27	0	0	0	0	50
Total	9	49	0	58	29	0	3	32	1	99	9	109	0	0	1	1	200
Grand Total	23	80	0	103	68	0	5	73	2	220	15	237	0	0	2	2	415
Apprch %	22.3	77.7	0		93.2	0	6.8		0.8	92.8	6.3		0	0	100		
Total %	5.5	19.3	0	24.8	16.4	0	1.2	17.6	0.5	53	3.6	57.1	0	0	0.5	0.5	

	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	4	11	0	15	19	0	0	19	1	23	3	27	0	0	1	1	62
08:00 AM	2	15	0	17	10	0	1	11	0	21	1	22	0	0	1	1	51
08:15 AM	1	12	0	13	5	0	0	5	0	23	4	27	0	0	0	0	45
08:30 AM	2	11	0	13	7	0	1	8	0	31	2	33	0	0	0	0	54
Total Volume	9	49	0	58	41	0	2	43	1	98	10	109	0	0	2	2	212
% App. Total	15.5	84.5	0		95.3	0	4.7		0.9	89.9	9.2		0	0	100		
PHF	.563	.817	.000	.853	.539	.000	.500	.566	.250	.790	.625	.826	.000	.000	.500	.500	.855

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E AM
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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	4	11	0	15	19	0	0	19	1	23	3	27	0	0	1	1
+15 mins.	2	15	0	17	10	0	1	11	0	21	1	22	0	0	1	1
+30 mins.	1	12	0	13	5	0	0	5	0	23	4	27	0	0	0	0
+45 mins.	2	11	0	13	7	0	1	8	0	31	2	33	0	0	0	0
Total Volume	9	49	0	58	41	0	2	43	1	98	10	109	0	0	2	2
% App. Total	15.5	84.5	0		95.3	0	4.7		0.9	89.9	9.2		0	0	100	
PHF	.563	.817	.000	.853	.539	.000	.500	.566	.250	.790	.625	.826	.000	.000	.500	.500

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E AM
Site Code : 22520048
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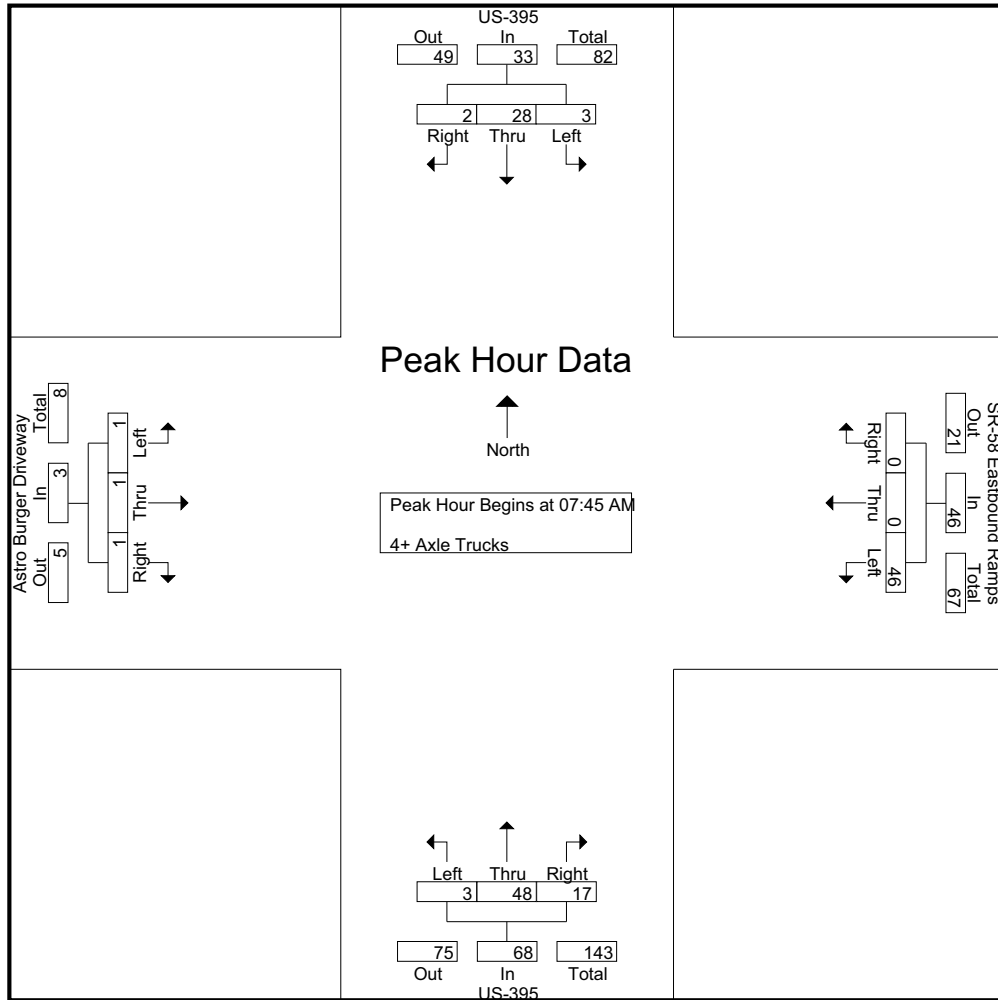
Groups Printed- 4+ Axle Trucks

	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	4	0	4	11	1	1	13	0	26	3	29	0	0	0	0	46
07:15 AM	0	5	0	5	15	1	0	16	0	12	3	15	0	0	1	1	37
07:30 AM	0	7	0	7	4	0	1	5	0	14	5	19	1	0	0	1	32
07:45 AM	0	3	1	4	11	0	0	11	1	8	1	10	1	0	0	1	26
Total	0	19	1	20	41	2	2	45	1	60	12	73	2	0	1	3	141
08:00 AM	1	8	0	9	8	0	0	8	0	13	9	22	0	1	1	2	41
08:15 AM	1	3	0	4	14	0	0	14	0	12	2	14	0	0	0	0	32
08:30 AM	1	14	1	16	13	0	0	13	2	15	5	22	0	0	0	0	51
08:45 AM	0	7	0	7	8	0	0	8	1	11	4	16	1	0	0	1	32
Total	3	32	1	36	43	0	0	43	3	51	20	74	1	1	1	3	156
Grand Total	3	51	2	56	84	2	2	88	4	111	32	147	3	1	2	6	297
Apprch %	5.4	91.1	3.6		95.5	2.3	2.3		2.7	75.5	21.8		50	16.7	33.3		
Total %	1	17.2	0.7	18.9	28.3	0.7	0.7	29.6	1.3	37.4	10.8	49.5	1	0.3	0.7	2	

	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	3	1	4	11	0	0	11	1	8	1	10	1	0	0	1	26
08:00 AM	1	8	0	9	8	0	0	8	0	13	9	22	0	1	1	2	41
08:15 AM	1	3	0	4	14	0	0	14	0	12	2	14	0	0	0	0	32
08:30 AM	1	14	1	16	13	0	0	13	2	15	5	22	0	0	0	0	51
Total Volume	3	28	2	33	46	0	0	46	3	48	17	68	1	1	1	3	150
% App. Total	9.1	84.8	6.1		100	0	0		4.4	70.6	25		33.3	33.3	33.3		
PHF	.750	.500	.500	.516	.821	.000	.000	.821	.375	.800	.472	.773	.250	.250	.250	.375	.735

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E AM
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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	0	3	1	4	11	0	0	11	1	8	1	10	1	0	0	1
+15 mins.	1	8	0	9	8	0	0	8	0	13	9	22	0	1	1	2
+30 mins.	1	3	0	4	14	0	0	14	0	12	2	14	0	0	0	0
+45 mins.	1	14	1	16	13	0	0	13	2	15	5	22	0	0	0	0
Total Volume	3	28	2	33	46	0	0	46	3	48	17	68	1	1	1	3
% App. Total	9.1	84.8	6.1		100	0	0		4.4	70.6	25		33.3	33.3	33.3	
PHF	.750	.500	.500	.516	.821	.000	.000	.821	.375	.800	.472	.773	.250	.250	.250	.375

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E PM
Site Code : 22520048
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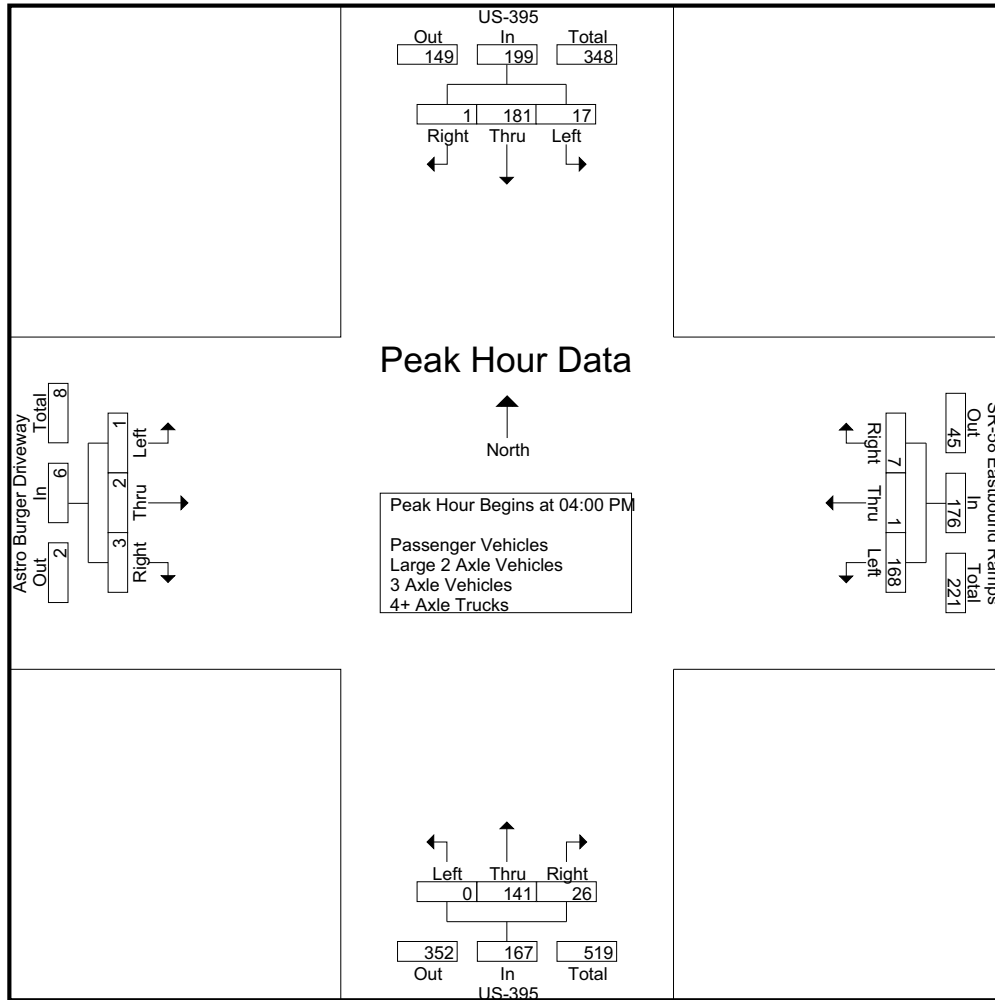
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway 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	4	52	1	57	32	0	0	32	0	39	12	51	0	1	2	3	143
04:15 PM	6	40	0	46	44	0	2	46	0	31	4	35	0	0	0	0	127
04:30 PM	4	63	0	67	41	1	3	45	0	52	5	57	1	1	1	3	172
04:45 PM	3	26	0	29	51	0	2	53	0	19	5	24	0	0	0	0	106
Total	17	181	1	199	168	1	7	176	0	141	26	167	1	2	3	6	548
05:00 PM	5	45	1	51	48	0	0	48	1	36	5	42	0	0	1	1	142
05:15 PM	7	28	0	35	33	0	0	33	1	31	4	36	0	0	0	0	104
05:30 PM	2	34	0	36	43	0	2	45	1	25	5	31	1	0	0	1	113
05:45 PM	3	28	0	31	30	0	0	30	1	21	5	27	0	0	0	0	88
Total	17	135	1	153	154	0	2	156	4	113	19	136	1	0	1	2	447
Grand Total	34	316	2	352	322	1	9	332	4	254	45	303	2	2	4	8	995
Apprch %	9.7	89.8	0.6		97	0.3	2.7		1.3	83.8	14.9		25	25	50		
Total %	3.4	31.8	0.2	35.4	32.4	0.1	0.9	33.4	0.4	25.5	4.5	30.5	0.2	0.2	0.4	0.8	
Passenger Vehicles	28	254	1	283	186	1	8	195	0	150	19	169	0	2	4	6	653
% Passenger Vehicles	82.4	80.4	50	80.4	57.8	100	88.9	58.7	0	59.1	42.2	55.8	0	100	100	75	65.6
Large 2 Axle Vehicles	2	3	0	5	4	0	0	4	0	1	0	1	0	0	0	0	10
% Large 2 Axle Vehicles	5.9	0.9	0	1.4	1.2	0	0	1.2	0	0.4	0	0.3	0	0	0	0	1
3 Axle Vehicles	0	2	0	2	4	0	0	4	2	2	0	4	0	0	0	0	10
% 3 Axle Vehicles	0	0.6	0	0.6	1.2	0	0	1.2	50	0.8	0	1.3	0	0	0	0	1
4+ Axle Trucks	4	57	1	62	128	0	1	129	2	101	26	129	2	0	0	2	322
% 4+ Axle Trucks	11.8	18	50	17.6	39.8	0	11.1	38.9	50	39.8	57.8	42.6	100	0	0	25	32.4

	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	4	52	1	57	32	0	0	32	0	39	12	51	0	1	2	3	143
04:15 PM	6	40	0	46	44	0	2	46	0	31	4	35	0	0	0	0	127
04:30 PM	4	63	0	67	41	1	3	45	0	52	5	57	1	1	1	3	172
04:45 PM	3	26	0	29	51	0	2	53	0	19	5	24	0	0	0	0	106
Total Volume	17	181	1	199	168	1	7	176	0	141	26	167	1	2	3	6	548
% App. Total	8.5	91	0.5		95.5	0.6	4		0	84.4	15.6		16.7	33.3	50		
PHF	.708	.718	.250	.743	.824	.250	.583	.830	.000	.678	.542	.732	.250	.500	.375	.500	.797

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E PM
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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				04:15 PM				04:00 PM				04:00 PM			
+0 mins.	4	52	1	57	44	0	2	46	0	39	12	51	0	1	2	3
+15 mins.	6	40	0	46	41	1	3	45	0	31	4	35	0	0	0	0
+30 mins.	4	63	0	67	51	0	2	53	0	52	5	57	1	1	1	3
+45 mins.	3	26	0	29	48	0	0	48	0	19	5	24	0	0	0	0
Total Volume	17	181	1	199	184	1	7	192	0	141	26	167	1	2	3	6
% App. Total	8.5	91	0.5		95.8	0.5	3.6		0	84.4	15.6		16.7	33.3	50	
PHF	.708	.718	.250	.743	.902	.250	.583	.906	.000	.678	.542	.732	.250	.500	.375	.500

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E PM
Site Code : 22520048
Start Date : 1/28/2020
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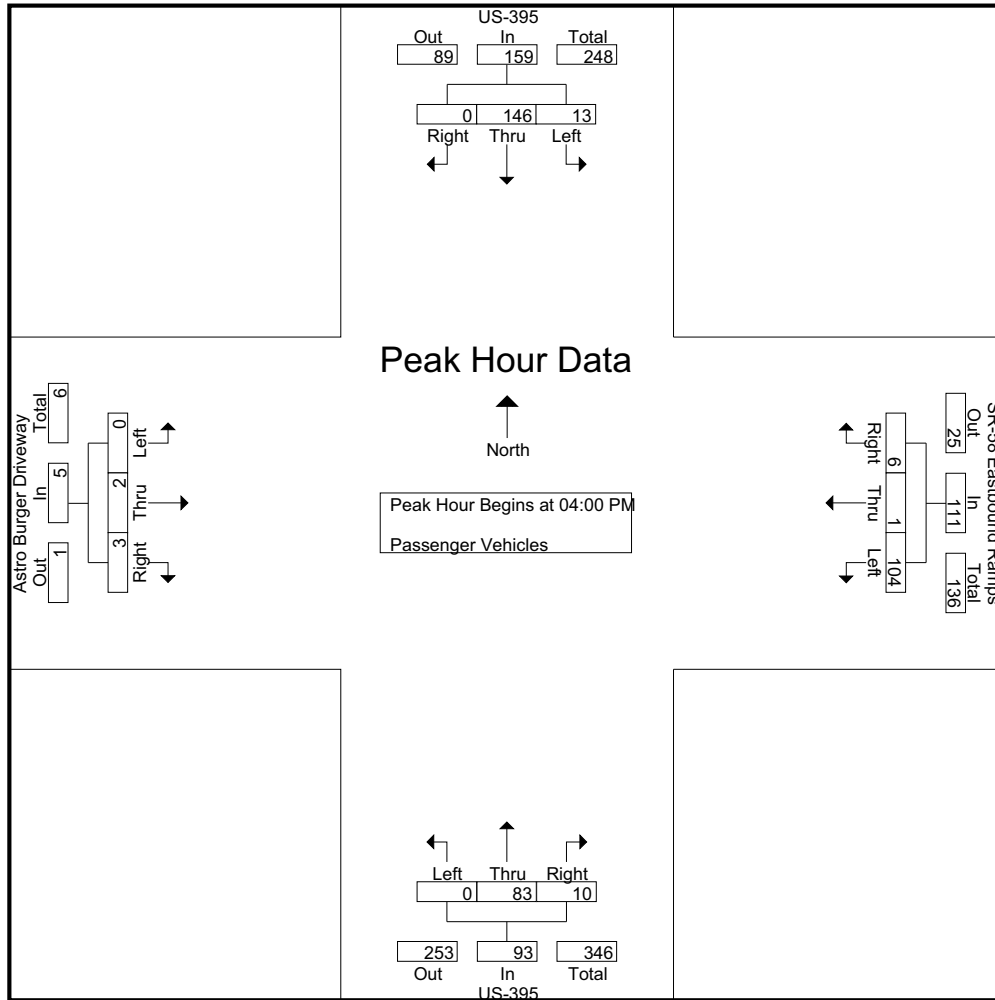
Groups Printed- Passenger Vehicles

Start Time	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway 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	3	43	0	46	22	0	0	22	0	19	4	23	0	1	2	3	94
04:15 PM	5	32	0	37	24	0	2	26	0	19	3	22	0	0	0	0	85
04:30 PM	3	50	0	53	28	1	3	32	0	33	2	35	0	1	1	2	122
04:45 PM	2	21	0	23	30	0	1	31	0	12	1	13	0	0	0	0	67
Total	13	146	0	159	104	1	6	111	0	83	10	93	0	2	3	5	368
05:00 PM	4	35	1	40	27	0	0	27	0	25	3	28	0	0	1	1	96
05:15 PM	7	25	0	32	16	0	0	16	0	17	2	19	0	0	0	0	67
05:30 PM	2	27	0	29	24	0	2	26	0	18	1	19	0	0	0	0	74
05:45 PM	2	21	0	23	15	0	0	15	0	7	3	10	0	0	0	0	48
Total	15	108	1	124	82	0	2	84	0	67	9	76	0	0	1	1	285
Grand Total	28	254	1	283	186	1	8	195	0	150	19	169	0	2	4	6	653
Apprch %	9.9	89.8	0.4		95.4	0.5	4.1		0	88.8	11.2		0	33.3	66.7		
Total %	4.3	38.9	0.2	43.3	28.5	0.2	1.2	29.9	0	23	2.9	25.9	0	0.3	0.6	0.9	

	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	3	43	0	46	22	0	0	22	0	19	4	23	0	1	2	3	94
04:15 PM	5	32	0	37	24	0	2	26	0	19	3	22	0	0	0	0	85
04:30 PM	3	50	0	53	28	1	3	32	0	33	2	35	0	1	1	2	122
04:45 PM	2	21	0	23	30	0	1	31	0	12	1	13	0	0	0	0	67
Total Volume	13	146	0	159	104	1	6	111	0	83	10	93	0	2	3	5	368
% App. Total	8.2	91.8	0		93.7	0.9	5.4		0	89.2	10.8		0	40	60		
PHF	.650	.730	.000	.750	.867	.250	.500	.867	.000	.629	.625	.664	.000	.500	.375	.417	.754

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E PM
Site Code : 22520048
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	3	43	0	46	22	0	0	22	0	19	4	23	0	1	2	3
+15 mins.	5	32	0	37	24	0	2	26	0	19	3	22	0	0	0	0
+30 mins.	3	50	0	53	28	1	3	32	0	33	2	35	0	1	1	2
+45 mins.	2	21	0	23	30	0	1	31	0	12	1	13	0	0	0	0
Total Volume	13	146	0	159	104	1	6	111	0	83	10	93	0	2	3	5
% App. Total	8.2	91.8	0		93.7	0.9	5.4		0	89.2	10.8		0	40	60	
PHF	.650	.730	.000	.750	.867	.250	.500	.867	.000	.629	.625	.664	.000	.500	.375	.417

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E PM
Site Code : 22520048
Start Date : 1/28/2020
Page No : 1

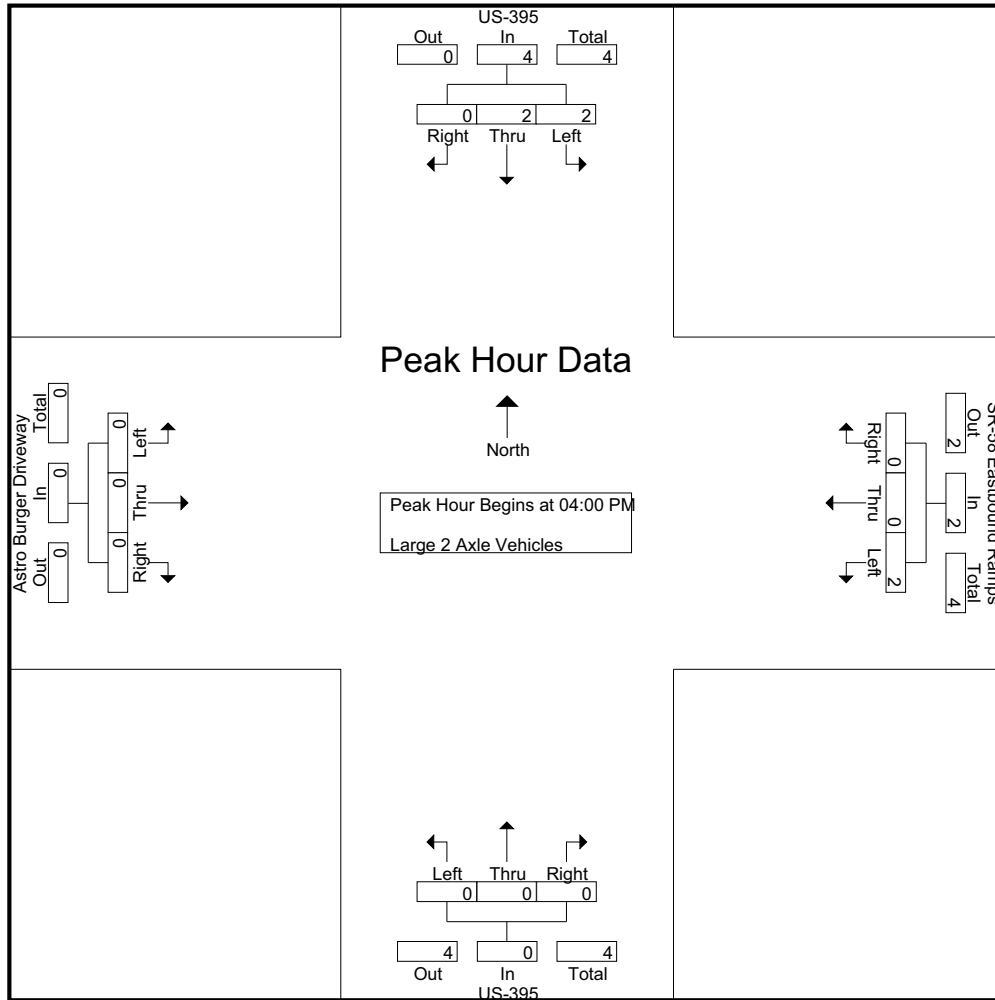
Groups Printed- Large 2 Axle Vehicles

Start Time	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway 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	1	0	0	1	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
04:30 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:45 PM	1	0	0	1	2	0	0	2	0	0	0	0	0	0	0	0	3
Total	2	2	0	4	2	0	0	2	0	0	0	0	0	0	0	0	6
05:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	1	2	0	0	2	0	1	0	1	0	0	0	0	4
Grand Total	2	3	0	5	4	0	0	4	0	1	0	1	0	0	0	0	10
Apprch %	40	60	0		100	0	0		0	100	0		0	0	0		
Total %	20	30	0	50	40	0	0	40	0	10	0	10	0	0	0	0	

	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	0	0	1	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
04:30 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:45 PM	1	0	0	1	2	0	0	2	0	0	0	0	0	0	0	0	3
Total Volume	2	2	0	4	2	0	0	2	0	0	0	0	0	0	0	0	6
% App. Total	50	50	0		100	0	0		0	0	0		0	0	0		
PHF	.500	.250	.000	.500	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.500

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E PM
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	1	0	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	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	1	0	0	1	2	0	0	2	0	0	0	0	0	0	0	0
Total Volume	2	2	0	4	2	0	0	2	0	0	0	0	0	0	0	0
% App. Total	50	50	0	100	100	0	0	100	0	0	0	0	0	0	0	0
PHF	.500	.250	.000	.500	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E PM
Site Code : 22520048
Start Date : 1/28/2020
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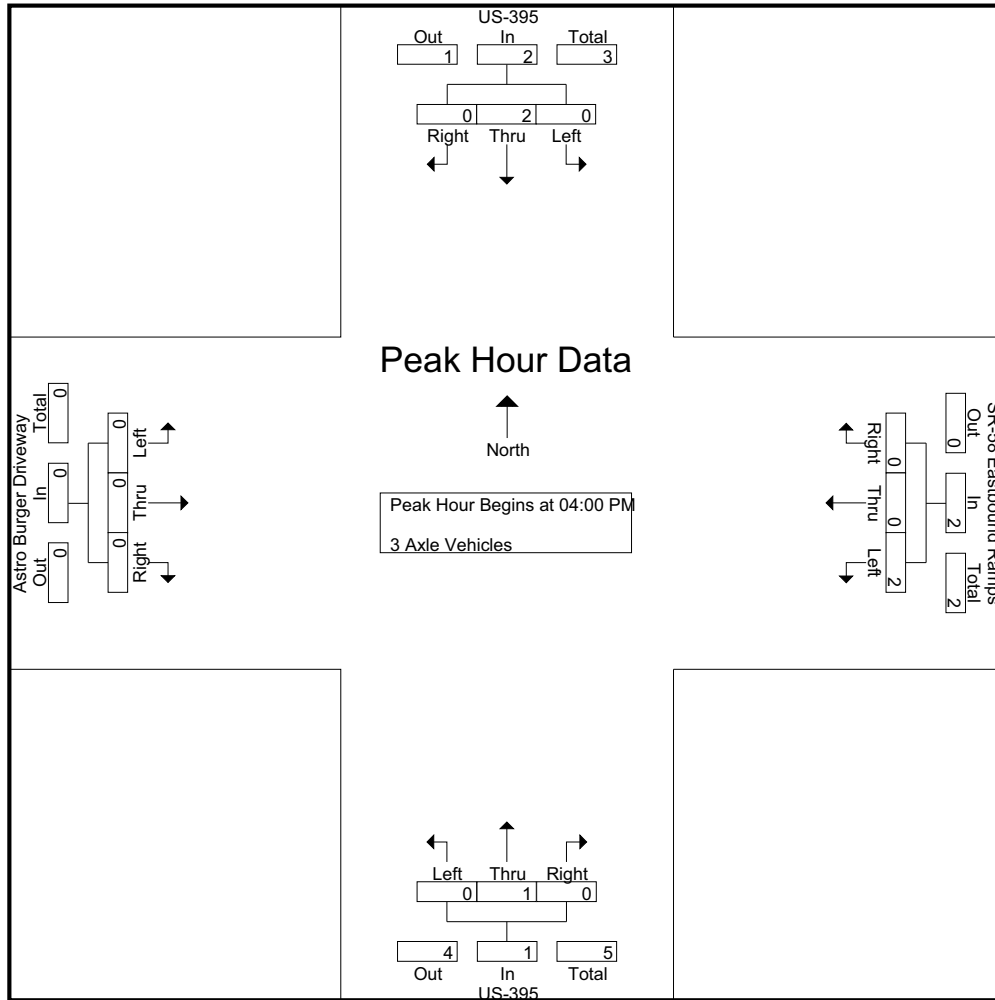
Groups Printed- 3 Axle Vehicles

Start Time	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway 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	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	2	0	2	2	0	0	2	0	1	0	1	0	0	0	0	5
05:00 PM	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	1	0	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
05:45 PM	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	2
Total	0	0	0	0	2	0	0	2	2	1	0	3	0	0	0	0	5
Grand Total	0	2	0	2	4	0	0	4	2	2	0	4	0	0	0	0	10
Apprch %	0	100	0		100	0	0		50	50	0		0	0	0		
Total %	0	20	0	20	40	0	0	40	20	20	0	40	0	0	0	0	

	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
04:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	2	0	2	2	0	0	2	0	1	0	1	0	0	0	0	5
% App. Total	0	100	0		100	0	0		0	100	0		0	0	0		
PHF	.000	.500	.000	.500	.500	.000	.000	.500	.000	.250	.000	.250	.000	.000	.000	.000	.625

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E PM
Site Code : 22520048
Start Date : 1/28/2020
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	1	0	1	0	0	0	0	0	1	0	1	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	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	2	0	0	2	0	1	0	1	0	0	0	0
% App. Total	0	100	0	0	100	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.500	.000	.500	.500	.000	.000	.500	.000	.250	.000	.250	.000	.000	.000	.000

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E PM
Site Code : 22520048
Start Date : 1/28/2020
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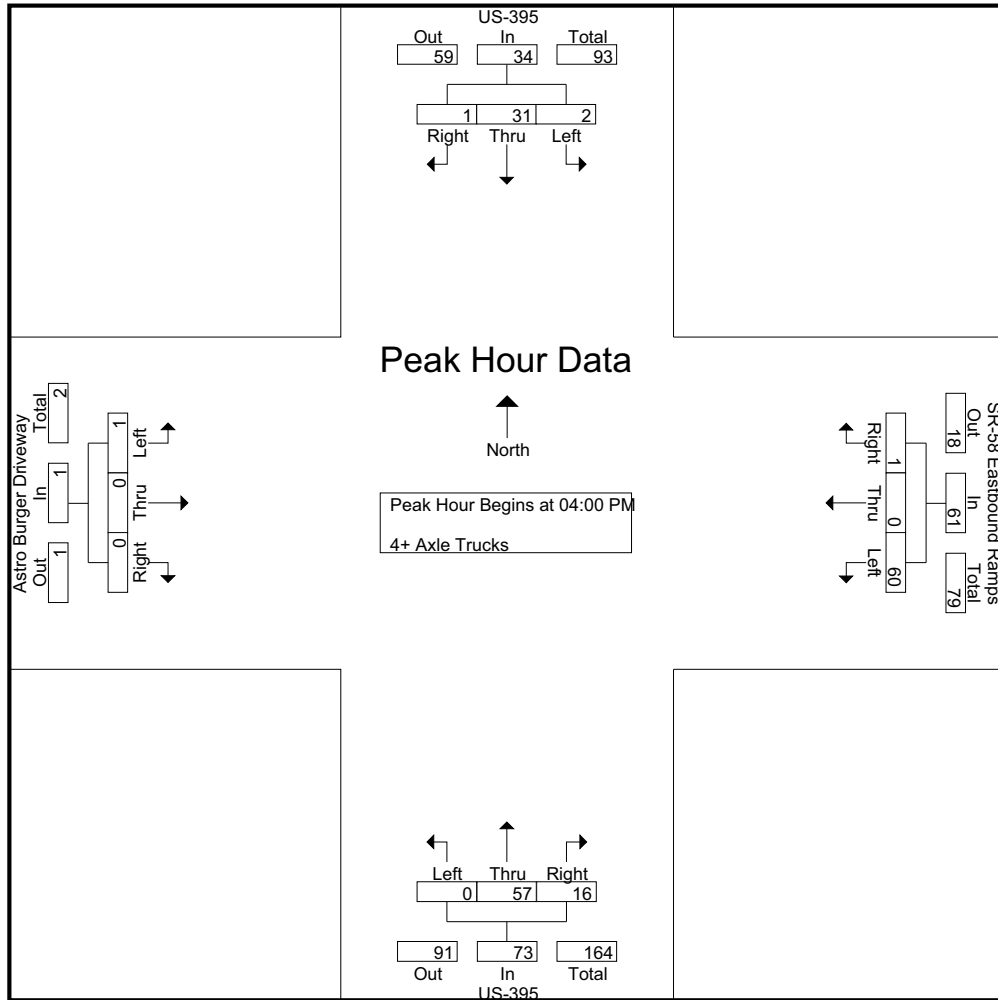
Groups Printed- 4+ Axle Trucks

Start Time	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway 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	8	1	9	10	0	0	10	0	19	8	27	0	0	0	0	46
04:15 PM	1	8	0	9	19	0	0	19	0	12	1	13	0	0	0	0	41
04:30 PM	1	10	0	11	13	0	0	13	0	19	3	22	1	0	0	1	47
04:45 PM	0	5	0	5	18	0	1	19	0	7	4	11	0	0	0	0	35
Total	2	31	1	34	60	0	1	61	0	57	16	73	1	0	0	1	169
05:00 PM	1	10	0	11	19	0	0	19	0	11	2	13	0	0	0	0	43
05:15 PM	0	3	0	3	17	0	0	17	0	13	2	15	0	0	0	0	35
05:30 PM	0	7	0	7	18	0	0	18	1	7	4	12	1	0	0	1	38
05:45 PM	1	6	0	7	14	0	0	14	1	13	2	16	0	0	0	0	37
Total	2	26	0	28	68	0	0	68	2	44	10	56	1	0	0	1	153
Grand Total	4	57	1	62	128	0	1	129	2	101	26	129	2	0	0	2	322
Apprch %	6.5	91.9	1.6		99.2	0	0.8		1.6	78.3	20.2		100	0	0		
Total %	1.2	17.7	0.3	19.3	39.8	0	0.3	40.1	0.6	31.4	8.1	40.1	0.6	0	0	0.6	

	US-395 Southbound				SR-58 Eastbound Ramps Westbound				US-395 Northbound				Astro Burger Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	8	1	9	10	0	0	10	0	19	8	27	0	0	0	0	46
04:15 PM	1	8	0	9	19	0	0	19	0	12	1	13	0	0	0	0	41
04:30 PM	1	10	0	11	13	0	0	13	0	19	3	22	1	0	0	1	47
04:45 PM	0	5	0	5	18	0	1	19	0	7	4	11	0	0	0	0	35
Total Volume	2	31	1	34	60	0	1	61	0	57	16	73	1	0	0	1	169
% App. Total	5.9	91.2	2.9		98.4	0	1.6		0	78.1	21.9		100	0	0		
PHF	.500	.775	.250	.773	.789	.000	.250	.803	.000	.750	.500	.676	.250	.000	.000	.250	.899

County of San Bernardino
N/S: US-395
E/W: SR-58 Eastbound Ramps
Weather: Clear

File Name : 02_CSB_US395_SR58E PM
Site Code : 22520048
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	8	1	9	10	0	0	10	0	19	8	27	0	0	0	0
+15 mins.	1	8	0	9	19	0	0	19	0	12	1	13	0	0	0	0
+30 mins.	1	10	0	11	13	0	0	13	0	19	3	22	1	0	0	1
+45 mins.	0	5	0	5	18	0	1	19	0	7	4	11	0	0	0	0
Total Volume	2	31	1	34	60	0	1	61	0	57	16	73	1	0	0	1
% App. Total	5.9	91.2	2.9		98.4	0	1.6		0	78.1	21.9		100	0	0	
PHF	.500	.775	.250	.773	.789	.000	.250	.803	.000	.750	.500	.676	.250	.000	.000	.250

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty AM
Site Code : 22520048
Start Date : 1/28/2020
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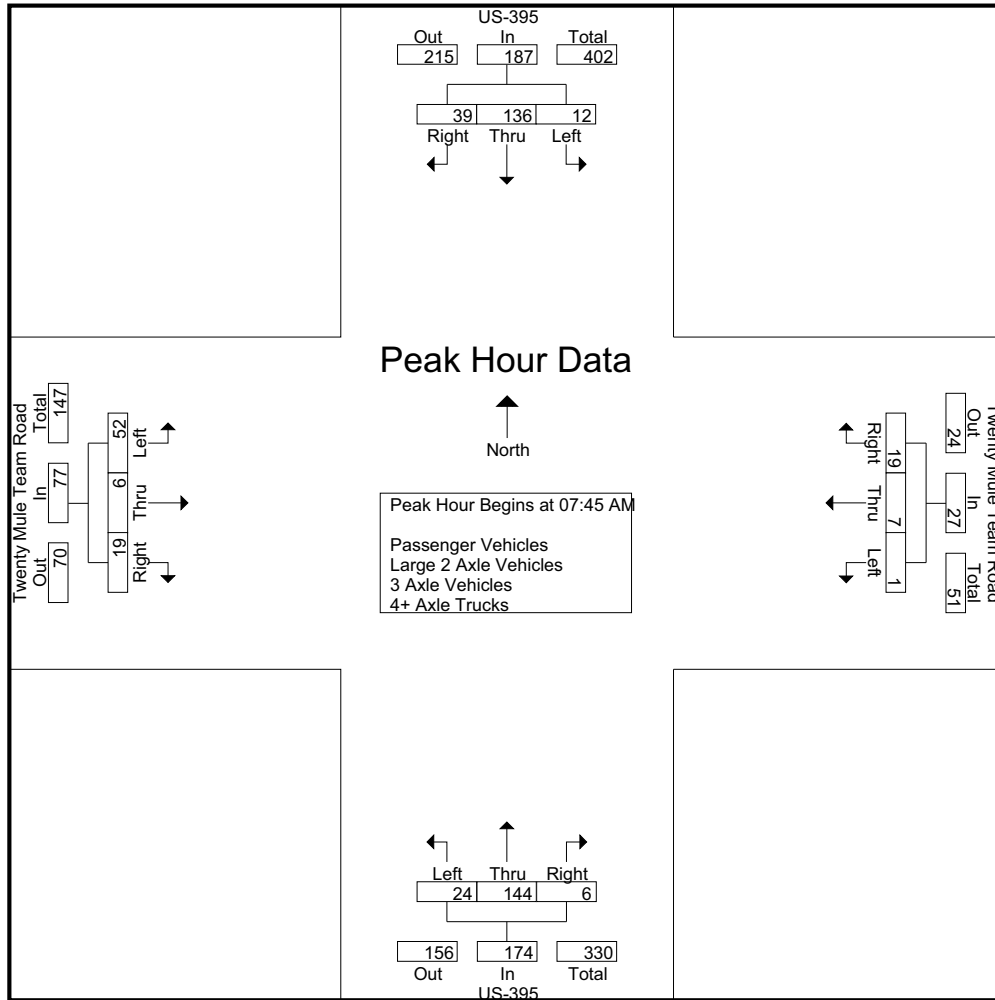
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road 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	24	7	31	1	2	6	9	7	57	4	68	15	0	1	16	124
07:15 AM	1	23	8	32	1	0	2	3	4	38	1	43	8	1	1	10	88
07:30 AM	0	25	2	27	2	1	6	9	7	31	2	40	15	4	3	22	98
07:45 AM	3	36	11	50	0	0	3	3	3	33	0	36	11	1	3	15	104
Total	4	108	28	140	4	3	17	24	21	159	7	187	49	6	8	63	414
08:00 AM	4	26	13	43	0	0	2	2	5	27	0	32	13	1	7	21	98
08:15 AM	2	33	4	39	0	4	7	11	7	38	2	47	8	0	2	10	107
08:30 AM	3	41	11	55	1	3	7	11	9	46	4	59	20	4	7	31	156
08:45 AM	1	22	6	29	0	2	9	11	2	19	2	23	7	4	3	14	77
Total	10	122	34	166	1	9	25	35	23	130	8	161	48	9	19	76	438
Grand Total	14	230	62	306	5	12	42	59	44	289	15	348	97	15	27	139	852
Apprch %	4.6	75.2	20.3		8.5	20.3	71.2		12.6	83	4.3		69.8	10.8	19.4		
Total %	1.6	27	7.3	35.9	0.6	1.4	4.9	6.9	5.2	33.9	1.8	40.8	11.4	1.8	3.2	16.3	
Passenger Vehicles	8	129	14	151	4	6	31	41	17	191	9	217	26	12	9	47	456
% Passenger Vehicles	57.1	56.1	22.6	49.3	80	50	73.8	69.5	38.6	66.1	60	62.4	26.8	80	33.3	33.8	53.5
Large 2 Axle Vehicles	0	7	1	8	0	1	2	3	6	12	1	19	6	1	1	8	38
% Large 2 Axle Vehicles	0	3	1.6	2.6	0	8.3	4.8	5.1	13.6	4.2	6.7	5.5	6.2	6.7	3.7	5.8	4.5
3 Axle Vehicles	0	2	2	4	0	0	0	0	1	5	0	6	4	0	0	4	14
% 3 Axle Vehicles	0	0.9	3.2	1.3	0	0	0	0	2.3	1.7	0	1.7	4.1	0	0	2.9	1.6
4+ Axle Trucks	6	92	45	143	1	5	9	15	20	81	5	106	61	2	17	80	344
% 4+ Axle Trucks	42.9	40	72.6	46.7	20	41.7	21.4	25.4	45.5	28	33.3	30.5	62.9	13.3	63	57.6	40.4

	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	3	36	11	50	0	0	3	3	3	33	0	36	11	1	3	15	104
08:00 AM	4	26	13	43	0	0	2	2	5	27	0	32	13	1	7	21	98
08:15 AM	2	33	4	39	0	4	7	11	7	38	2	47	8	0	2	10	107
08:30 AM	3	41	11	55	1	3	7	11	9	46	4	59	20	4	7	31	156
Total Volume	12	136	39	187	1	7	19	27	24	144	6	174	52	6	19	77	465
% App. Total	6.4	72.7	20.9		3.7	25.9	70.4		13.8	82.8	3.4		67.5	7.8	24.7		
PHF	.750	.829	.750	.850	.250	.438	.679	.614	.667	.783	.375	.737	.650	.375	.679	.621	.745

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty AM
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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				08:00 AM				07:00 AM				07:45 AM			
+0 mins.	3	36	11	50	0	0	2	2	7	57	4	68	11	1	3	15
+15 mins.	4	26	13	43	0	4	7	11	4	38	1	43	13	1	7	21
+30 mins.	2	33	4	39	1	3	7	11	7	31	2	40	8	0	2	10
+45 mins.	3	41	11	55	0	2	9	11	3	33	0	36	20	4	7	31
Total Volume	12	136	39	187	1	9	25	35	21	159	7	187	52	6	19	77
% App. Total	6.4	72.7	20.9		2.9	25.7	71.4		11.2	85	3.7		67.5	7.8	24.7	
PHF	.750	.829	.750	.850	.250	.563	.694	.795	.750	.697	.438	.688	.650	.375	.679	.621

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty AM
Site Code : 22520048
Start Date : 1/28/2020
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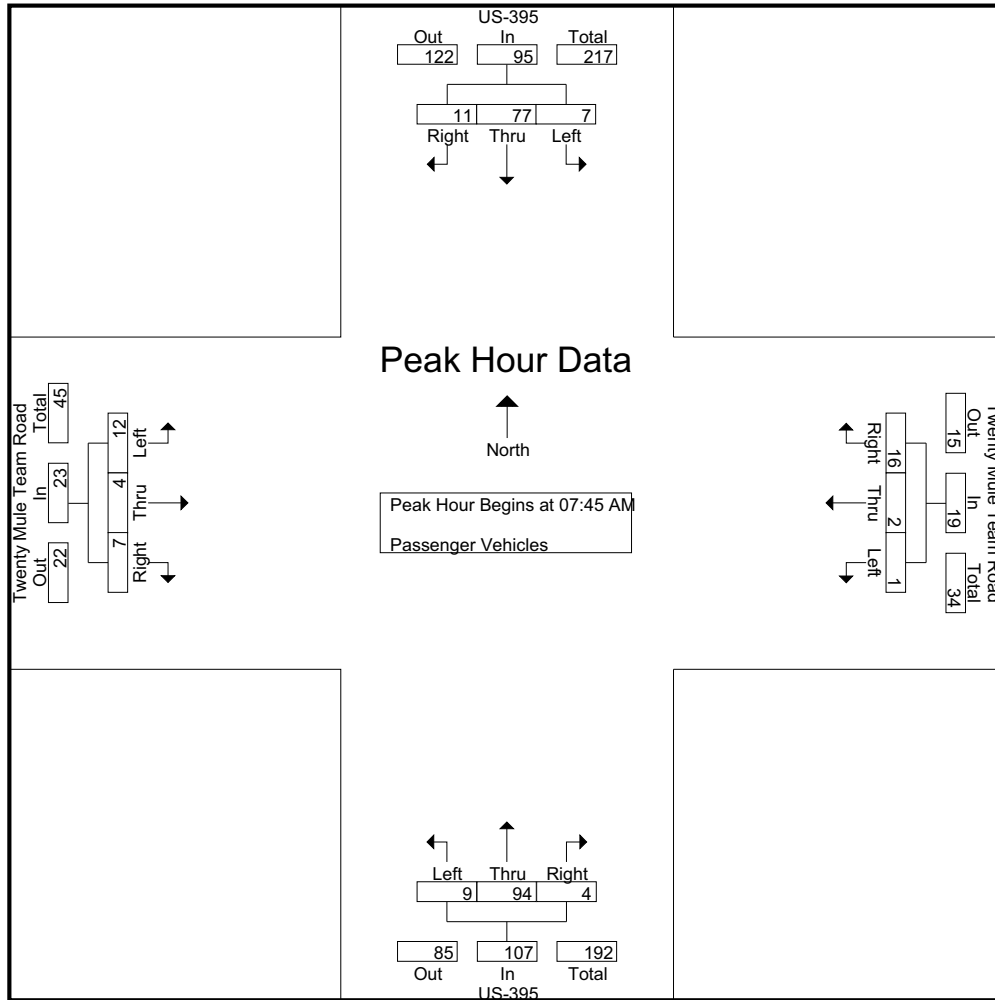
Groups Printed- Passenger Vehicles

Start Time	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road 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	13	2	15	1	2	5	8	5	36	2	43	4	0	0	4	70
07:15 AM	0	9	0	9	1	0	1	2	0	26	1	27	1	1	0	2	40
07:30 AM	0	15	0	15	1	0	5	6	2	22	1	25	7	4	2	13	59
07:45 AM	3	24	3	30	0	0	2	2	0	24	0	24	3	0	1	4	60
Total	3	61	5	69	3	2	13	18	7	108	4	119	15	5	3	23	229
08:00 AM	1	18	6	25	0	0	2	2	3	17	0	20	1	0	3	4	51
08:15 AM	2	17	0	19	0	2	7	9	3	22	1	26	4	0	0	4	58
08:30 AM	1	18	2	21	1	0	5	6	3	31	3	37	4	4	3	11	75
08:45 AM	1	15	1	17	0	2	4	6	1	13	1	15	2	3	0	5	43
Total	5	68	9	82	1	4	18	23	10	83	5	98	11	7	6	24	227
Grand Total	8	129	14	151	4	6	31	41	17	191	9	217	26	12	9	47	456
Apprch %	5.3	85.4	9.3		9.8	14.6	75.6		7.8	88	4.1		55.3	25.5	19.1		
Total %	1.8	28.3	3.1	33.1	0.9	1.3	6.8	9	3.7	41.9	2	47.6	5.7	2.6	2	10.3	

	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	3	24	3	30	0	0	2	2	0	24	0	24	3	0	1	4	60
08:00 AM	1	18	6	25	0	0	2	2	3	17	0	20	1	0	3	4	51
08:15 AM	2	17	0	19	0	2	7	9	3	22	1	26	4	0	0	4	58
08:30 AM	1	18	2	21	1	0	5	6	3	31	3	37	4	4	3	11	75
Total Volume	7	77	11	95	1	2	16	19	9	94	4	107	12	4	7	23	244
% App. Total	7.4	81.1	11.6		5.3	10.5	84.2		8.4	87.9	3.7		52.2	17.4	30.4		
PHF	.583	.802	.458	.792	.250	.250	.571	.528	.750	.758	.333	.723	.750	.250	.583	.523	.813

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	3	24	3	30	0	0	2	2	0	24	0	24	3	0	1	4
+15 mins.	1	18	6	25	0	0	2	2	3	17	0	20	1	0	3	4
+30 mins.	2	17	0	19	0	2	7	9	3	22	1	26	4	0	0	4
+45 mins.	1	18	2	21	1	0	5	6	3	31	3	37	4	4	3	11
Total Volume	7	77	11	95	1	2	16	19	9	94	4	107	12	4	7	23
% App. Total	7.4	81.1	11.6		5.3	10.5	84.2		8.4	87.9	3.7		52.2	17.4	30.4	
PHF	.583	.802	.458	.792	.250	.250	.571	.528	.750	.758	.333	.723	.750	.250	.583	.523

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty AM
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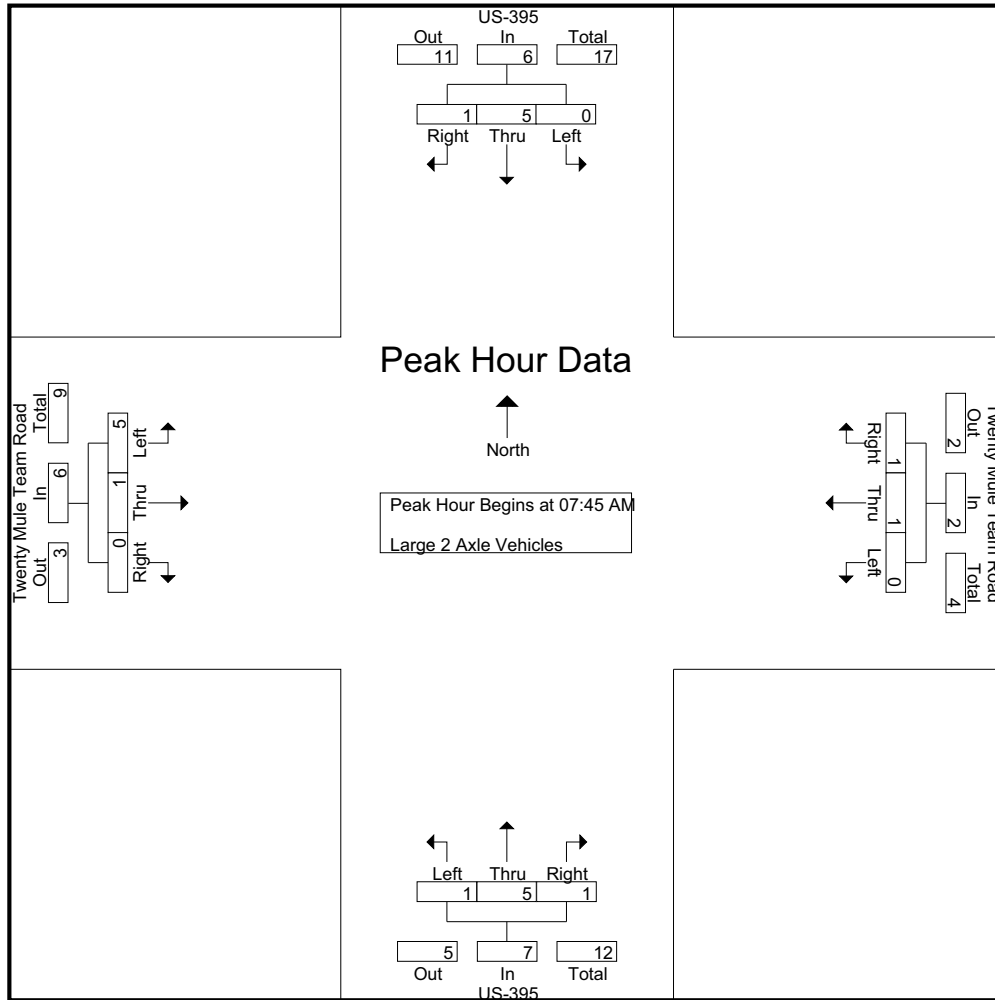
Groups Printed- Large 2 Axle Vehicles

Start Time	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road 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	1	2	0	3	0	0	0	0	3
07:15 AM	0	0	0	0	0	0	1	1	2	0	0	2	0	0	0	0	3
07:30 AM	0	2	0	2	0	0	0	0	2	2	0	4	1	0	0	1	7
07:45 AM	0	2	0	2	0	0	1	1	0	0	0	0	3	0	0	3	6
Total	0	4	0	4	0	0	2	2	5	4	0	9	4	0	0	4	19
08:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	1	0	2	3
08:15 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
08:30 AM	0	2	1	3	0	1	0	1	1	2	1	4	1	0	0	1	9
08:45 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	1	1	4
Total	0	3	1	4	0	1	0	1	1	8	1	10	2	1	1	4	19
Grand Total	0	7	1	8	0	1	2	3	6	12	1	19	6	1	1	8	38
Apprch %	0	87.5	12.5		0	33.3	66.7		31.6	63.2	5.3		75	12.5	12.5		
Total %	0	18.4	2.6	21.1	0	2.6	5.3	7.9	15.8	31.6	2.6	50	15.8	2.6	2.6	21.1	

	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	2	0	2	0	0	1	1	0	0	0	0	3	0	0	3	6
08:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	1	0	2	3
08:15 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
08:30 AM	0	2	1	3	0	1	0	1	1	2	1	4	1	0	0	1	9
Total Volume	0	5	1	6	0	1	1	2	1	5	1	7	5	1	0	6	21
% App. Total	0	83.3	16.7		0	50	50		14.3	71.4	14.3		83.3	16.7	0		
PHF	.000	.625	.250	.500	.000	.250	.250	.500	.250	.417	.250	.438	.417	.250	.000	.500	.583

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty AM
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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	0	2	0	2	0	0	1	1	0	0	0	0	3	0	0	3
+15 mins.	0	1	0	1	0	0	0	0	0	0	0	0	1	1	0	2
+30 mins.	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0
+45 mins.	0	2	1	3	0	1	0	1	1	2	1	4	1	0	0	1
Total Volume	0	5	1	6	0	1	1	2	1	5	1	7	5	1	0	6
% App. Total	0	83.3	16.7		0	50	50		14.3	71.4	14.3		83.3	16.7	0	
PHF	.000	.625	.250	.500	.000	.250	.250	.500	.250	.417	.250	.438	.417	.250	.000	.500

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty AM
Site Code : 22520048
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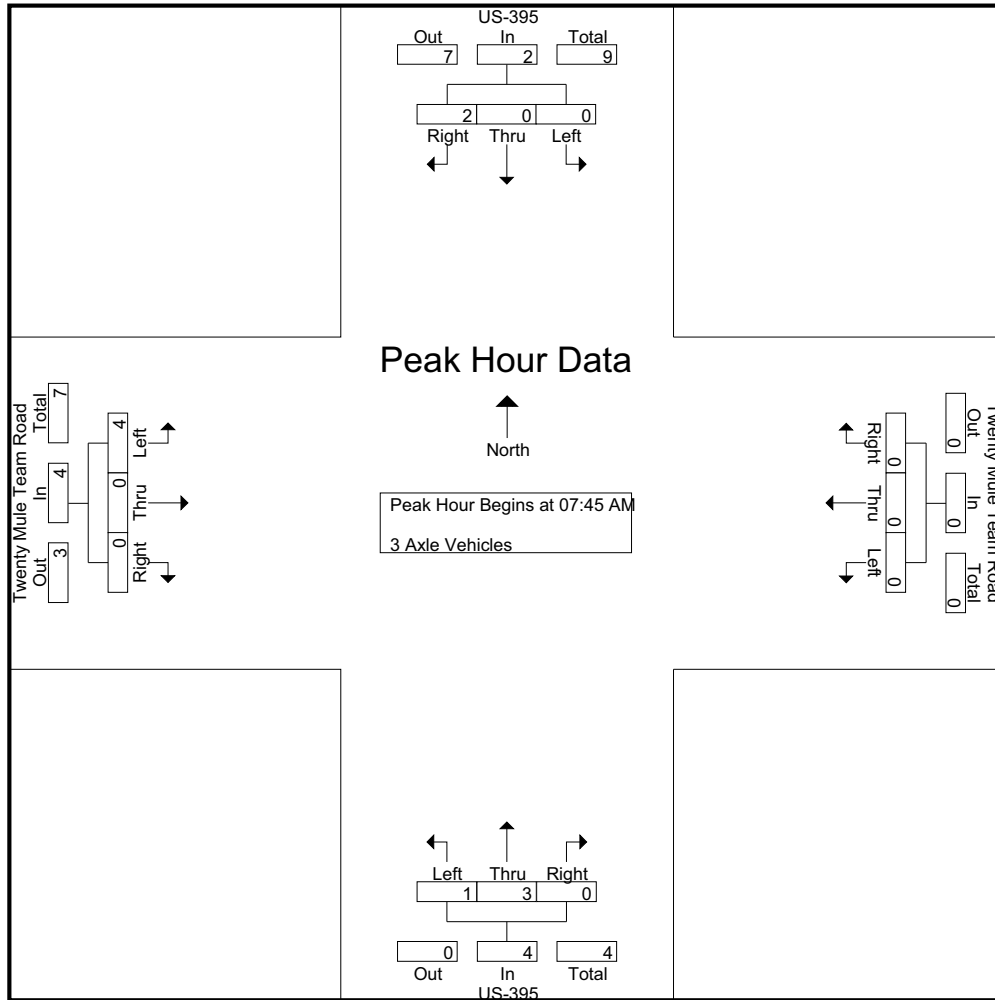
Groups Printed- 3 Axle Vehicles

Start Time	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road 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	2	0	2	0	0	0	0	2
07:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	2
Total	0	2	1	3	0	0	0	0	0	2	0	2	1	0	0	1	6
08:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	1	3
08:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	2	3
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	0	0	0	1	3	0	4	3	0	0	3	8
Grand Total	0	2	2	4	0	0	0	0	1	5	0	6	4	0	0	4	14
Apprch %	0	50	50		0	0	0		16.7	83.3	0		100	0	0		
Total %	0	14.3	14.3	28.6	0	0	0	0	7.1	35.7	0	42.9	28.6	0	0	28.6	

	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	2
08:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	1	3
08:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	2	3
Total Volume	0	0	2	2	0	0	0	0	1	3	0	4	4	0	0	4	10
% App. Total	0	0	100		0	0	0		25	75	0		100	0	0		
PHF	.000	.000	.500	.500	.000	.000	.000	.000	.250	.375	.000	.500	.500	.000	.000	.500	.833

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

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Site Code : 22520048
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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	1
+45 mins.	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	2
Total Volume	0	0	2	2	0	0	0	0	1	3	0	4	4	0	0	4
% App. Total	0	0	100		0	0	0		25	75	0		100	0	0	
PHF	.000	.000	.500	.500	.000	.000	.000	.000	.250	.375	.000	.500	.500	.000	.000	.500

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty AM
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Start Date : 1/28/2020
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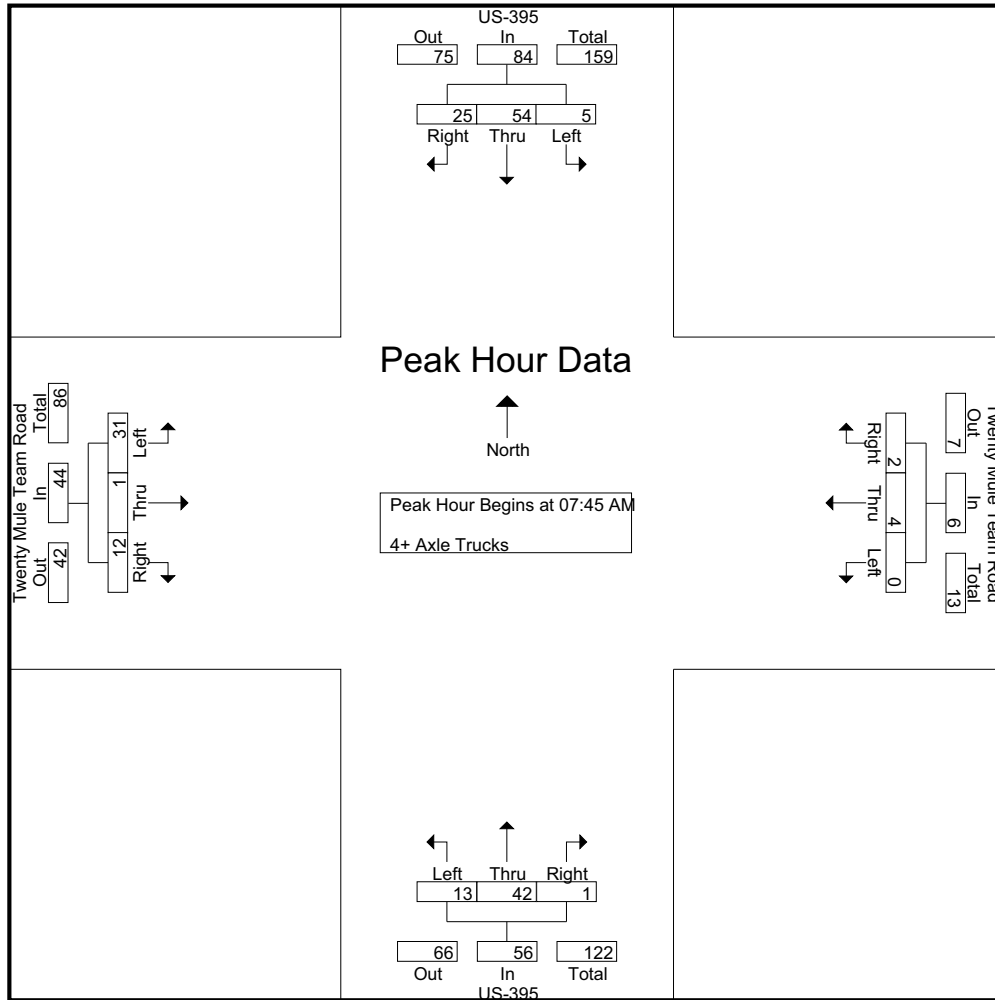
Groups Printed- 4+ Axle Trucks

	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	11	5	16	0	0	1	1	1	17	2	20	11	0	1	12	49
07:15 AM	1	13	8	22	0	0	0	0	2	12	0	14	7	0	1	8	44
07:30 AM	0	7	2	9	1	1	1	3	3	7	1	11	7	0	1	8	31
07:45 AM	0	10	7	17	0	0	0	0	3	9	0	12	4	1	2	7	36
Total	1	41	22	64	1	1	2	4	9	45	3	57	29	1	5	35	160
08:00 AM	3	7	7	17	0	0	0	0	2	8	0	10	11	0	4	15	42
08:15 AM	0	16	4	20	0	2	0	2	3	12	1	16	3	0	2	5	43
08:30 AM	2	21	7	30	0	2	2	4	5	13	0	18	13	0	4	17	69
08:45 AM	0	7	5	12	0	0	5	5	1	3	1	5	5	1	2	8	30
Total	5	51	23	79	0	4	7	11	11	36	2	49	32	1	12	45	184
Grand Total	6	92	45	143	1	5	9	15	20	81	5	106	61	2	17	80	344
Apprch %	4.2	64.3	31.5		6.7	33.3	60		18.9	76.4	4.7		76.2	2.5	21.2		
Total %	1.7	26.7	13.1	41.6	0.3	1.5	2.6	4.4	5.8	23.5	1.5	30.8	17.7	0.6	4.9	23.3	

	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	10	7	17	0	0	0	0	3	9	0	12	4	1	2	7	36
08:00 AM	3	7	7	17	0	0	0	0	2	8	0	10	11	0	4	15	42
08:15 AM	0	16	4	20	0	2	0	2	3	12	1	16	3	0	2	5	43
08:30 AM	2	21	7	30	0	2	2	4	5	13	0	18	13	0	4	17	69
Total Volume	5	54	25	84	0	4	2	6	13	42	1	56	31	1	12	44	190
% App. Total	6	64.3	29.8		0	66.7	33.3		23.2	75	1.8		70.5	2.3	27.3		
PHF	.417	.643	.893	.700	.000	.500	.250	.375	.650	.808	.250	.778	.596	.250	.750	.647	.688

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty AM
Site Code : 22520048
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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	0	10	7	17	0	0	0	0	3	9	0	12	4	1	2	7
+15 mins.	3	7	7	17	0	0	0	0	2	8	0	10	11	0	4	15
+30 mins.	0	16	4	20	0	2	0	2	3	12	1	16	3	0	2	5
+45 mins.	2	21	7	30	0	2	2	4	5	13	0	18	13	0	4	17
Total Volume	5	54	25	84	0	4	2	6	13	42	1	56	31	1	12	44
% App. Total	6	64.3	29.8		0	66.7	33.3		23.2	75	1.8		70.5	2.3	27.3	
PHF	.417	.643	.893	.700	.000	.500	.250	.375	.650	.808	.250	.778	.596	.250	.750	.647

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty PM
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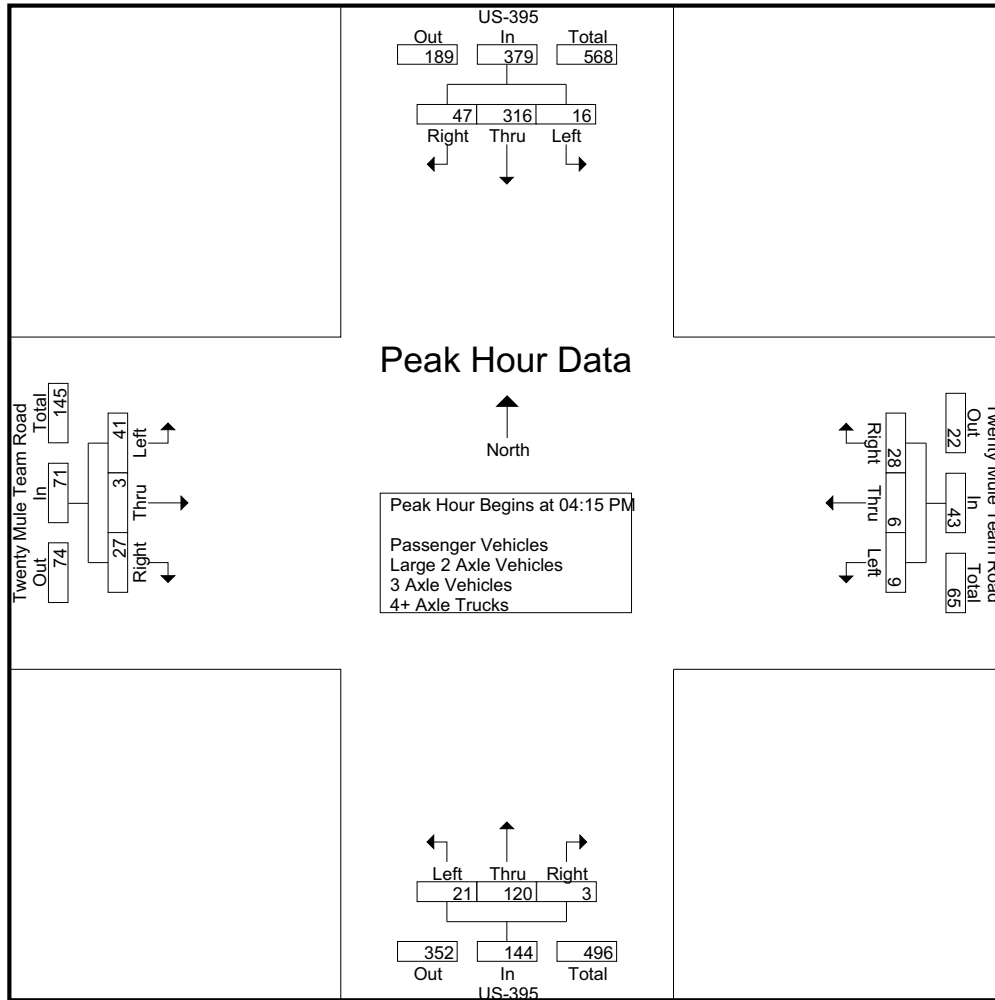
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road 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	2	76	11	89	1	0	6	7	13	29	1	43	16	1	6	23	162
04:15 PM	2	74	12	88	2	0	6	8	2	30	1	33	10	0	3	13	142
04:30 PM	5	83	17	105	0	0	7	7	9	34	0	43	10	1	6	17	172
04:45 PM	8	65	9	82	4	3	8	15	6	22	1	29	8	1	9	18	144
Total	17	298	49	364	7	3	27	37	30	115	3	148	44	3	24	71	620
05:00 PM	1	94	9	104	3	3	7	13	4	34	1	39	13	1	9	23	179
05:15 PM	2	42	12	56	1	1	5	7	2	19	2	23	7	1	8	16	102
05:30 PM	7	65	10	82	4	3	2	9	6	24	0	30	4	0	4	8	129
05:45 PM	3	50	6	59	1	0	5	6	3	21	2	26	7	0	7	14	105
Total	13	251	37	301	9	7	19	35	15	98	5	118	31	2	28	61	515
Grand Total	30	549	86	665	16	10	46	72	45	213	8	266	75	5	52	132	1135
Apprch %	4.5	82.6	12.9		22.2	13.9	63.9		16.9	80.1	3		56.8	3.8	39.4		
Total %	2.6	48.4	7.6	58.6	1.4	0.9	4.1	6.3	4	18.8	0.7	23.4	6.6	0.4	4.6	11.6	
Passenger Vehicles	26	401	34	461	15	9	39	63	19	132	7	158	25	5	26	56	738
% Passenger Vehicles	86.7	73	39.5	69.3	93.8	90	84.8	87.5	42.2	62	87.5	59.4	33.3	100	50	42.4	65
Large 2 Axle Vehicles	1	15	1	17	0	0	0	0	1	2	0	3	0	0	0	0	20
% Large 2 Axle Vehicles	3.3	2.7	1.2	2.6	0	0	0	0	2.2	0.9	0	1.1	0	0	0	0	1.8
3 Axle Vehicles	0	5	1	6	1	1	2	4	0	1	0	1	2	0	1	3	14
% 3 Axle Vehicles	0	0.9	1.2	0.9	6.2	10	4.3	5.6	0	0.5	0	0.4	2.7	0	1.9	2.3	1.2
4+ Axle Trucks	3	128	50	181	0	0	5	5	25	78	1	104	48	0	25	73	363
% 4+ Axle Trucks	10	23.3	58.1	27.2	0	0	10.9	6.9	55.6	36.6	12.5	39.1	64	0	48.1	55.3	32

	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	2	74	12	88	2	0	6	8	2	30	1	33	10	0	3	13	142
04:30 PM	5	83	17	105	0	0	7	7	9	34	0	43	10	1	6	17	172
04:45 PM	8	65	9	82	4	3	8	15	6	22	1	29	8	1	9	18	144
05:00 PM	1	94	9	104	3	3	7	13	4	34	1	39	13	1	9	23	179
Total Volume	16	316	47	379	9	6	28	43	21	120	3	144	41	3	27	71	637
% App. Total	4.2	83.4	12.4		20.9	14	65.1		14.6	83.3	2.1		57.7	4.2	38		
PHF	.500	.840	.691	.902	.563	.500	.875	.717	.583	.882	.750	.837	.788	.750	.750	.772	.890

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty PM
Site Code : 22520048
Start Date : 1/28/2020
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:45 PM				04:00 PM				04:30 PM			
+0 mins.	2	74	12	88	4	3	8	15	13	29	1	43	10	1	6	17
+15 mins.	5	83	17	105	3	3	7	13	2	30	1	33	8	1	9	18
+30 mins.	8	65	9	82	1	1	5	7	9	34	0	43	13	1	9	23
+45 mins.	1	94	9	104	4	3	2	9	6	22	1	29	7	1	8	16
Total Volume	16	316	47	379	12	10	22	44	30	115	3	148	38	4	32	74
% App. Total	4.2	83.4	12.4		27.3	22.7	50		20.3	77.7	2		51.4	5.4	43.2	
PHF	.500	.840	.691	.902	.750	.833	.688	.733	.577	.846	.750	.860	.731	1.000	.889	.804

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty PM
Site Code : 22520048
Start Date : 1/28/2020
Page No : 1

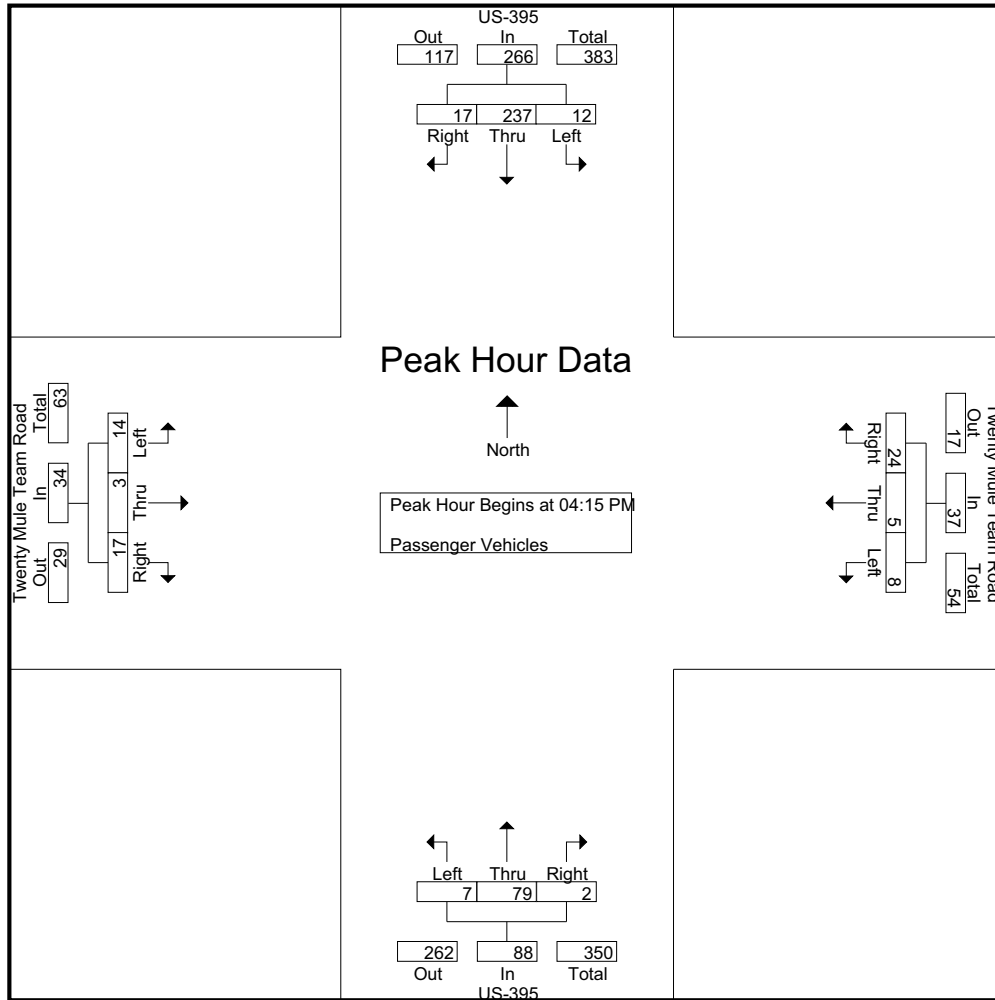
Groups Printed- Passenger Vehicles

	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	2	62	4	68	1	0	5	6	7	17	1	25	3	1	2	6	105
04:15 PM	2	56	3	61	2	0	5	7	0	21	0	21	5	0	1	6	95
04:30 PM	4	68	7	79	0	0	6	6	4	21	0	25	3	1	5	9	119
04:45 PM	5	45	3	53	3	2	7	12	2	14	1	17	1	1	4	6	88
Total	13	231	17	261	6	2	23	31	13	73	2	88	12	3	12	27	407
05:00 PM	1	68	4	73	3	3	6	12	1	23	1	25	5	1	7	13	123
05:15 PM	2	29	6	37	1	1	4	6	2	13	2	17	3	1	5	9	69
05:30 PM	7	43	3	53	4	3	2	9	2	15	0	17	2	0	1	3	82
05:45 PM	3	30	4	37	1	0	4	5	1	8	2	11	3	0	1	4	57
Total	13	170	17	200	9	7	16	32	6	59	5	70	13	2	14	29	331
Grand Total	26	401	34	461	15	9	39	63	19	132	7	158	25	5	26	56	738
Apprch %	5.6	87	7.4		23.8	14.3	61.9		12	83.5	4.4		44.6	8.9	46.4		
Total %	3.5	54.3	4.6	62.5	2	1.2	5.3	8.5	2.6	17.9	0.9	21.4	3.4	0.7	3.5	7.6	

	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	2	56	3	61	2	0	5	7	0	21	0	21	5	0	1	6	95
04:30 PM	4	68	7	79	0	0	6	6	4	21	0	25	3	1	5	9	119
04:45 PM	5	45	3	53	3	2	7	12	2	14	1	17	1	1	4	6	88
05:00 PM	1	68	4	73	3	3	6	12	1	23	1	25	5	1	7	13	123
Total Volume	12	237	17	266	8	5	24	37	7	79	2	88	14	3	17	34	425
% App. Total	4.5	89.1	6.4		21.6	13.5	64.9		8	89.8	2.3		41.2	8.8	50		
PHF	.600	.871	.607	.842	.667	.417	.857	.771	.438	.859	.500	.880	.700	.750	.607	.654	.864

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty PM
Site Code : 22520048
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Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	2	56	3	61	2	0	5	7	0	21	0	21	5	0	1	6
+15 mins.	4	68	7	79	0	0	6	6	4	21	0	25	3	1	5	9
+30 mins.	5	45	3	53	3	2	7	12	2	14	1	17	1	1	4	6
+45 mins.	1	68	4	73	3	3	6	12	1	23	1	25	5	1	7	13
Total Volume	12	237	17	266	8	5	24	37	7	79	2	88	14	3	17	34
% App. Total	4.5	89.1	6.4		21.6	13.5	64.9		8	89.8	2.3		41.2	8.8	50	
PHF	.600	.871	.607	.842	.667	.417	.857	.771	.438	.859	.500	.880	.700	.750	.607	.654

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty PM
Site Code : 22520048
Start Date : 1/28/2020
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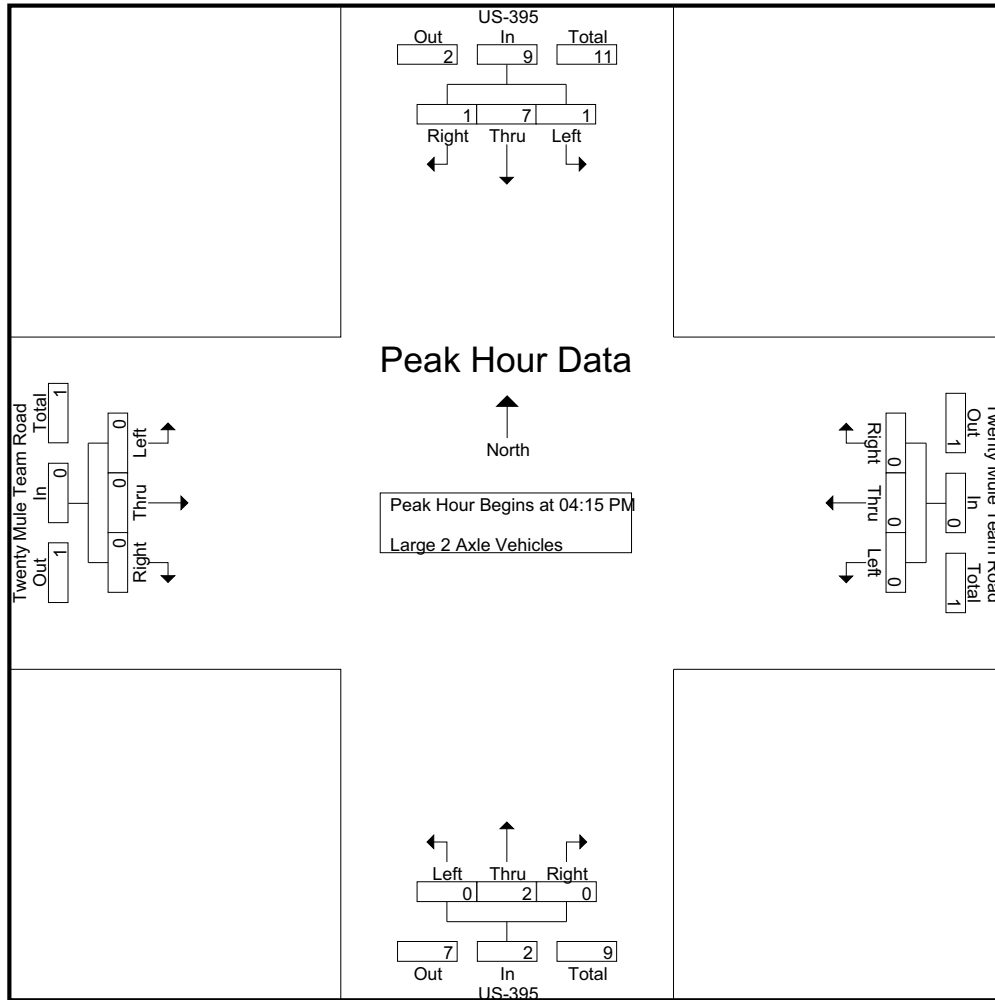
Groups Printed- Large 2 Axle Vehicles

Start Time	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road 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	2	0	2	0	0	0	0	1	0	0	1	0	0	0	0	3
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	1	1	2	0	0	0	0	0	1	0	1	0	0	0	0	3
04:45 PM	1	4	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	1	8	1	10	0	0	0	0	1	1	0	2	0	0	0	0	12
05:00 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:45 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	7	0	7	0	0	0	0	0	1	0	1	0	0	0	0	8
Grand Total	1	15	1	17	0	0	0	0	1	2	0	3	0	0	0	0	20
Apprch %	5.9	88.2	5.9		0	0	0		33.3	66.7	0		0	0	0		
Total %	5	75	5	85	0	0	0	0	5	10	0	15	0	0	0	0	

	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	1	1	2	0	0	0	0	0	1	0	1	0	0	0	0	3
04:45 PM	1	4	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
05:00 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total Volume	1	7	1	9	0	0	0	0	0	2	0	2	0	0	0	0	11
% App. Total	11.1	77.8	11.1		0	0	0		0	100	0		0	0	0		
PHF	.250	.438	.250	.450	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.550

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty PM
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Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	1	2	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	1	4	0	5	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	1	7	1	9	0	0	0	0	0	2	0	2	0	0	0	0
% App. Total	11.1	77.8	11.1		0	0	0		0	100	0		0	0	0	
PHF	.250	.438	.250	.450	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty PM
Site Code : 22520048
Start Date : 1/28/2020
Page No : 1

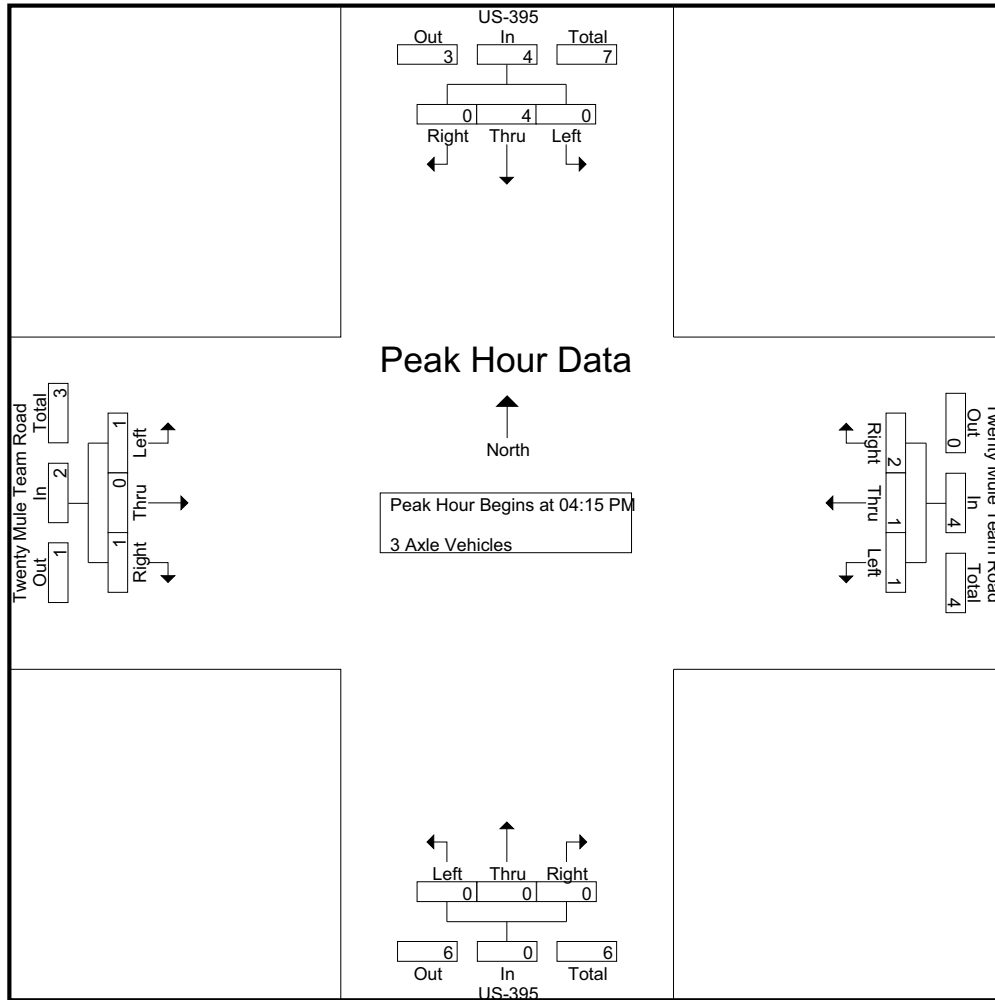
Groups Printed- 3 Axle Vehicles

Start Time	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road 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	1	2	0	0	0	0	0	0	0	0	1	0	0	1	3
04:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	1	3
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	1	1	1	3	0	0	0	0	0	0	0	0	3
Total	0	4	1	5	1	1	1	3	0	0	0	0	1	0	1	2	10
05:00 PM	0	1	0	1	0	0	1	1	0	0	0	0	1	0	0	1	3
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	1	0	1	0	0	0	0	1
Total	0	1	0	1	0	0	1	1	0	1	0	1	1	0	0	1	4
Grand Total	0	5	1	6	1	1	2	4	0	1	0	1	2	0	1	3	14
Apprch %	0	83.3	16.7		25	25	50		0	100	0		66.7	0	33.3		
Total %	0	35.7	7.1	42.9	7.1	7.1	14.3	28.6	0	7.1	0	7.1	14.3	0	7.1	21.4	

	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	1	3
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	1	1	1	3	0	0	0	0	0	0	0	0	3
05:00 PM	0	1	0	1	0	0	1	1	0	0	0	0	1	0	0	1	3
Total Volume	0	4	0	4	1	1	2	4	0	0	0	0	1	0	1	2	10
% App. Total	0	100	0		25	25	50		0	0	0		50	0	50		
PHF	.000	.500	.000	.500	.250	.250	.500	.333	.000	.000	.000	.000	.250	.000	.250	.500	.833

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty PM
Site Code : 22520048
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Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	1
+15 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	1	1	1	3	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	1	0	0	1	1	0	0	0	0	1	0	0	1
Total Volume	0	4	0	4	1	1	2	4	0	0	0	0	1	0	1	2
% App. Total	0	100	0		25	25	50		0	0	0		50	0	50	
PHF	.000	.500	.000	.500	.250	.250	.500	.333	.000	.000	.000	.000	.250	.000	.250	.500

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty PM
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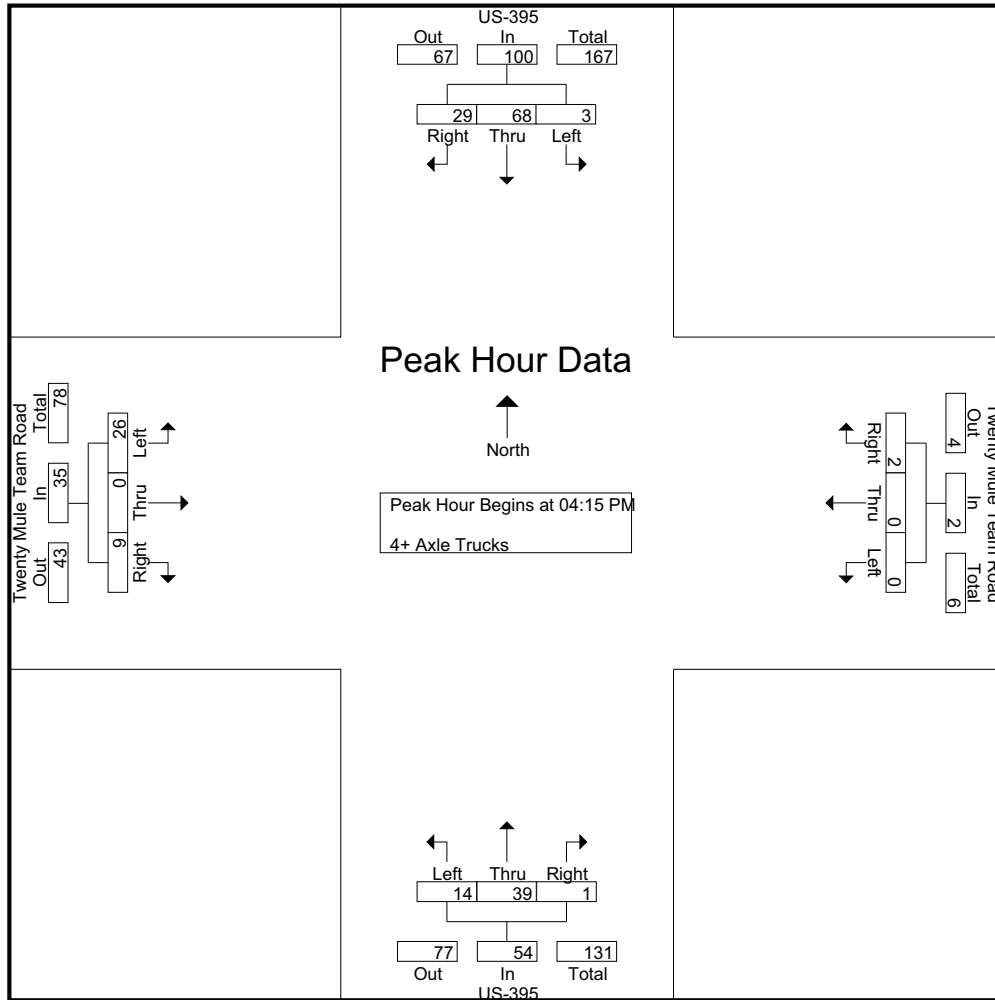
Groups Printed- 4+ Axle Trucks

Start Time	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road 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	11	6	17	0	0	1	1	5	12	0	17	12	0	4	16	51
04:15 PM	0	15	9	24	0	0	1	1	2	9	1	12	5	0	1	6	43
04:30 PM	1	13	9	23	0	0	1	1	5	12	0	17	7	0	1	8	49
04:45 PM	2	16	6	24	0	0	0	0	4	8	0	12	7	0	5	12	48
Total	3	55	30	88	0	0	3	3	16	41	1	58	31	0	11	42	191
05:00 PM	0	24	5	29	0	0	0	0	3	10	0	13	7	0	2	9	51
05:15 PM	0	12	6	18	0	0	1	1	0	6	0	6	4	0	3	7	32
05:30 PM	0	19	7	26	0	0	0	0	4	9	0	13	2	0	3	5	44
05:45 PM	0	18	2	20	0	0	1	1	2	12	0	14	4	0	6	10	45
Total	0	73	20	93	0	0	2	2	9	37	0	46	17	0	14	31	172
Grand Total	3	128	50	181	0	0	5	5	25	78	1	104	48	0	25	73	363
Apprch %	1.7	70.7	27.6		0	0	100		24	75	1		65.8	0	34.2		
Total %	0.8	35.3	13.8	49.9	0	0	1.4	1.4	6.9	21.5	0.3	28.7	13.2	0	6.9	20.1	

	US-395 Southbound				Twenty Mule Team Road Westbound				US-395 Northbound				Twenty Mule Team Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	15	9	24	0	0	1	1	2	9	1	12	5	0	1	6	43
04:30 PM	1	13	9	23	0	0	1	1	5	12	0	17	7	0	1	8	49
04:45 PM	2	16	6	24	0	0	0	0	4	8	0	12	7	0	5	12	48
05:00 PM	0	24	5	29	0	0	0	0	3	10	0	13	7	0	2	9	51
Total Volume	3	68	29	100	0	0	2	2	14	39	1	54	26	0	9	35	191
% App. Total	3	68	29		0	0	100		25.9	72.2	1.9		74.3	0	25.7		
PHF	.375	.708	.806	.862	.000	.000	.500	.500	.700	.813	.250	.794	.929	.000	.450	.729	.936

County of San Bernardino
N/S: US-395
E/W: Twenty Mule Team Road
Weather: Clear

File Name : 03_CSB_US395_Twenty PM
Site Code : 22520048
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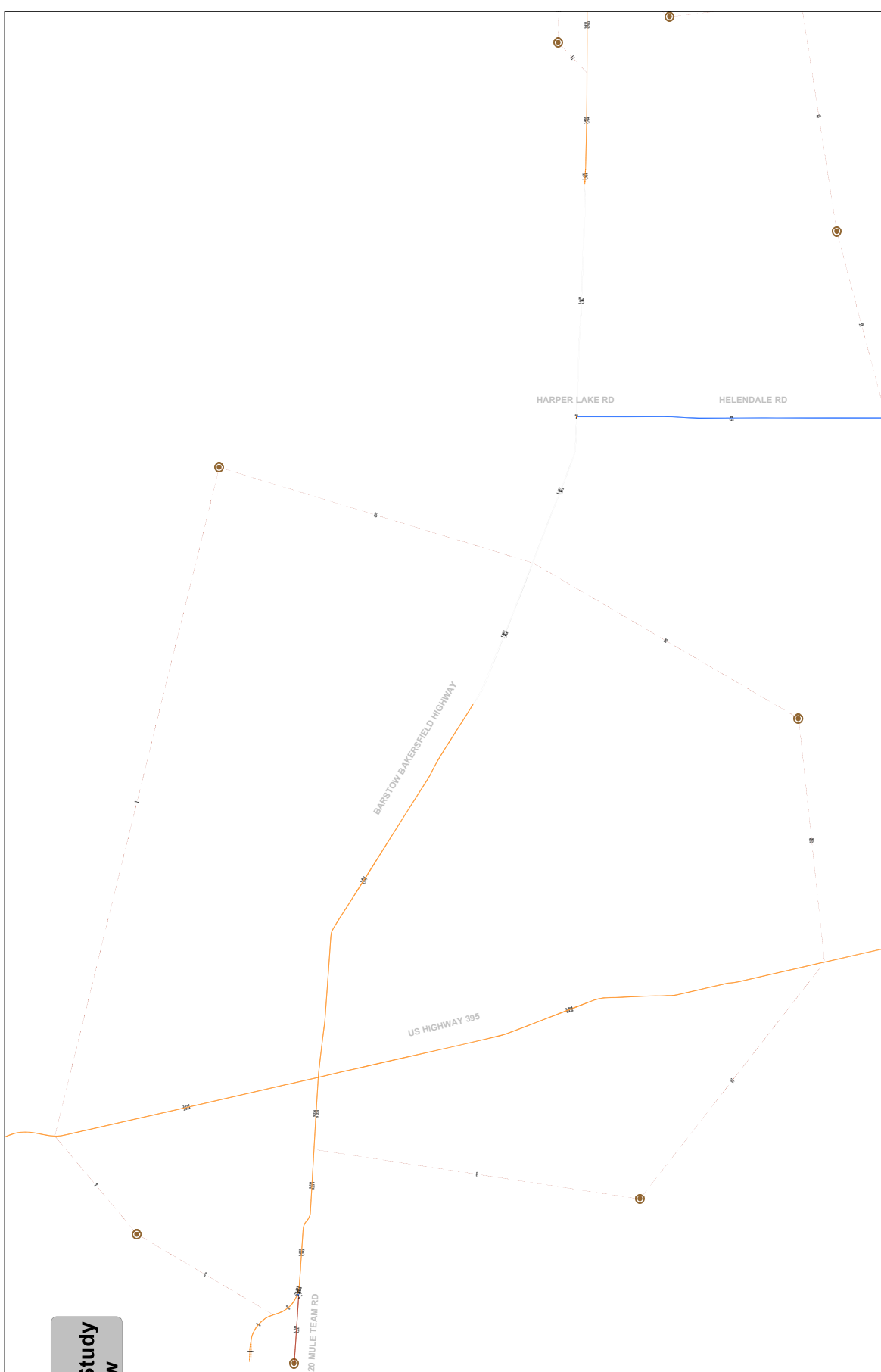
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	15	9	24	0	0	1	1	2	9	1	12	5	0	1	6
+15 mins.	1	13	9	23	0	0	1	1	5	12	0	17	7	0	1	8
+30 mins.	2	16	6	24	0	0	0	0	4	8	0	12	7	0	5	12
+45 mins.	0	24	5	29	0	0	0	0	3	10	0	13	7	0	2	9
Total Volume	3	68	29	100	0	0	2	2	14	39	1	54	26	0	9	35
% App. Total	3	68	29		0	0	100		25.9	72.2	1.9		74.3	0	25.7	
PHF	.375	.708	.806	.862	.000	.000	.500	.500	.700	.813	.250	.794	.929	.000	.450	.729

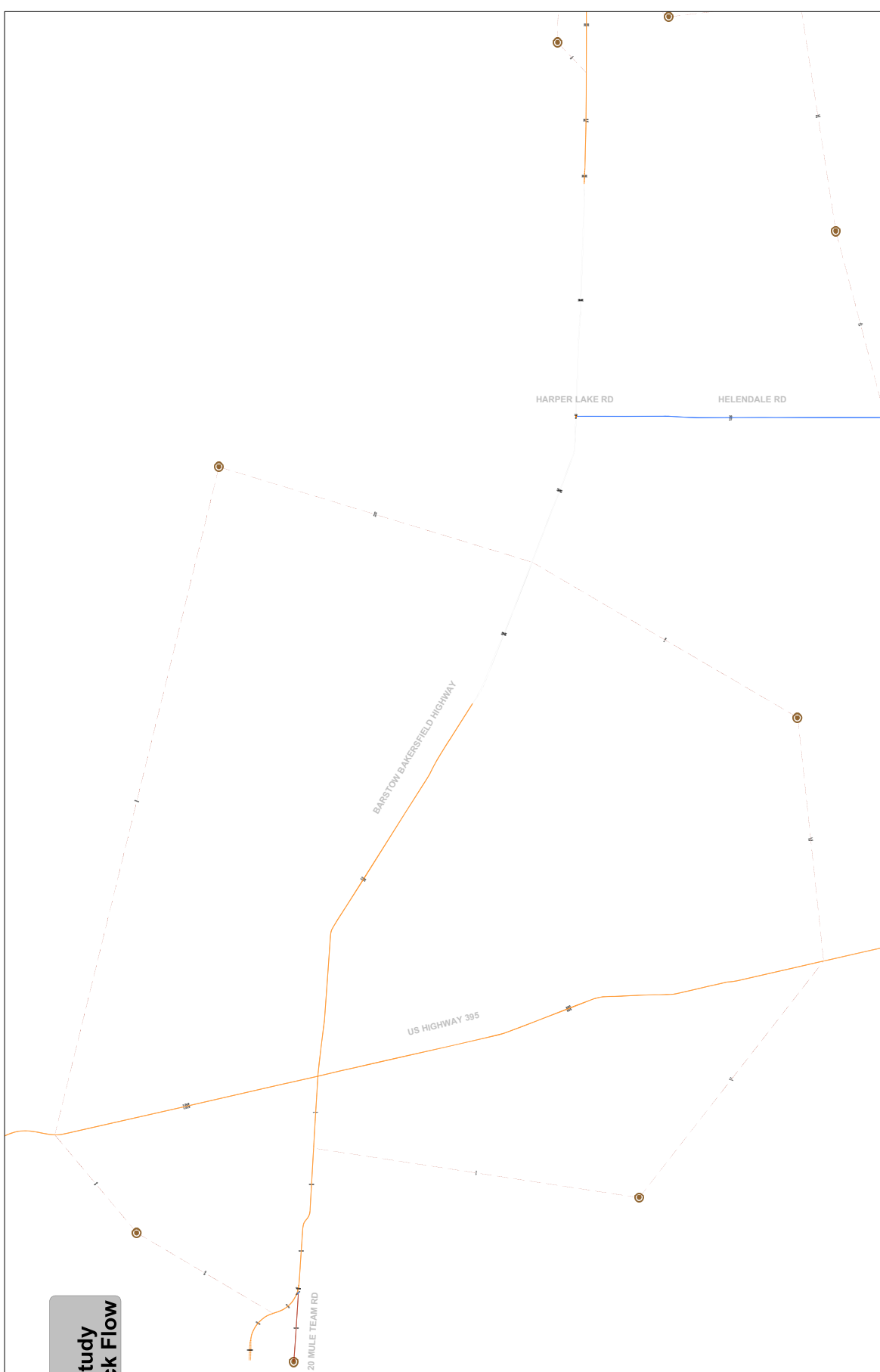
APPENDIX D

TRAVEL DEMAND MODEL PLOTS

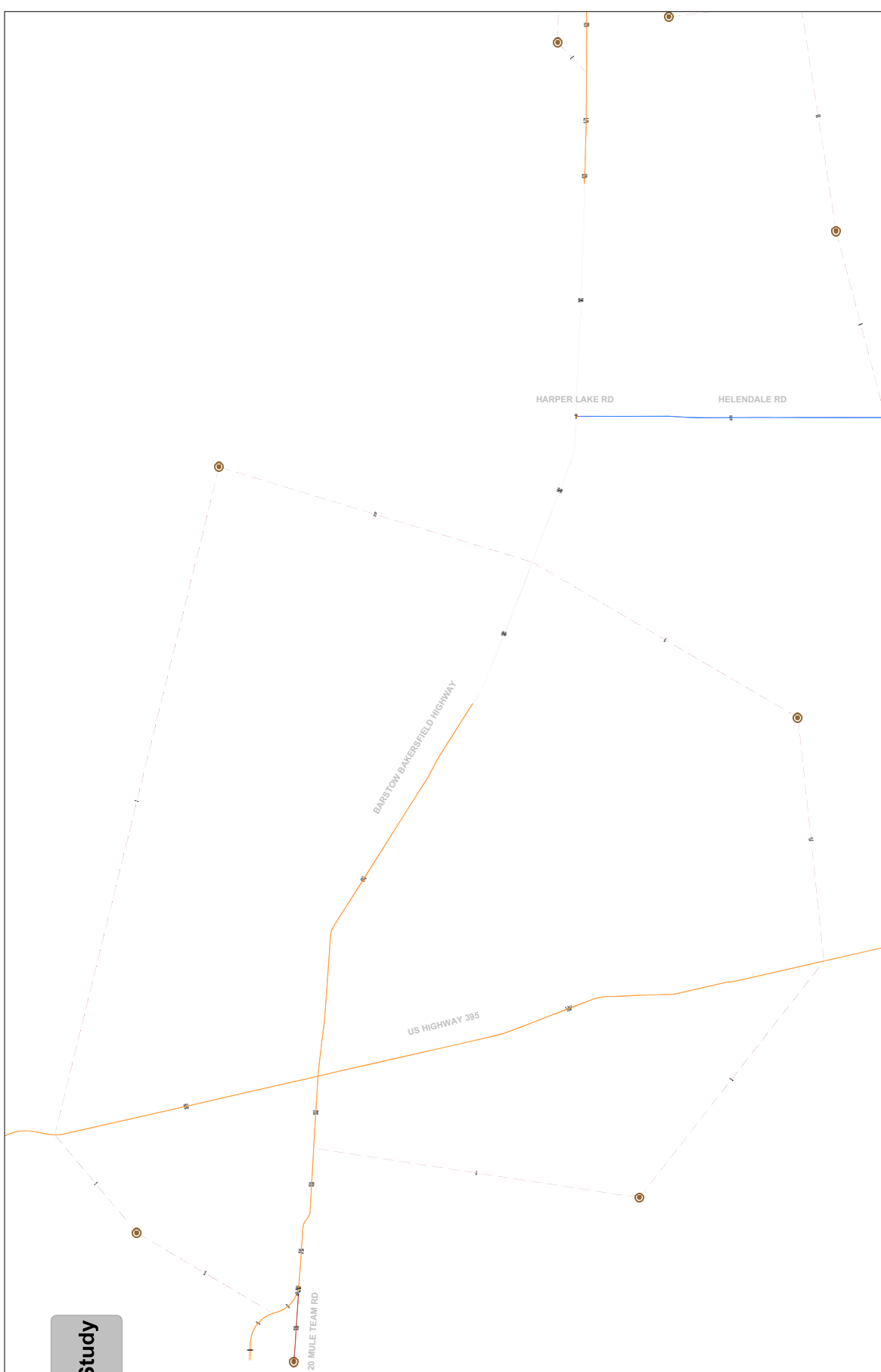
**SBTAM 2012
Kramer Junction Study
Average Daily Flow**



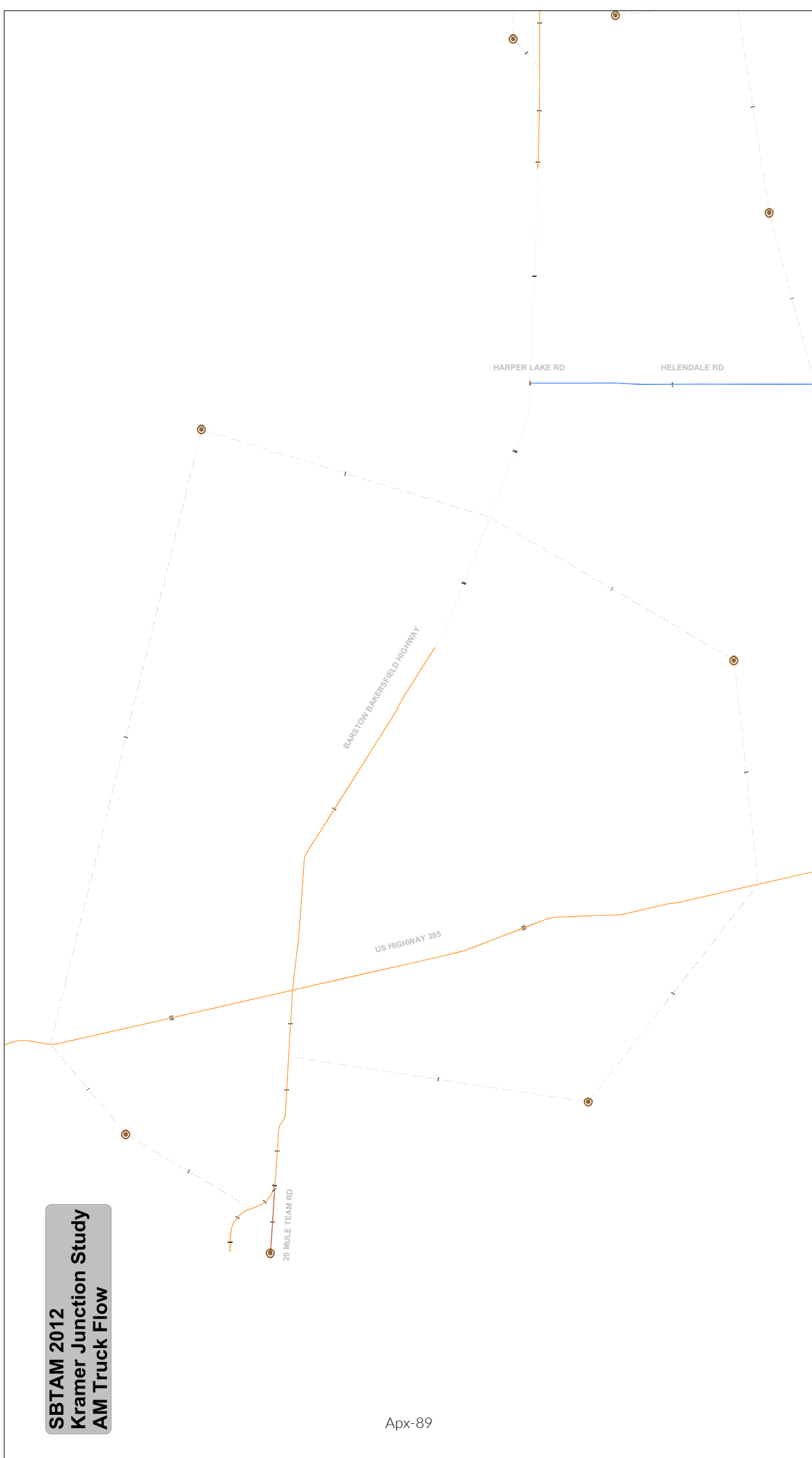
**SBTAM 2012
Kramer Junction Study
Average Daily Truck Flow**



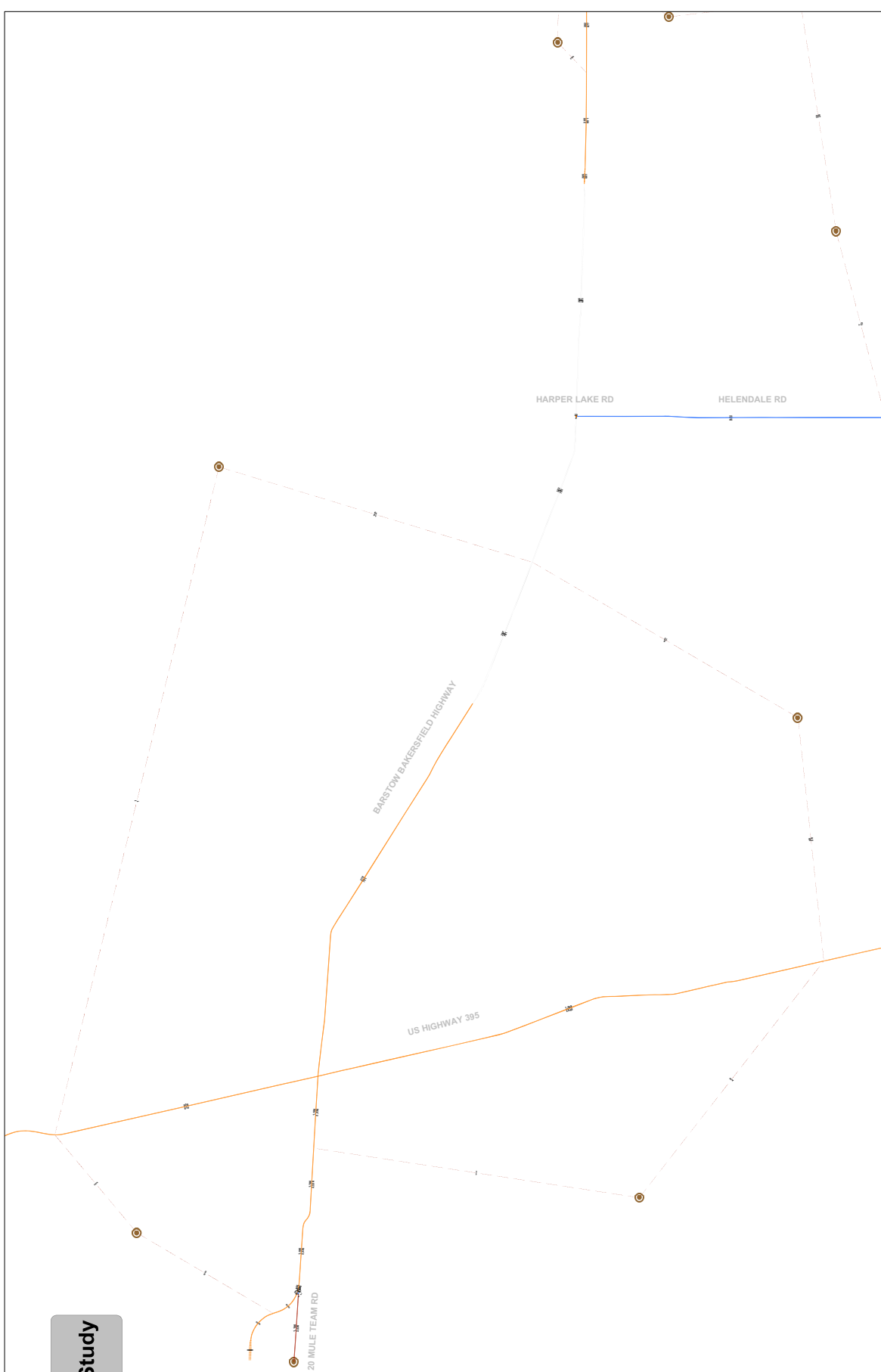
**SBTAM 2012
Kramer Junction Study
AM Flow**



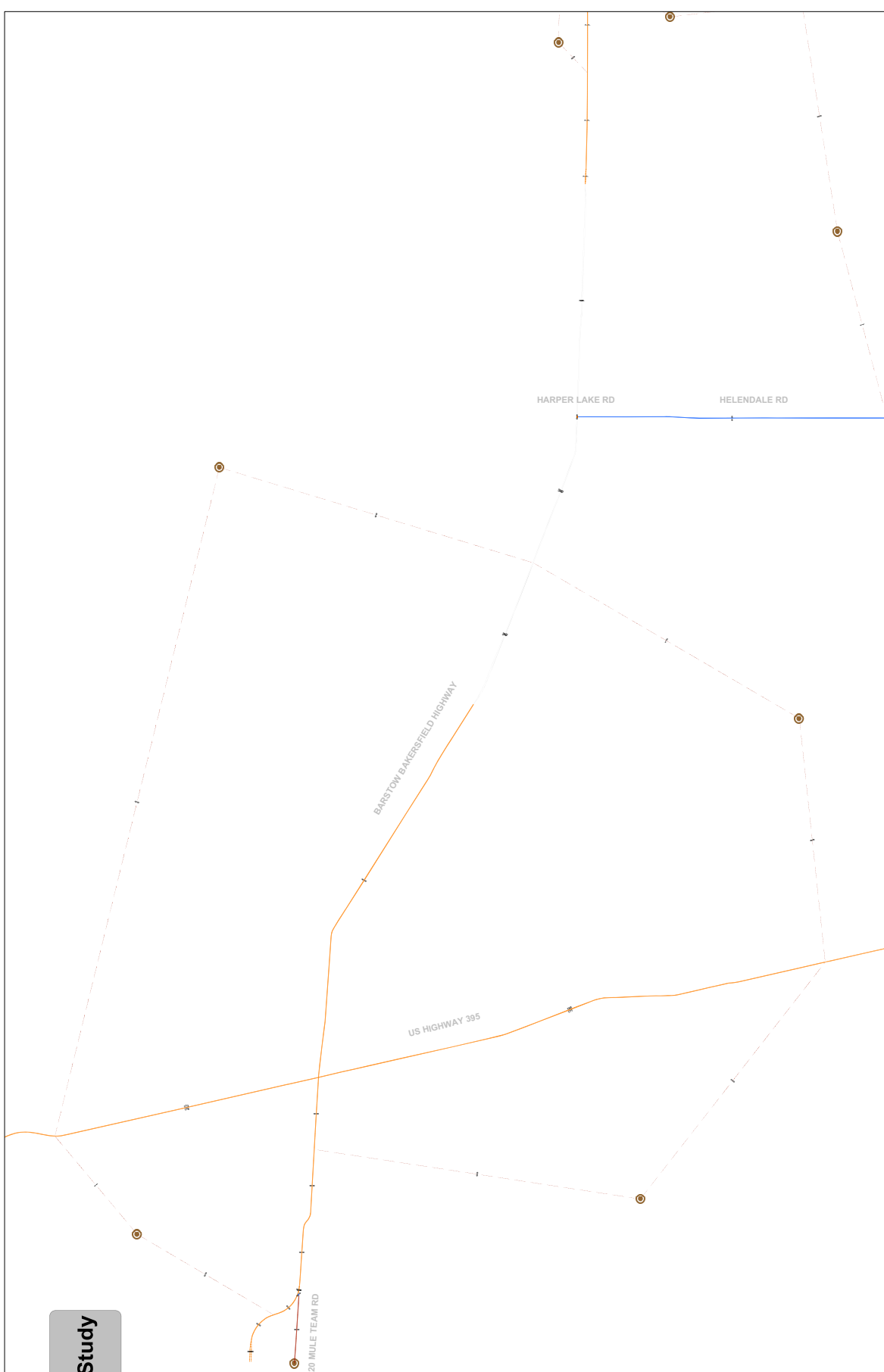
**SBTAM 2012
Kramer Junction Study
AM Truck Flow**



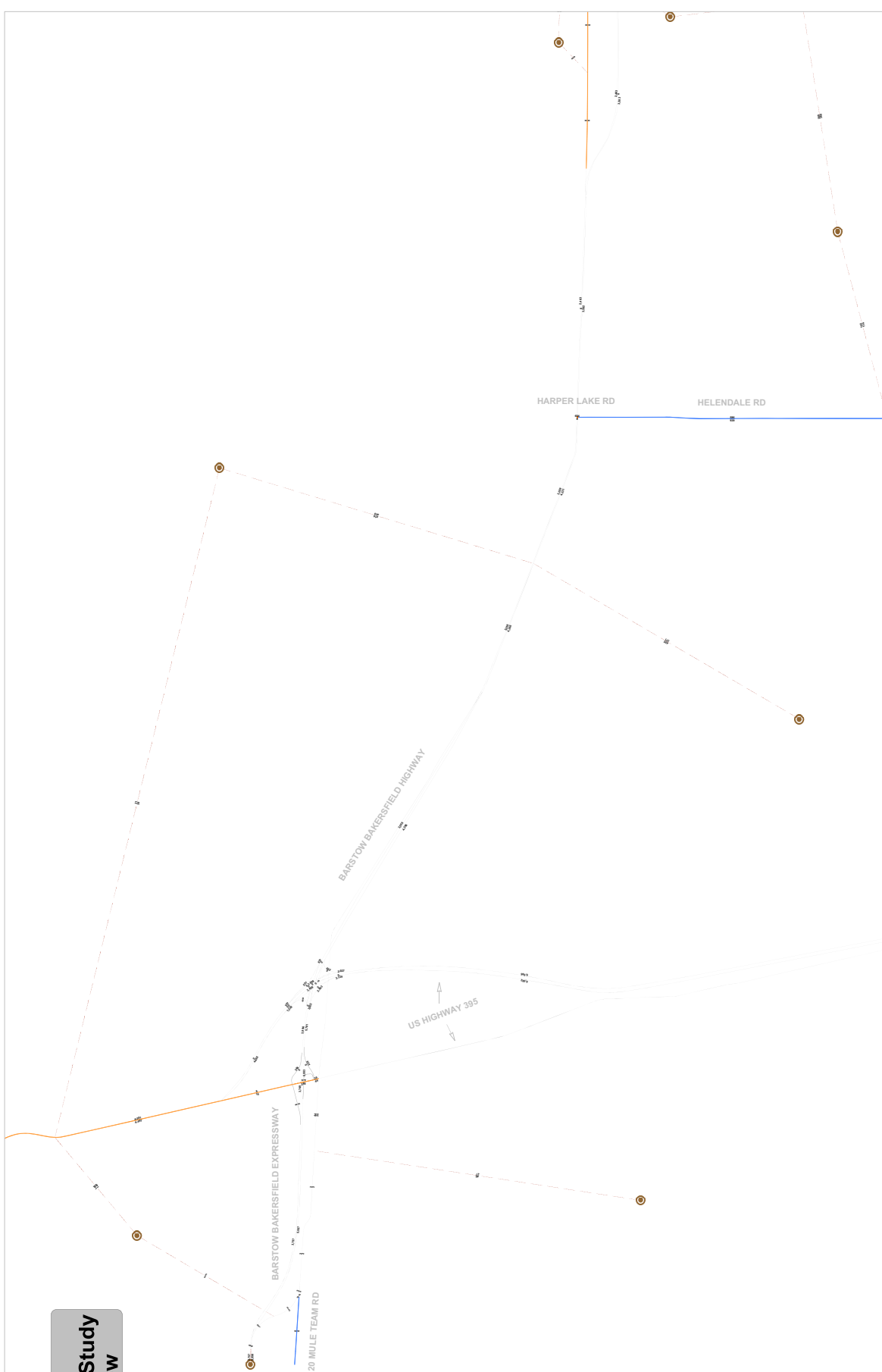
**SBTAM 2012
Kramer Junction Study
PM Flow**



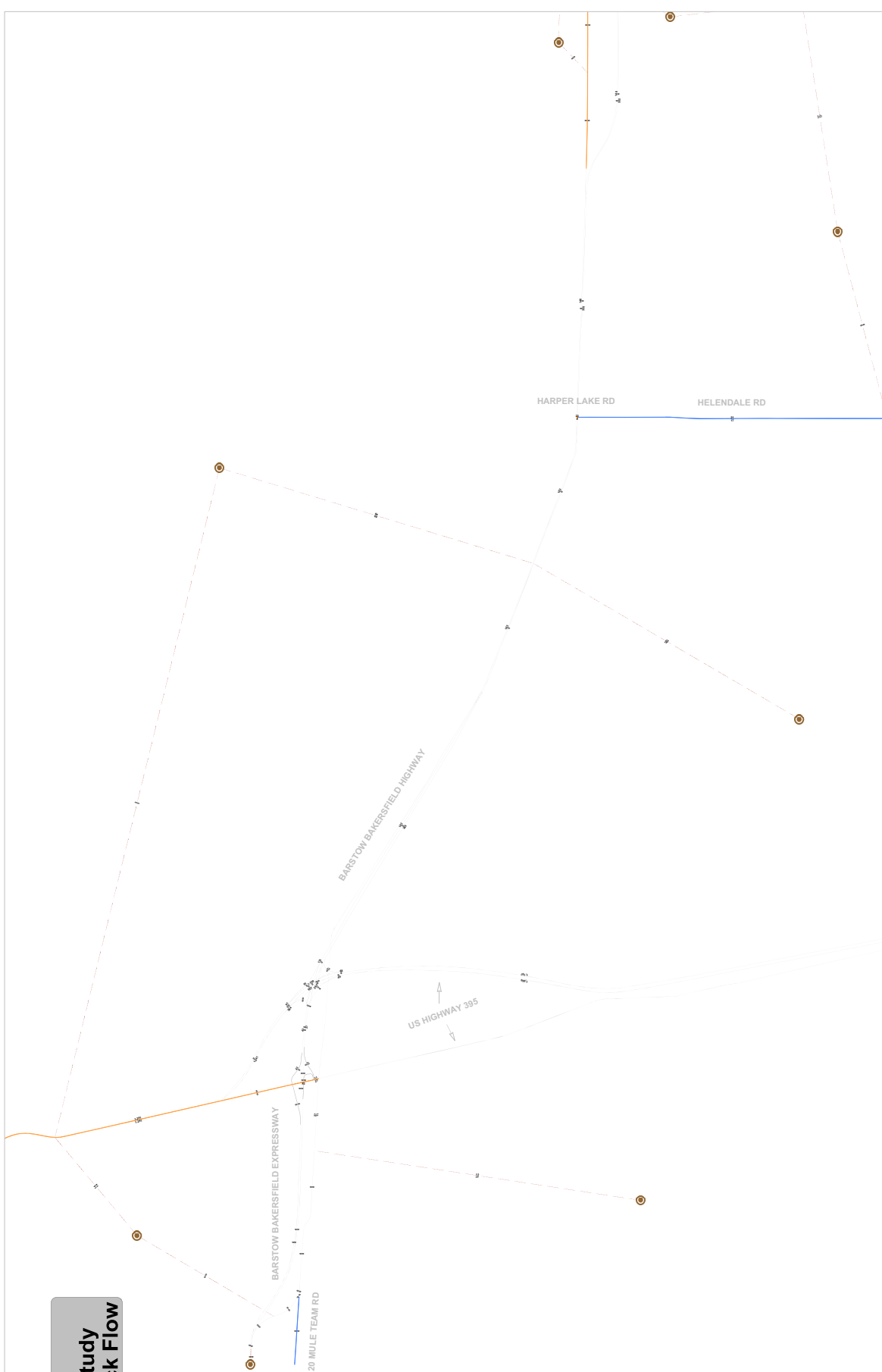
**SBTAM 2012
Kramer Junction Study
PM Truck Flow**



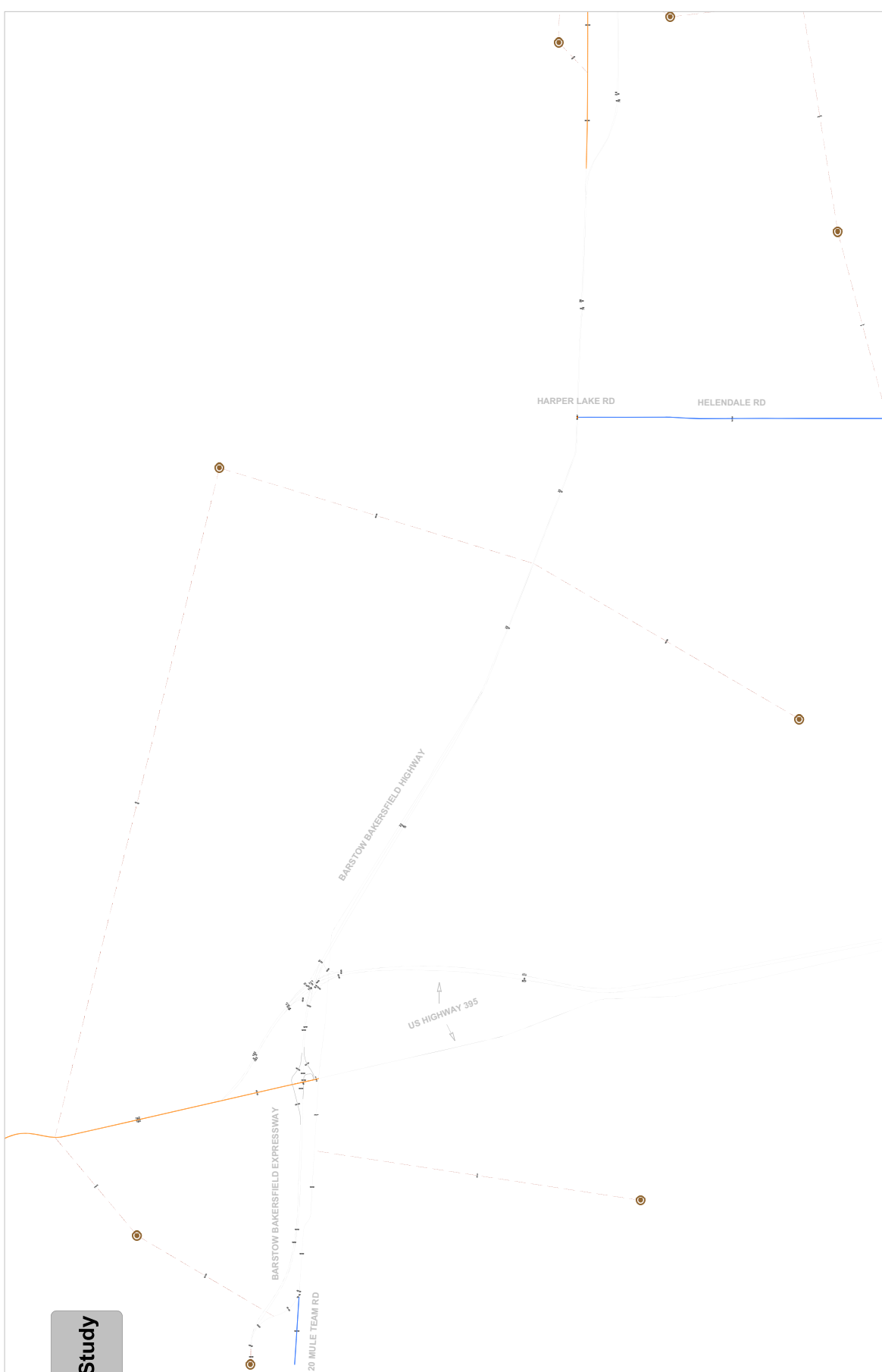
**SBTAM 2040
Kramer Junction Study
Average Daily Flow**



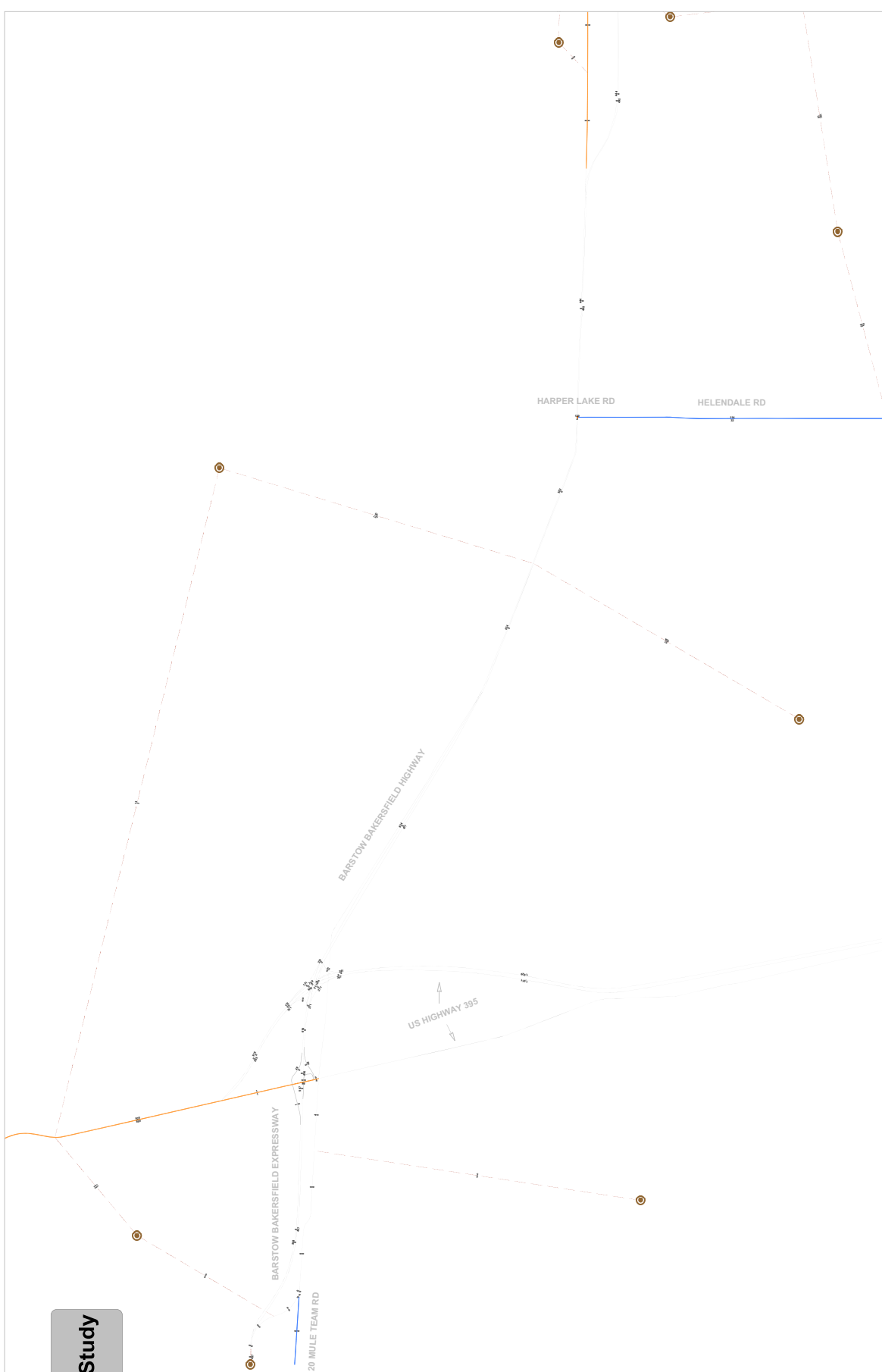
**SBTAM 2040
Kramer Junction Study
Average Daily Truck Flow**



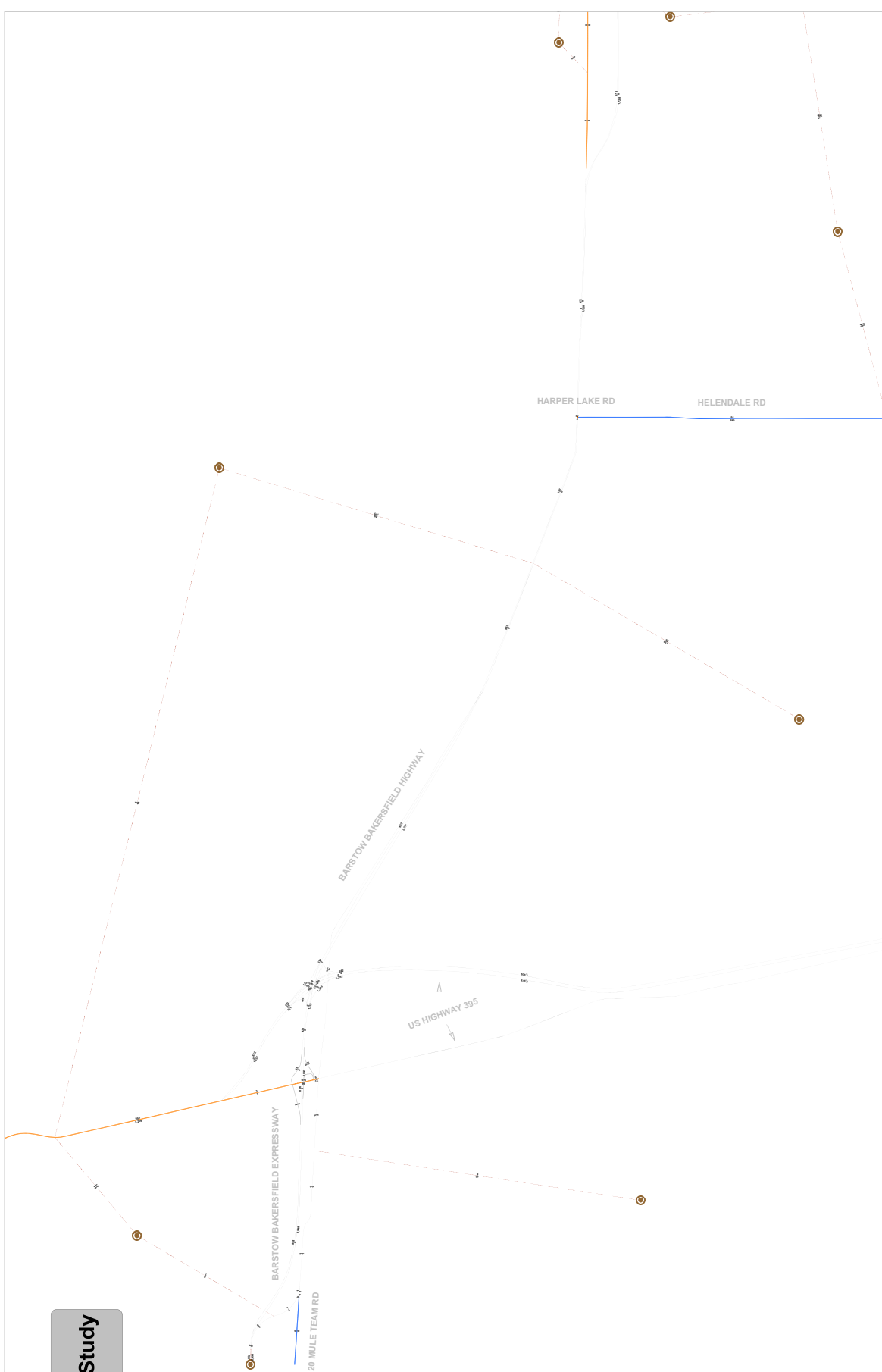
**SBTAM 2040
Kramer Junction Study
AM Truck Flow**



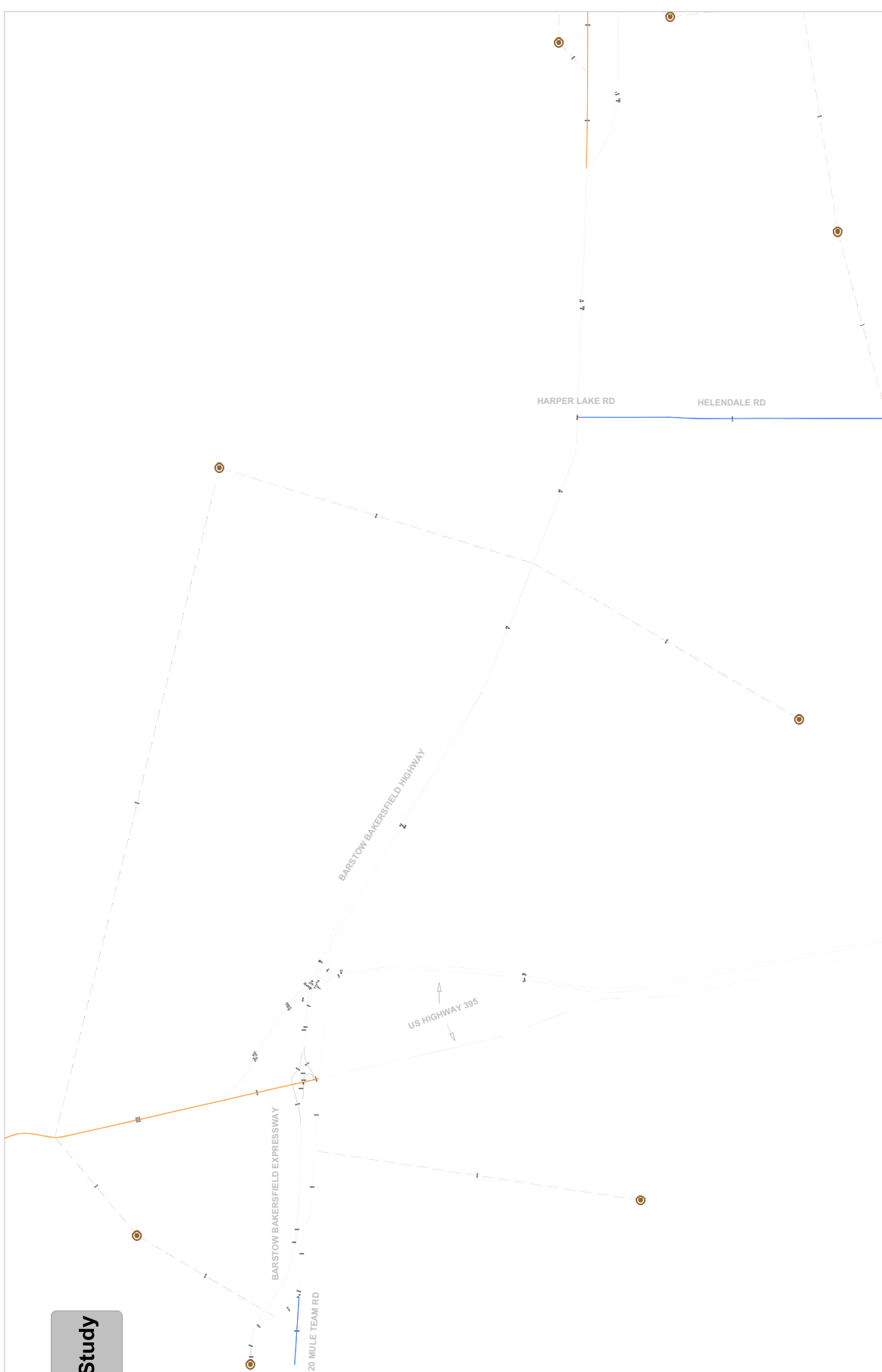
**SBTAM 2040
Kramer Junction Study
AM Flow**



**SBTAM 2040
Kramer Junction Study
PM Flow**



**SBTAM 2040
Kramer Junction Study
PM Truck Flow**



APPENDIX E

POST-PROCESSING WORKSHEETS

AVERAGE DAILY TRAFFIC

ID	INTERSECTION	LEG	MODEL 2020 ADT	EXISTING 2020 ADT	OPENING 2021 ADT ¹	MODEL 2040 ADT	FUTURE 2040 ADT ²
1	US-395 Highway at: SR-58 WB Ramps	North	4,645	4600	4,645	16	30
		South	6,510	6500	6,530	289	500
		East	700	700	700	297	510
		West	1,575	1600	1,610	8	20
2	US-395 Highway at: SR-58 EB Ramps	North	6,195	6200	6,230	302	520
		South	9,820	9800	9,850	259	450
		East	4,405	4400	4,420	101	180
		West	135	100	135	-	-
3	US-395 Highway at: Twenty Mule Team Road	North	10,535	10500	10,550	107	190
		South	8,845	8800	8,845	-	-
		East	940	900	940	-	-
		West	3,510	3500	3,520	107	190
4	US-395 Highway at: Project S Driveway	North	9,820	9800	9,850	259	450
		South	10,535	10500	10,550	107	190
		East	0		0	-	-
		West	-		-	-	-

1. 2% minimum growth over existing for year 2021.
2. Year 2040 includes other development and SBTAM values for Kramer Junction with realigned US-395.

Boron Beyond Food Mart
Traffic Impact Analysis
19223

US-395 (NS) / SR-58 WB Ramps (EW) - #1													
MORNING PEAK HOUR							EVENING PEAK HOUR						
EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS): 2020							EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS): 2020						
			1	54	0				3	157	0		
			<	v	>				<	v	>		
	0	^				^ 5		0	^				^ 9
	0	>				< 0		0	>				< 0
	0	v				v 9		0	v				v 10
			<	^	>				<	^	>		
			49	46	0				39	53	0		
EXISTING PEAK HOUR COUNT YEAR (AUTOS): 2020							EXISTING PEAK HOUR COUNT YEAR (AUTOS): 2020						
				55	51					160	62		
				v	^					v	^		
	50	<	IN =	164	<	14		42	<	IN =	271	<	19
	0	>	OUT =	164	>	0		0	>	OUT =	271	>	0
				^						^			
				63	95					167	92		
EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):							EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):						
			3	86	0				0	87	0		
			<	v	>				<	v	>		
	0	^				^ 17		0	^				^ 6
	0	>				< 0		0	>				< 0
	0	v				v 39		0	v				v 36
PCE FACTORS BY AXLE: 2: 1.5 3: 2.0 4+: 3.0							PCE FACTORS BY AXLE: 2: 1.5 3: 2 4+: 3.0						
			<	^	>				<	^	>		
			127	67	0				95	89	0		
TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs): 2020							TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs): 2020						
			4	140	0				3	244	0		
			<	v	>				<	v	>		
	0	^				^ 22		0	^				^ 15
	0	>				< 0		0	>				< 0
	0	v				v 48		0	v				v 46
			<	^	>				<	^	>		
			176	113	0				134	142	0		
EXISTING PEAK PERIOD MODEL YEAR (AUTO): 2020							EXISTING PEAK PERIOD MODEL YEAR (AUTO): 2020						
				508	661					814	508		
				v	^					v	^		
	50	<	IN =	1479	<	14		42	<	IN =	2189	<	19
	0	>	OUT =	1479	>	0		0	>	OUT =	2190	>	0
				^						^			
				768	957					1640	1356		
EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs): 2020							EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs): 2020						
				148	147					176	173		
				v	^					v	^		
	130	<	IN =	422	<	56		95	<	IN =	439	<	42
	0	>	OUT =	422	>	0		0	>	OUT =	439	>	0
				^						^			
				145	218					171	221		
EXISTING PEAK HOUR MODEL YEAR (PCEs): PHF FOR CARS: 0.38 PHF FOR TRUCKS: 0.333							EXISTING PEAK HOUR MODEL YEAR (PCEs): PHF FOR CARS: 0.28 PHF FOR TRUCKS: 0.25						
				242	300					272	185		
				v	^					v	^		
	62	<	IN =	703	<	24		36	<	IN =	723	<	16
	0	>	OUT =	703	>	0		0	>	OUT =	723	>	0
				^						^			
				340	436					502	435		
FUTURE PEAK PERIOD MODEL YEAR (AUTO): 2040							FUTURE PEAK PERIOD MODEL YEAR (AUTO): 2040						
				1	1					3	3		
				v	^					v	^		
	1	<	IN =	55	<	49		0	<	IN =	75	<	65
	0	>	OUT =	55	>	0		2	>	OUT =	75	>	0
				^						^			
				53	5					72	5		
FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs): 2040							FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs): 2040						
				0	0					0	0		
				v	^					v	^		
	0	<	IN =	7	<	6		0	<	IN =	10	<	8
	0	>	OUT =	7	>	0		0	>	OUT =	10	>	0
				^						^			
				7	1					10	2		
FUTURE PEAK HOUR MODEL YEAR (PCEs): PHF FOR CARS: 0.38 PHF FOR TRUCKS: 0.333							FUTURE PEAK HOUR MODEL YEAR (PCEs): PHF FOR CARS: 0.28 PHF FOR TRUCKS: 0.25						
				0	0					1	1		
				v	^					v	^		
	0	<	IN =	23	<	21		0	<	IN =	24	<	20
	0	>	OUT =	23	>	0		1	>	OUT =	24	>	0
				^						^			
				22	2					23	2		
RAW GROWTH (PCEs): 2020 TO 2040 CONVERSION OF TRUCKS TO: 2040 FACTOR = 1.00							RAW GROWTH (PCEs): 2020 TO 2040 CONVERSION OF TRUCKS TO: 2040 FACTOR = 1.00						
				-242	-300					-271	-185		
				v	^					v	^		
	-62	<				< -3		-36	<				< 4
	0	>				> 0		1	>				> 0
				^						^			
				-318	-434					-479	-433		

US-395 (NS) / SR-58 WB Ramps (EW) - #1															
MORNING PEAK HOUR							EVENING PEAK HOUR								
ADJUSTED GROWTH (PCes): 10.00 MINIMUM GROWTH %							ADJUSTED GROWTH (PCes): 10 MINIMUM GROWTH %								
2020	TO	2040					2020	TO	2040						
			10	10						20	20				
			v	^						v	^				
			20	<	IN =	40	<	10		10	<	IN =	50	<	10
			0	>	OUT =	40	>	0		0	>	OUT =	40	>	0
			v							v					
			10			20				10			20		
PRORATED GROWTH (PCes): 20 YEARS							PRORATED GROWTH (PCes): 20 YEARS								
2020	TO	2040					2020	TO	2040						
			10	10						20	20				
			v	^						v	^				
			20	<			<	10		10	<			<	10
			0	>			>	0		0	>			>	0
			v							v					
			10			20				10			20		
NEW PROJECTED VOLUMES (PCes): 2040							NEW PROJECTED VOLUMES (PCes): 2040								
			150	150						270	180				
			v	^						v	^				
			200	<			<	80		150	<			<	70
			0	>			>	0		0	>			>	0
			v							v					
			200			310				300			300		
YEAR 2021 GROWTH: 1 YEARS							YEAR 2021 GROWTH: 1 YEARS								
2020	TO	2021					2020	TO	2021						
			0	0						0	0				
			v	^						v	^				
			0	<			<	0		0	<			<	0
			0	>			>	0		0	>			>	0
			v							v					
			0			0				0			0		
INITIAL YEAR 2021 VOLUMES: 2021							INITIAL YEAR 2021 VOLUMES: 2021								
			140	140						250	160				
			v	^						v	^				
			180	<	IN =	500	<	70		140	<	IN =	590	<	60
			0	>	OUT =	510	>	0		0	>	OUT =	590	>	0
			v							v					
			190			290				290			280		
BALANCED YEAR 2021 VOLUMES: 2021							BALANCED YEAR 2021 VOLUMES: 2021								
			140	140						250	160				
			v	^						v	^				
			180	<	IN =	510	<	70		140	<	IN =	590	<	60
			0	>	OUT =	510	>	0		0	>	OUT =	590	>	0
			v							v					
			190			300				290			280		
ADT BY LEG: 2040							ADT BY LEG: 2040								
			30							30					
			N							N					
			LEG	E	510					LEG	E	510			
			S							S					
			500							500					
ADT BY LEG: 2021							ADT BY LEG: 2021								
			4,645							4,645					
			N							N					
			LEG	E	700					LEG	E	700			
			S							S					
			6,530							6,530					

US-395 (NS) / SR-58 WB Ramps (EW) - #1
FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255

YEAR 2021 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2021 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2021 TOTAL
NORTH BOUND	LEFT	176	SOUTH LEG		NORTH BOUND	LEFT	134	SOUTH LEG	
	THRU	113		300		THRU	142		280
	RIGHT	0		190		RIGHT	0		290
SOUTH BOUND	LEFT	0	NORTH LEG		SOUTH BOUND	LEFT	0	NORTH LEG	
	THRU	140		140		THRU	244		250
	RIGHT	4		140		RIGHT	3		160
EAST BOUND	LEFT	0	WEST LEG		EAST BOUND	LEFT	0	WEST LEG	
	THRU	0		0		THRU	0		0
	RIGHT	0		180		RIGHT	0		140
WEST BOUND	LEFT	48	EAST LEG		WEST BOUND	LEFT	46	EAST LEG	
	THRU	0		70		THRU	0		60
	RIGHT	22		0		RIGHT	15		0

YEAR 2021 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2021 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2021 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH BOUND	LEFT	176	180	NORTH LEG	NORTH BOUND	LEFT	134	137	NORTH LEG
	THRU	113	121	RATIO 6.2%		THRU	142	145	RATIO 8.9%
	RIGHT	0	0	ADT 4,645		RIGHT	0	0	ADT 4,645
SOUTH BOUND	LEFT	0	0	SOUTH LEG	SOUTH BOUND	LEFT	0	0	SOUTH LEG
	THRU	140	143	RATIO 7.6%		THRU	244	249	RATIO 8.9%
	RIGHT	4	4	ADT 6,530		RIGHT	3	3	ADT 6,530
EAST BOUND	LEFT	0	0	EAST LEG	EAST BOUND	LEFT	0	0	EAST LEG
	THRU	0	0	RATIO 10.4%		THRU	0	0	RATIO 9.0%
	RIGHT	0	0	ADT 700		RIGHT	0	0	ADT 700
WEST BOUND	LEFT	48	51	WEST LEG	WEST BOUND	LEFT	46	47	WEST LEG
	THRU	0	0	RATIO 11.4%		THRU	0	0	RATIO 8.7%
	RIGHT	22	22	ADT 1,610		RIGHT	15	16	ADT 1,610

US-395 (NS) / SR-58 EB Ramps (EW) - #2												
MORNING PEAK HOUR						EVENING PEAK HOUR						
EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):						EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):						
2020						2020						
			0	49	9				0	146	13	
			<	v	>				<	v	>	
		0	^					0	^			^ 6
		0	>					2	>			< 1
		2	v					3	v			v 104
			<	^	>				<	^	>	
			1	98	10				0	83	10	
EXISTING PEAK HOUR COUNT YEAR (AUTOS):						EXISTING PEAK HOUR COUNT YEAR (AUTOS):						
2020						2020						
				58	100				159	89		
				v	^				v	^		
	1	<	IN =	212	< 43			1	<	IN =	368	< 111
	2	>	OUT =	212	> 19			5	>	OUT =	368	> 25
				v	^					v	^	
				92	109					253	93	
EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):						EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):						
			6	185	27				3	100	9	
			<	v	>				<	v	>	
		3	^					3	^			^ 3
		3	>					0	>			< 0
		7	v					0	v			v 187
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	0
				11	352	74						173
												48
TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):						TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):						
2020						2020						
			6	234	36				3	246	22	
			<	v	>				<	v	>	
		3	^					3	^			^ 9
		3	>					2	>			< 1
		9	v					3	v			v 291
			<	^	>				<	^	>	
			12	450	84				0	256	58	
EXISTING PEAK PERIOD MODEL YEAR (AUTO):						EXISTING PEAK PERIOD MODEL YEAR (AUTO):						
2020						2020						
				768	957				1640	1356		
				v	^				v	^		
	1	<	IN =	1069	< 43			1	<	IN =	1849	< 111
	2	>	OUT =	1069	> 19			5	>	OUT =	1849	> 25
				v	^					v	^	
				92	256					467	93	
EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):						EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):						
2020						2020						
				145	218				171	221		
				v	^				v	^		
	17	<	IN =	824	< 229			3	<	IN =	585	< 190
	13	>	OUT =	824	> 104			3	>	OUT =	585	> 57
				v	^					v	^	
				485	437					304	221	
EXISTING PEAK HOUR MODEL YEAR (PCEs):						EXISTING PEAK HOUR MODEL YEAR (PCEs):						
PHF FOR CARS: 0.38						PHF FOR CARS: 0.28						
PHF FOR TRUCKS: 0.333						PHF FOR TRUCKS: 0.25						
			6	<	IN = 681	< 93			1	<	IN = 664	< 79
			5	>	OUT = 681	> 42			2	>	OUT = 664	> 21
					v	^				v	^	
					196	243				207	81	
FUTURE PEAK PERIOD MODEL YEAR (AUTO):						FUTURE PEAK PERIOD MODEL YEAR (AUTO):						
2040						2040						
				53	5				72	5		
				v	^				v	^		
	49	<	IN =	107	< 49			68	<	IN =	143	< 66
	0	>	OUT =	107	> 49			0	>	OUT =	143	> 58
				v	^					v	^	
				4	5					12	5	
FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):						FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):						
2040						2040						
				7	1				10	2		
				v	^				v	^		
	6	<	IN =	14	< 6			8	<	IN =	20	< 8
	0	>	OUT =	14	> 4			0	>	OUT =	20	> 5
				v	^					v	^	
				3	1					5	2	
FUTURE PEAK HOUR MODEL YEAR (PCEs):						FUTURE PEAK HOUR MODEL YEAR (PCEs):						
PHF FOR CARS: 0.38						PHF FOR CARS: 0.28						
PHF FOR TRUCKS: 0.333						PHF FOR TRUCKS: 0.25						
			21	<	IN = 45	< 21			21	<	IN = 45	< 20
			0	>	OUT = 45	> 20			0	>	OUT = 45	> 17
					v	^				v	^	
					3	2				5	2	
RAW GROWTH (PCEs): 2020 TO 2040						RAW GROWTH (PCEs): 2020 TO 2040						
CONVERSION OF TRUCKS TO: 2040						CONVERSION OF TRUCKS TO: 2040						
FACTOR = 1.00						FACTOR = 1.00						
				-318	-434					-479	-433	
				v	^					v	^	
			15	<		< -72			20	<		< -58
			-5	>		> -22			-2	>		> -4
					v	^				v	^	
					-194	-241				-202	-79	

US-395 (NS) / SR-58 EB Ramps (EW) - #2															
MORNING PEAK HOUR							EVENING PEAK HOUR								
ADJUSTED GROWTH (PCes):		2020	TO	2040			ADJUSTED GROWTH (PCes):		2020	TO	2040				
10.00 MINIMUM GROWTH %					30	50	10 MINIMUM GROWTH %					30	30		
					v	^						v	^		
				10	<	IN = 100	<	30			20	<	IN = 80	<	30
				0	>	OUT = 110	>	10			0	>	OUT = 90	>	10
					v	^						v	^		
					40	40						30	20		
PRORATED GROWTH (PCes):		2020	TO	2040			PRORATED GROWTH (PCes):		2020	TO	2040				
20 YEARS					30	50	20 YEARS					30	30		
					v	^						v	^		
				10	<		<	30			20	<		<	30
				0	>		>	10			0	>		>	10
					v	^						v	^		
					40	40						30	20		
NEW PROJECTED VOLUMES (PCes):		2040					NEW PROJECTED VOLUMES (PCes):		2040						
					310	510						300	300		
					v	^						v	^		
				30	<		<	300			20	<		<	330
				20	>		>	130			10	>		>	90
					v	^						v	^		
					550	590						570	330		
YEAR 2021 GROWTH:		2020	TO	2021			YEAR 2021 GROWTH:		2020	TO	2021				
1 YEARS					0	0	1 YEARS					0	0		
					v	^						v	^		
				0	<		<	0			0	<		<	0
				0	>		>	0			0	>		>	0
					v	^						v	^		
					0	0						0	0		
INITIAL YEAR 2021 VOLUMES:		2021					INITIAL YEAR 2021 VOLUMES:		2021						
					280	460						270	270		
					v	^						v	^		
				20	<	IN = 1120	<	270			0	<	IN = 890	<	300
				20	>	OUT = 1110	>	120			10	>	OUT = 890	>	80
					v	^						v	^		
					510	550						540	310		
BALANCED YEAR 2021 VOLUMES:		2021					BALANCED YEAR 2021 VOLUMES:		2021						
					280	460						270	270		
					v	^						v	^		
				20	<	IN = 1120	<	270			0	<	IN = 890	<	300
				20	>	OUT = 1110	>	120			10	>	OUT = 890	>	80
					v	^						v	^		
					510	550						540	310		
ADT BY LEG:		2040					ADT BY LEG:		2040						
					520	N						520	N		
				0	W	LEG	E	180			0	W	LEG	E	180
					S							S			
					450							450			
ADT BY LEG:		2021					ADT BY LEG:		2021						
					6,230	N						6,230	N		
				135	W	LEG	E	4,420			135	W	LEG	E	4,420
					S							S			
					9,850							9,850			

US-395 (NS) / SR-58 EB Ramps (EW) - #2
FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255

YEAR 2021 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2021 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2021 TOTAL
NORTH BOUND	LEFT	12	SOUTH LEG		NORTH BOUND	LEFT	0	SOUTH LEG	
	THRU	450		550		THRU	256		310
	RIGHT	84		510		RIGHT	58		540
SOUTH BOUND	LEFT	36	NORTH LEG		SOUTH BOUND	LEFT	22	NORTH LEG	
	THRU	234		280		THRU	246		270
	RIGHT	6		460		RIGHT	3		270
EAST BOUND	LEFT	3	WEST LEG		EAST BOUND	LEFT	3	WEST LEG	
	THRU	3		20		THRU	2		10
	RIGHT	9		20		RIGHT	3		0
WEST BOUND	LEFT	266	EAST LEG		WEST BOUND	LEFT	291	EAST LEG	
	THRU	0		270		THRU	1		300
	RIGHT	6		120		RIGHT	9		80

YEAR 2021 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2021 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2021 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH BOUND	LEFT	12	13	NORTH LEG	NORTH BOUND	LEFT	0	0	NORTH LEG
	THRU	450	459	RATIO 12.1%		THRU	256	261	RATIO 8.9%
	RIGHT	84	86	ADT 6,230		RIGHT	58	59	ADT 6,230
SOUTH BOUND	LEFT	36	37	SOUTH LEG	SOUTH BOUND	LEFT	22	23	SOUTH LEG
	THRU	234	239	RATIO 10.9%		THRU	246	251	RATIO 8.8%
	RIGHT	6	7	ADT 9,850		RIGHT	3	3	ADT 9,850
EAST BOUND	LEFT	3	4	EAST LEG	EAST BOUND	LEFT	3	4	EAST LEG
	THRU	3	4	RATIO 9.1%		THRU	2	2	RATIO 8.9%
	RIGHT	9	9	ADT 4,420		RIGHT	3	3	ADT 4,420
WEST BOUND	LEFT	266	271	WEST LEG	WEST BOUND	LEFT	291	297	WEST LEG
	THRU	0	0	RATIO 27.4%		THRU	1	1	RATIO 9.6%
	RIGHT	6	6	ADT 135		RIGHT	9	10	ADT 135

US-395 (NS) / Twenty Mule Team Road (EW) - #3													
MORNING PEAK HOUR							EVENING PEAK HOUR						
EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS): 2020							EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS): 2020						
			11	77	7					17	237	12	
			<	v	>					<	v	>	
	12	^				^ 16		14	^				^ 24
	4	>				< 2		3	>				< 5
	7	v				v 1		17	v				v 8
			<	^	>				<	^	>		
			9	94	4				7	79	2		
EXISTING PEAK HOUR COUNT YEAR (AUTOS): 2020							EXISTING PEAK HOUR COUNT YEAR (AUTOS): 2020						
				95	122					266	117		
				v	^					v	^		
	22	<	IN =	244	<	19		29	<	IN =	425	<	37
	23	>	OUT =	244	>	15		34	>	OUT =	425	>	17
				v	^					v	^		
				85	107					262	88		
EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCES):							EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCES):						
			81	170	15					89	223	11	
			<	v	>					<	v	>	
	109	^				^ 8		80	^				^ 10
	5	>				< 14		0	>				< 2
	36	v				v 0		29	v				v 2
PCE FACTORS BY AXLE: 2: 1.5 3: 2.0 4+: 3.0							PCE FACTORS BY AXLE: 2: 1.5 3: 2 4+: 3.0						
			<	^	>					<	^	>	
			43	140	5					42	120	3	
TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCES): 2020							TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCES): 2020						
			92	247	22					106	460	23	
			<	v	>					<	v	>	
	121	^				^ 24		94	^				^ 34
	9	>				< 16		3	>				< 7
	43	v				v 1		46	v				v 10
			<	^	>					<	^	>	
			52	234	9					49	199	5	
EXISTING PEAK PERIOD MODEL YEAR (AUTO): 2020							EXISTING PEAK PERIOD MODEL YEAR (AUTO): 2020						
				508	956					814	608		
				v	^					v	^		
	22	<	IN =	1761	<	19		29	<	IN =	2294	<	37
	23	>	OUT =	1761	>	15		34	>	OUT =	2294	>	17
				v	^					v	^		
				768	1211					1640	1409		
EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCES): 2020							EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCES): 2020						
				266	272					203	176		
				v	^					v	^		
	138	<	IN =	580	<	22		133	<	IN =	494	<	14
	150	>	OUT =	580	>	25		109	>	OUT =	494	>	14
				v	^					v	^		
				145	142					171	168		
EXISTING PEAK HOUR MODEL YEAR (PCES): PHF FOR CARS: 0.38 PHF FOR TRUCKS: 0.333							EXISTING PEAK HOUR MODEL YEAR (PCES): PHF FOR CARS: 0.28 PHF FOR TRUCKS: 0.25						
				282	454					279	214		
				v	^					v	^		
	54	<	IN =	862	<	15		41	<	IN =	766	<	14
	59	>	OUT =	862	>	14		37	>	OUT =	766	>	8
				v	^					v	^		
				340	507					502	437		
FUTURE PEAK PERIOD MODEL YEAR (AUTO): 2040							FUTURE PEAK PERIOD MODEL YEAR (AUTO): 2040						
				4	5					12	5		
				v	^					v	^		
	4	<	IN =	9	<	0		12	<	IN =	17	<	0
	5	>	OUT =	9	>	0		5	>	OUT =	17	>	0
				v	^					v	^		
				0	0					0	0		
FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCES): 2040							FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCES): 2040						
				3	1					5	2		
				v	^					v	^		
	3	<	IN =	4	<	0		5	<	IN =	7	<	0
	1	>	OUT =	4	>	0		2	>	OUT =	7	>	0
				v	^					v	^		
				0	0					0	0		
FUTURE PEAK HOUR MODEL YEAR (PCES): PHF FOR CARS: 0.38 PHF FOR TRUCKS: 0.333							FUTURE PEAK HOUR MODEL YEAR (PCES): PHF FOR CARS: 0.28 PHF FOR TRUCKS: 0.25						
				3	2					5	2		
				v	^					v	^		
	3	<	IN =	5	<	0		5	<	IN =	7	<	0
	2	>	OUT =	5	>	0		2	>	OUT =	7	>	0
				v	^					v	^		
				0	0					0	0		
RAW GROWTH (PCES): 2020 TO 2040 CONVERSION OF TRUCKS TO: FACTOR = 1.00							RAW GROWTH (PCES): 2020 TO 2040 CONVERSION OF TRUCKS TO: FACTOR = 1.00						
				-279	-452					-274	-212		
				v	^					v	^		
	-52	<				< -15		-37	<				< -14
	-56	>				> -14		-35	>				> -8
				v	^					v	^		
				-340	-507					-502	-437		

US-395 (NS) / Twenty Mule Team Road (EW) - #3																
MORNING PEAK HOUR							EVENING PEAK HOUR									
ADJUSTED GROWTH (PCes):		2020	TO	2040			ADJUSTED GROWTH (PCes):		2020	TO	2040					
10.00 MINIMUM GROWTH %					40	40	10 MINIMUM GROWTH %					60	30			
					v	^						v	^			
			20	<	IN =	80	<	0			20	<	IN =	100	<	10
			20	>	OUT =	80	>	0			10	>	OUT =	80	>	0
					v	^						v	^			
					20	20						30	20			
PRORATED GROWTH (PCes):		2020	TO	2040			PRORATED GROWTH (PCes):		2020	TO	2040					
20 YEARS					40	40	20 YEARS					60	30			
					v	^						v	^			
			20	<			<	0			20	<			<	10
			20	>			>	0			10	>			>	0
					v	^						v	^			
					20	20						30	20			
NEW PROJECTED VOLUMES (PCes):		2040			400	420	NEW PROJECTED VOLUMES (PCes):		2040			650	360			
					v	^						v	^			
			180	<			<	40			180	<			<	60
			190	>			>	40			150	>			>	30
					v	^						v	^			
					310	320						550	270			
YEAR 2021 GROWTH:		2020	TO	2021			YEAR 2021 GROWTH:		2020	TO	2021					
1 YEARS					0	0	1 YEARS					0	0			
					v	^						v	^			
			0	<			<	0			0	<			<	0
			0	>			>	0			0	>			>	0
					v	^						v	^			
					0	0						0	0			
INITIAL YEAR 2021 VOLUMES:		2021			360	380	INITIAL YEAR 2021 VOLUMES:		2021			590	330			
					v	^						v	^			
			160	<	IN =	870	<	40			160	<	IN =	1030	<	50
			170	>	OUT =	870	>	40			140	>	OUT =	1040	>	30
					v	^						v	^			
					290	300						520	250			
BALANCED YEAR 2021 VOLUMES:		2021			360	380	BALANCED YEAR 2021 VOLUMES:		2021			600	330			
					v	^						v	^			
			160	<	IN =	870	<	40			160	<	IN =	1040	<	50
			170	>	OUT =	870	>	40			140	>	OUT =	1040	>	30
					v	^						v	^			
					290	300						520	250			
ADT BY LEG:		2040			190		ADT BY LEG:		2040			190				
					N							N				
			190	W	LEG	E	0				190	W	LEG	E	0	
					S							S				
					0							0				
ADT BY LEG:		2021			10,550		ADT BY LEG:		2021			10,550				
					N							N				
			3,520	W	LEG	E	940				3,520	W	LEG	E	940	
					S							S				
					8,845							8,845				

US-395 (NS) / Twenty Mule Team Road (EW) - #3
FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255

YEAR 2021 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2021 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2021 TOTAL
NORTH BOUND	LEFT	52	SOUTH LEG		NORTH BOUND	LEFT	49	SOUTH LEG	
	THRU	234		300		THRU	199		250
	RIGHT	9		290		RIGHT	5		520
SOUTH BOUND	LEFT	22	NORTH LEG		SOUTH BOUND	LEFT	23	NORTH LEG	
	THRU	247		360		THRU	460		600
	RIGHT	92		380		RIGHT	106		330
EAST BOUND	LEFT	121	WEST LEG		EAST BOUND	LEFT	94	WEST LEG	
	THRU	9		170		THRU	3		140
	RIGHT	43		160		RIGHT	46		160
WEST BOUND	LEFT	1	EAST LEG		WEST BOUND	LEFT	10	EAST LEG	
	THRU	16		40		THRU	7		50
	RIGHT	24		40		RIGHT	34		30

YEAR 2021 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2021 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2021 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH BOUND	LEFT	52	53	NORTH LEG	NORTH BOUND	LEFT	49	50	NORTH LEG
	THRU	234	239	RATIO 7.1%		THRU	199	203	RATIO 8.9%
	RIGHT	9	9	ADT 10,550		RIGHT	5	5	ADT 10,550
SOUTH BOUND	LEFT	22	22	SOUTH LEG	SOUTH BOUND	LEFT	23	23	SOUTH LEG
	THRU	247	252	RATIO 6.8%		THRU	460	469	RATIO 8.9%
	RIGHT	92	94	ADT 8,845		RIGHT	106	108	ADT 8,845
EAST BOUND	LEFT	121	123	EAST LEG	EAST BOUND	LEFT	94	96	EAST LEG
	THRU	9	9	RATIO 8.6%		THRU	3	3	RATIO 8.8%
	RIGHT	43	44	ADT 940		RIGHT	46	47	ADT 940
WEST BOUND	LEFT	1	1	WEST LEG	WEST BOUND	LEFT	10	10	WEST LEG
	THRU	16	16	RATIO 9.6%		THRU	7	7	RATIO 8.8%
	RIGHT	24	24	ADT 3,520		RIGHT	34	35	ADT 3,520

APPENDIX F

LEVEL OF SERVICE WORKSHEETS

EXISTING

Boron Beyond Food Mart Project

Vistro File: G:\...\AME.vistro
Report File: G:\...\AME.pdf

Scenario 1 Existing
3/27/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	US-395 Hwy (NS) at SR-58 WB Ramps (EW)	Signalized	HCM 6th Edition	WB Left	0.182	15.1	B
2	US-395 Hwy (NS) at SR-58 EB Ramps (EW)	Signalized	HCM 6th Edition	NB Left	0.319	15.3	B
3	US-395 Hwy (NS) at Twenty Mule Team Rd (EW)	Signalized	HCM 6th Edition	WB Left	0.347	17.9	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: US-395 Hwy (NS) at SR-58 WB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.182

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Base Volume Input [veh/h]	176	113	0	0	140	4	0	0	0	48	0	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	176	113	0	0	140	4	0	0	0	48	0	22
Peak Hour Factor	0.7397	0.7397	1.0000	1.0000	0.7397	0.7397	1.0000	1.0000	1.0000	0.7397	0.7397	0.7397
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	38	0	0	47	1	0	0	0	16	0	7
Total Analysis Volume [veh/h]	238	153	0	0	189	5	0	0	0	65	0	30
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	16	27	0	0	11	0	0	0	0	0	33	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		C	R
C, Cycle Length [s]	60	60	60	60		60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	7	46	36	36		6	6
g / C, Green / Cycle	0.12	0.77	0.59	0.59		0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.07	0.04	0.05	0.05		0.04	0.02
s, saturation flow rate [veh/h]	3329	3427	1800	1784		1714	1530
c, Capacity [veh/h]	386	2647	1062	1052		162	145
d1, Uniform Delay [s]	25.33	1.63	5.34	5.35		25.62	25.15
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	1.61	0.04	0.17	0.17		1.59	0.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.06	0.09	0.09		0.40	0.21
d, Delay for Lane Group [s/veh]	26.94	1.67	5.51	5.52		27.21	25.85
Lane Group LOS	C	A	A	A		C	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	1.52	0.03	0.38	0.38		0.90	0.40
50th-Percentile Queue Length [ft/ln]	38.05	0.83	9.60	9.62		22.47	10.07
95th-Percentile Queue Length [veh/ln]	2.74	0.06	0.69	0.69		1.62	0.72
95th-Percentile Queue Length [ft/ln]	68.49	1.49	17.28	17.31		40.44	18.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.94	1.67	0.00	0.00	5.52	5.52	0.00	0.00	0.00	27.21	27.21	25.85
Movement LOS	C	A			A	A				C	C	C
d_A, Approach Delay [s/veh]	17.05			5.52			0.00			26.78		
Approach LOS	B			A			A			C		
d_I, Intersection Delay [s/veh]	15.12											
Intersection LOS	B											
Intersection V/C	0.182											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	767			233			0			967		
d_b, Bicycle Delay [s]	11.41			23.41			30.00			8.01		
I_b,int, Bicycle LOS Score for Intersection	1.882			1.720			4.132			1.716		
Bicycle LOS	A			A			D			A		

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: US-395 Hwy (NS) at SR-58 EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	15.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.319

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	2	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Base Volume Input [veh/h]	12	450	84	36	234	6	3	3	9	266	0	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	450	84	36	234	6	3	3	9	266	0	6
Peak Hour Factor	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	125	23	10	65	2	1	1	3	74	0	2
Total Analysis Volume [veh/h]	13	501	94	40	261	7	3	3	10	296	0	7
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	17	0	15	21	0	0	11	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	35	35	4	38	38	2	2	8	8
g / C, Green / Cycle	0.02	0.54	0.54	0.06	0.58	0.58	0.03	0.03	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.01	0.17	0.17	0.01	0.07	0.07	0.00	0.01	0.09	0.09
s, saturation flow rate [veh/h]	1714	1800	1703	3329	1800	1784	1714	1585	1714	1705
c, Capacity [veh/h]	42	976	923	192	1035	1026	50	46	216	214
d1, Uniform Delay [s]	31.28	8.24	8.25	29.33	6.37	6.37	30.82	31.02	27.37	27.37
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.01	0.83	0.89	0.53	0.26	0.26	0.50	3.26	4.16	4.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.31	0.31	0.21	0.13	0.13	0.06	0.28	0.70	0.70
d, Delay for Lane Group [s/veh]	35.29	9.07	9.14	29.86	6.62	6.63	31.31	34.28	31.53	31.56
Lane Group LOS	D	A	A	C	A	A	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.23	1.94	1.86	0.29	0.67	0.66	0.05	0.24	2.41	2.40
50th-Percentile Queue Length [ft/ln]	5.80	48.48	46.60	7.19	16.65	16.59	1.29	5.94	60.19	59.95
95th-Percentile Queue Length [veh/ln]	0.42	3.49	3.36	0.52	1.20	1.19	0.09	0.43	4.33	4.32
95th-Percentile Queue Length [ft/ln]	10.44	87.26	83.88	12.94	29.97	29.86	2.33	10.69	108.34	107.91

Movement, Approach, & Intersection Results

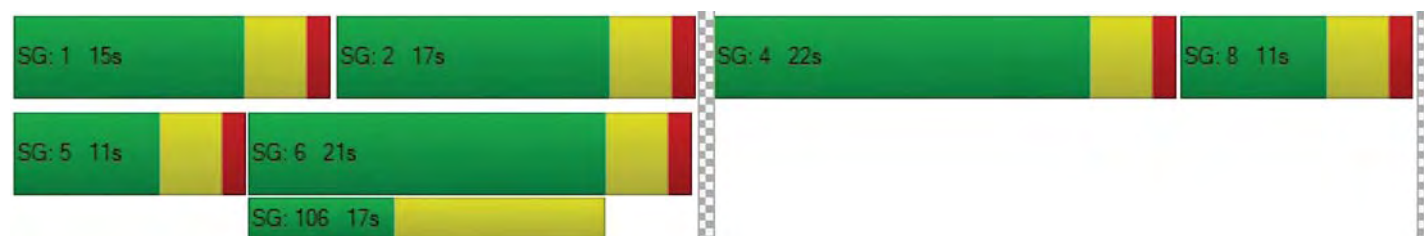
d_M, Delay for Movement [s/veh]	35.29	9.10	9.14	29.86	6.63	6.63	31.31	34.28	34.28	31.55	31.56	31.56
Movement LOS	D	A	A	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	9.67			9.64			33.72			31.55		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	15.34											
Intersection LOS	B											
Intersection V/C	0.319											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			11.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			22.43			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			1.932			0.000		
Crosswalk LOS	F			F			A			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	400			523			215			554		
d_b, Bicycle Delay [s]	20.80			17.72			25.88			16.99		
I_b,int, Bicycle LOS Score for Intersection	2.061			1.814			1.586			2.060		
Bicycle LOS	B			A			A			B		

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 3: US-395 Hwy (NS) at Twenty Mule Team Rd (EW)**

Control Type:	Signalized	Delay (sec / veh):	17.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.347

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	230.00	100.00	150.00	65.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Base Volume Input [veh/h]	52	234	9	22	247	92	121	9	43	1	16	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	234	9	22	247	92	121	9	43	1	16	24
Peak Hour Factor	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	79	3	7	83	31	41	3	14	0	5	8
Total Analysis Volume [veh/h]	70	314	12	30	331	123	162	12	58	1	21	32
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	21	0	11	21	0	17	27	0	11	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	38	38	3	36	36	8	13	13	0	5	5
g / C, Green / Cycle	0.07	0.54	0.54	0.04	0.51	0.51	0.12	0.18	0.18	0.00	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.04	0.17	0.01	0.02	0.13	0.13	0.09	0.01	0.04	0.00	0.01	0.02
s, saturation flow rate [veh/h]	1714	1800	1530	1714	1800	1638	1714	1800	1530	1714	1800	1530
c, Capacity [veh/h]	129	977	830	78	923	840	203	326	277	5	118	100
d1, Uniform Delay [s]	31.25	8.88	7.39	32.53	9.58	9.61	30.09	23.68	24.45	34.89	31.00	31.29
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.50	0.87	0.03	3.11	0.67	0.75	7.01	0.05	0.37	20.46	0.72	1.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.54	0.32	0.01	0.39	0.25	0.26	0.80	0.04	0.21	0.21	0.18	0.32
d, Delay for Lane Group [s/veh]	34.75	9.75	7.42	35.64	10.24	10.37	37.10	23.72	24.82	55.35	31.71	33.11
Lane Group LOS	C	A	A	D	B	B	D	C	C	E	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.18	2.25	0.07	0.53	1.76	1.67	2.75	0.15	0.75	0.04	0.32	0.51
50th-Percentile Queue Length [ft/ln]	29.48	56.37	1.79	13.15	44.11	41.63	68.69	3.71	18.70	1.06	8.12	12.85
95th-Percentile Queue Length [veh/ln]	2.12	4.06	0.13	0.95	3.18	3.00	4.95	0.27	1.35	0.08	0.58	0.93
95th-Percentile Queue Length [ft/ln]	53.07	101.47	3.22	23.67	79.40	74.93	123.64	6.67	33.65	1.91	14.61	23.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.75	9.75	7.42	35.64	10.28	10.37	37.10	23.72	24.82	55.35	31.71	33.11
Movement LOS	C	A	A	D	B	B	D	C	C	E	C	C
d_A, Approach Delay [s/veh]	14.10			11.87			33.34			32.98		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	17.88											
Intersection LOS	B											
Intersection V/C	0.347											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			0.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	24.86			24.86			0.00			24.86		
I_p,int, Pedestrian LOS Score for Intersection	2.516			2.480			0.000			2.325		
Crosswalk LOS	B			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	486			486			657			486		
d_b, Bicycle Delay [s]	20.06			20.06			15.78			20.06		
I_b,int, Bicycle LOS Score for Intersection	2.213			1.959			1.751			1.604		
Bicycle LOS	B			A			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Boron Beyond Food Mart Project

Vistro File: G:\...\PME.vistro
Report File: G:\...\PME.pdf

Scenario 1 Existing
3/27/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	US-395 Hwy (NS) at SR-58 WB Ramps (EW)	Signalized	HCM 6th Edition	WB Left	0.196	11.5	B
2	US-395 Hwy (NS) at SR-58 EB Ramps (EW)	Signalized	HCM 6th Edition	EB Right	0.271	16.2	B
3	US-395 Hwy (NS) at Twenty Mule Team Rd (EW)	Signalized	HCM 6th Edition	WB Left	0.344	15.0	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: US-395 Hwy (NS) at SR-58 WB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.196

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Base Volume Input [veh/h]	134	142	0	0	244	3	0	0	0	46	0	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	134	142	0	0	244	3	0	0	0	46	0	15
Peak Hour Factor	0.7724	0.7724	1.0000	1.0000	0.7724	0.7724	1.0000	1.0000	1.0000	0.7724	0.7724	0.7724
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	46	0	0	79	1	0	0	0	15	0	5
Total Analysis Volume [veh/h]	173	184	0	0	316	4	0	0	0	60	0	19
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	11	22	0	0	11	0	0	0	0	0	38	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		C	R
C, Cycle Length [s]	60	60	60	60		60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	7	47	36	36		5	5
g / C, Green / Cycle	0.11	0.78	0.60	0.60		0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.05	0.05	0.09	0.09		0.04	0.01
s, saturation flow rate [veh/h]	3329	3427	1800	1792		1714	1530
c, Capacity [veh/h]	372	2672	1082	1078		150	134
d1, Uniform Delay [s]	25.04	1.55	5.25	5.25		25.96	25.36
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.91	0.05	0.29	0.29		1.72	0.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.07	0.15	0.15		0.40	0.14
d, Delay for Lane Group [s/veh]	25.95	1.60	5.54	5.54		27.67	25.84
Lane Group LOS	C	A	A	A		C	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	1.08	0.03	0.62	0.63		0.84	0.26
50th-Percentile Queue Length [ft/ln]	26.88	0.71	15.62	15.63		21.00	6.39
95th-Percentile Queue Length [veh/ln]	1.94	0.05	1.12	1.13		1.51	0.46
95th-Percentile Queue Length [ft/ln]	48.39	1.27	28.11	28.14		37.81	11.50

Movement, Approach, & Intersection Results

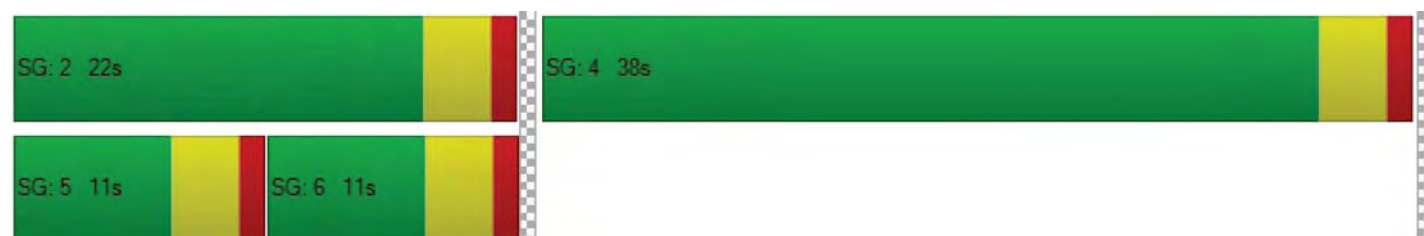
d_M, Delay for Movement [s/veh]	25.95	1.60	0.00	0.00	5.54	5.54	0.00	0.00	0.00	27.67	27.67	25.84
Movement LOS	C	A			A	A				C	C	C
d_A, Approach Delay [s/veh]	13.40			5.54			0.00			27.23		
Approach LOS	B			A			A			C		
d_I, Intersection Delay [s/veh]	11.52											
Intersection LOS	B											
Intersection V/C	0.196											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			233			0			1133		
d_b, Bicycle Delay [s]	14.70			23.41			30.00			5.63		
I_b,int, Bicycle LOS Score for Intersection	1.854			1.824			4.132			1.690		
Bicycle LOS	A			A			D			A		

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: US-395 Hwy (NS) at SR-58 EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	16.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.271

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	2	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Base Volume Input [veh/h]	0	256	58	22	246	3	3	2	3	291	1	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	256	58	22	246	3	3	2	3	291	1	9
Peak Hour Factor	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	80	18	7	77	1	1	1	1	91	0	3
Total Analysis Volume [veh/h]	0	321	73	28	309	4	4	3	4	365	1	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	12	0	20	21	0	0	11	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	35	35	3	38	38	1	1	10	10
g / C, Green / Cycle	0.00	0.54	0.54	0.04	0.59	0.59	0.02	0.02	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.00	0.11	0.11	0.01	0.09	0.09	0.00	0.00	0.11	0.11
s, saturation flow rate [veh/h]	1714	1800	1687	3329	1800	1792	1714	1635	1714	1703
c, Capacity [veh/h]	2	976	915	146	1054	1049	35	33	253	251
d1, Uniform Delay [s]	0.00	7.68	7.70	30.02	6.13	6.13	31.32	31.38	26.60	26.60
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.48	0.52	0.63	0.30	0.30	1.42	3.04	4.38	4.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.21	0.21	0.19	0.15	0.15	0.11	0.21	0.75	0.75
d, Delay for Lane Group [s/veh]	0.00	8.16	8.23	30.64	6.43	6.43	32.74	34.43	30.98	31.01
Lane Group LOS	A	A	A	C	A	A	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	1.19	1.15	0.21	0.76	0.76	0.07	0.13	2.97	2.96
50th-Percentile Queue Length [ft/ln]	0.00	29.75	28.82	5.16	18.94	18.91	1.86	3.35	74.29	73.88
95th-Percentile Queue Length [veh/ln]	0.00	2.14	2.07	0.37	1.36	1.36	0.13	0.24	5.35	5.32
95th-Percentile Queue Length [ft/ln]	0.00	53.55	51.87	9.29	34.09	34.03	3.34	6.04	133.73	132.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	8.19	8.23	30.64	6.43	6.43	32.74	34.43	34.43	30.99	31.01	31.01
Movement LOS	A	A	A	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	8.19			8.42			33.82			30.99		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	16.17											
Intersection LOS	B											
Intersection V/C	0.271											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			11.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			22.43			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			1.927			0.000		
Crosswalk LOS	F			F			A			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	246			523			215			554		
d_b, Bicycle Delay [s]	24.99			17.72			25.88			16.99		
I_b,int, Bicycle LOS Score for Intersection	1.885			1.841			1.578			2.182		
Bicycle LOS	A			A			A			B		

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 3: US-395 Hwy (NS) at Twenty Mule Team Rd (EW)**

Control Type:	Signalized	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.344

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↔↔↔			↔↔↔			↔↔↔			↔↔↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	230.00	100.00	150.00	65.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Base Volume Input [veh/h]	49	199	5	23	460	106	94	3	46	10	7	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	199	5	23	460	106	94	3	46	10	7	34
Peak Hour Factor	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	56	1	6	129	30	26	1	13	3	2	10
Total Analysis Volume [veh/h]	55	224	6	26	517	119	106	3	52	11	8	38
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	21	0	11	21	0	12	22	0	11	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	36	36	3	35	35	6	9	9	1	4	4
g / C, Green / Cycle	0.07	0.56	0.56	0.04	0.53	0.53	0.09	0.13	0.13	0.02	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.03	0.12	0.00	0.02	0.18	0.18	0.06	0.00	0.03	0.01	0.00	0.02
s, saturation flow rate [veh/h]	1714	1800	1530	1714	1800	1685	1714	1800	1530	1714	1800	1530
c, Capacity [veh/h]	120	1000	850	73	951	890	161	243	207	37	113	96
d1, Uniform Delay [s]	29.16	7.36	6.47	30.37	8.88	8.90	28.58	24.46	25.28	31.45	28.79	29.39
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.70	0.52	0.02	2.89	0.99	1.07	4.56	0.02	0.63	4.40	0.26	2.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.22	0.01	0.36	0.34	0.35	0.66	0.01	0.25	0.30	0.07	0.39
d, Delay for Lane Group [s/veh]	31.85	7.88	6.49	33.26	9.87	9.97	33.14	24.48	25.91	35.85	29.05	32.00
Lane Group LOS	C	A	A	C	A	A	C	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.84	1.28	0.03	0.42	2.23	2.13	1.60	0.04	0.66	0.20	0.11	0.57
50th-Percentile Queue Length [ft/ln]	21.12	31.95	0.76	10.56	55.86	53.15	40.10	0.91	16.58	4.92	2.81	14.36
95th-Percentile Queue Length [veh/ln]	1.52	2.30	0.05	0.76	4.02	3.83	2.89	0.07	1.19	0.35	0.20	1.03
95th-Percentile Queue Length [ft/ln]	38.01	57.51	1.36	19.02	100.55	95.68	72.17	1.64	29.84	8.86	5.05	25.85

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.85	7.88	6.49	33.26	9.91	9.97	33.14	24.48	25.91	35.85	29.05	32.00
Movement LOS	C	A	A	C	A	A	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	12.48			10.84			30.64			32.33		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	15.03											
Intersection LOS	B											
Intersection V/C	0.344											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			0.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	22.43			22.43			0.00			22.43		
I_p,int, Pedestrian LOS Score for Intersection	2.535			2.490			0.000			2.315		
Crosswalk LOS	B			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	523			523			554			523		
d_b, Bicycle Delay [s]	17.72			17.72			16.99			17.72		
I_b,int, Bicycle LOS Score for Intersection	2.030			2.106			1.692			1.607		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



EXISTING PLUS PROJECT

Boron Beyond Food Mart Project

Vistro File: G:\...\AME.vistro

Scenario 2 Existing Plus Project (no passby reduction)

Report File: G:\...\AMEp.pdf

3/27/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	US-395 Hwy (NS) at SR-58 WB Ramps (EW)	Signalized	HCM 6th Edition	WB Left	0.327	17.2	B
2	US-395 Hwy (NS) at SR-58 EB Ramps (EW)	Signalized	HCM 6th Edition	NB Left	0.455	22.3	C
3	US-395 Hwy (NS) at Twenty Mule Team Rd (EW)	Signalized	HCM 6th Edition	WB Left	0.398	18.0	B
4	US-395 Hwy (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	EB Right	0.096	12.8	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: US-395 Hwy (NS) at SR-58 WB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	17.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.327

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Base Volume Input [veh/h]	176	113	0	0	140	4	0	0	0	48	0	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	91	60	0	0	60	0	0	0	0	90	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	267	173	0	0	200	4	0	0	0	138	0	22
Peak Hour Factor	0.7397	0.7397	1.0000	1.0000	0.7397	0.7397	1.0000	1.0000	1.0000	0.7397	0.7397	0.7397
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	58	0	0	68	1	0	0	0	47	0	7
Total Analysis Volume [veh/h]	361	234	0	0	270	5	0	0	0	187	0	30
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	16	27	0	0	11	0	0	0	0	0	33	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		C	R
C, Cycle Length [s]	60	60	60	60		60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	9	43	31	31		9	9
g / C, Green / Cycle	0.14	0.72	0.51	0.51		0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.11	0.07	0.08	0.08		0.11	0.02
s, saturation flow rate [veh/h]	3329	3427	1800	1789		1714	1530
c, Capacity [veh/h]	485	2478	920	914		247	220
d1, Uniform Delay [s]	24.63	2.48	7.79	7.79		24.74	22.48
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	2.30	0.08	0.34	0.35		4.71	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.09	0.15	0.15		0.76	0.14
d, Delay for Lane Group [s/veh]	26.93	2.55	8.13	8.14		29.45	22.76
Lane Group LOS	C	A	A	A		C	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	2.32	0.16	0.77	0.77		2.72	0.37
50th-Percentile Queue Length [ft/ln]	58.07	3.94	19.21	19.24		67.98	9.16
95th-Percentile Queue Length [veh/ln]	4.18	0.28	1.38	1.39		4.89	0.66
95th-Percentile Queue Length [ft/ln]	104.53	7.08	34.58	34.63		122.36	16.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.93	2.55	0.00	0.00	8.14	8.14	0.00	0.00	0.00	29.45	29.45	22.76
Movement LOS	C	A			A	A				C	C	C
d_A, Approach Delay [s/veh]	17.35			8.14			0.00			28.52		
Approach LOS	B			A			A			C		
d_I, Intersection Delay [s/veh]	17.25											
Intersection LOS	B											
Intersection V/C	0.327											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0				0.0				0.0			
M_corner, Corner Circulation Area [ft ² /ped]	0.00				0.00				0.00			
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00				0.00				0.00			
d_p, Pedestrian Delay [s]	0.00				0.00				0.00			
I_p,int, Pedestrian LOS Score for Intersection	0.000				0.000				0.000			
Crosswalk LOS	F				F				F			
s_b, Saturation Flow Rate of the bicycle lane	2000				2000				2000			
c_b, Capacity of the bicycle lane [bicycles/h]	767				233				0			
d_b, Bicycle Delay [s]	11.41				23.41				30.00			
I_b,int, Bicycle LOS Score for Intersection	2.050				1.786				4.132			
Bicycle LOS	B				A				D			

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: US-395 Hwy (NS) at SR-58 EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.455

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	2	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Base Volume Input [veh/h]	12	450	84	36	234	6	3	3	9	266	0	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	60	0	0	0	45	105	151	91	15	0	90	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	72	450	84	36	279	111	154	94	24	266	90	6
Peak Hour Factor	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	125	23	10	78	31	43	26	7	74	25	2
Total Analysis Volume [veh/h]	80	501	94	40	311	124	172	105	27	296	100	7
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	17	0	15	21	0	0	11	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	27	27	4	25	25	9	9	10	10
g / C, Green / Cycle	0.08	0.41	0.41	0.06	0.38	0.38	0.13	0.13	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.05	0.17	0.17	0.01	0.13	0.13	0.10	0.08	0.12	0.12
s, saturation flow rate [veh/h]	1714	1800	1703	3329	1800	1630	1714	1737	1714	1748
c, Capacity [veh/h]	145	734	694	192	686	621	230	233	266	271
d1, Uniform Delay [s]	28.70	13.79	13.80	29.33	14.29	14.34	27.19	26.47	26.37	26.37
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.27	1.73	1.85	0.53	1.28	1.47	4.78	2.15	4.25	4.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.42	0.42	0.21	0.33	0.34	0.75	0.57	0.75	0.75
d, Delay for Lane Group [s/veh]	31.97	15.52	15.65	29.86	15.57	15.81	31.96	28.61	30.63	30.54
Lane Group LOS	C	B	B	C	B	B	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.22	2.97	2.84	0.29	2.20	2.08	2.79	2.00	3.12	3.17
50th-Percentile Queue Length [ft/ln]	30.60	74.13	71.05	7.19	55.07	51.96	69.84	49.95	78.02	79.34
95th-Percentile Queue Length [veh/ln]	2.20	5.34	5.12	0.52	3.97	3.74	5.03	3.60	5.62	5.71
95th-Percentile Queue Length [ft/ln]	55.08	133.44	127.89	12.94	99.13	93.53	125.72	89.91	140.43	142.81

Movement, Approach, & Intersection Results

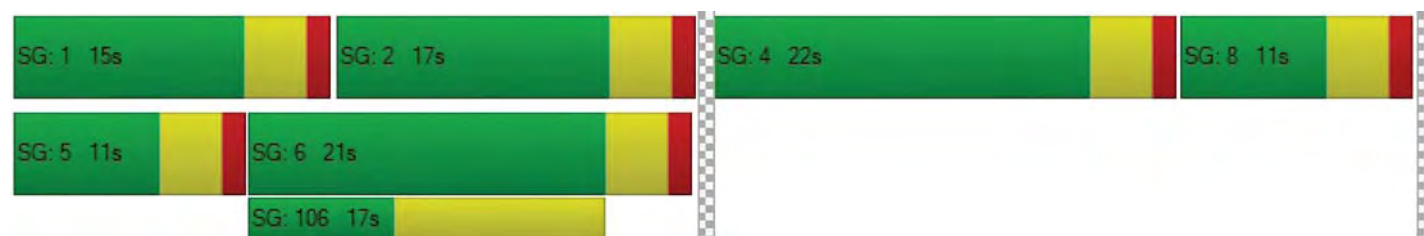
d_M, Delay for Movement [s/veh]	31.97	15.57	15.65	29.86	15.64	15.81	31.96	28.61	28.61	30.60	30.54	30.54
Movement LOS	C	B	B	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	17.52			16.88			30.51			30.58		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	22.32											
Intersection LOS	C											
Intersection V/C	0.455											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			11.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			22.43			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.087			0.000		
Crosswalk LOS	F			F			B			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	400			523			215			554		
d_b, Bicycle Delay [s]	20.80			17.72			25.88			16.99		
I_b,int, Bicycle LOS Score for Intersection	2.116			1.951			2.061			2.225		
Bicycle LOS	B			A			B			B		

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 3: US-395 Hwy (NS) at Twenty Mule Team Rd (EW)**

Control Type:	Signalized	Delay (sec / veh):	18.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.398

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↔↔↔			↔↔↔			↔↔↔			↔↔↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	230.00	100.00	150.00	65.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Base Volume Input [veh/h]	52	234	9	22	247	92	121	9	43	1	16	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	45	0	0	45	15	15	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	279	9	22	292	107	136	9	43	1	16	24
Peak Hour Factor	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	94	3	7	98	36	46	3	14	0	5	8
Total Analysis Volume [veh/h]	70	374	12	30	392	144	183	12	58	1	21	32
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	21	0	11	21	0	17	27	0	11	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	37	37	3	35	35	9	14	14	0	5	5
g / C, Green / Cycle	0.07	0.53	0.53	0.04	0.50	0.50	0.13	0.19	0.19	0.00	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.04	0.21	0.01	0.02	0.15	0.16	0.11	0.01	0.04	0.00	0.01	0.02
s, saturation flow rate [veh/h]	1714	1800	1530	1714	1800	1638	1714	1800	1530	1714	1800	1530
c, Capacity [veh/h]	129	953	810	78	899	818	226	350	297	5	118	100
d1, Uniform Delay [s]	31.25	9.80	7.82	32.53	10.39	10.42	29.59	22.92	23.66	34.89	31.00	31.29
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.50	1.21	0.03	3.11	0.90	1.01	6.82	0.04	0.32	20.46	0.72	1.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.54	0.39	0.01	0.39	0.31	0.31	0.81	0.03	0.20	0.21	0.18	0.32
d, Delay for Lane Group [s/veh]	34.75	11.01	7.86	35.64	11.29	11.43	36.41	22.96	23.98	55.35	31.71	33.11
Lane Group LOS	C	B	A	D	B	B	D	C	C	E	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.18	2.95	0.07	0.53	2.25	2.11	3.07	0.14	0.73	0.04	0.32	0.51
50th-Percentile Queue Length [ft/ln]	29.48	73.72	1.87	13.15	56.26	52.71	76.71	3.62	18.25	1.06	8.12	12.85
95th-Percentile Queue Length [veh/ln]	2.12	5.31	0.13	0.95	4.05	3.80	5.52	0.26	1.31	0.08	0.58	0.93
95th-Percentile Queue Length [ft/ln]	53.07	132.70	3.37	23.67	101.27	94.88	138.07	6.52	32.85	1.91	14.61	23.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.75	11.01	7.86	35.64	11.33	11.43	36.41	22.96	23.98	55.35	31.71	33.11
Movement LOS	C	B	A	D	B	B	D	C	C	E	C	C
d_A, Approach Delay [s/veh]	14.57			12.64			32.92			32.98		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	17.99											
Intersection LOS	B											
Intersection V/C	0.398											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			0.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	24.86			24.86			0.00			24.86		
I_p,int, Pedestrian LOS Score for Intersection	2.551			2.540			0.000			2.325		
Crosswalk LOS	B			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	486			486			657			486		
d_b, Bicycle Delay [s]	20.06			20.06			15.78			20.06		
I_b,int, Bicycle LOS Score for Intersection	2.312			2.027			1.768			1.604		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: US-395 Hwy (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.096

Intersection Setup

Name	US-395 Hwy		US-395 Hwy		Project Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	I		IT		R	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	US-395 Hwy		US-395 Hwy		Project Dwy	
Base Volume Input [veh/h]	0	546	509	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	60	15	45	0	45
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	606	524	45	0	45
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	165	142	12	0	12
Total Analysis Volume [veh/h]	0	659	570	49	0	49
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.10
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.84
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.32
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	7.96
d_A, Approach Delay [s/veh]	0.00		0.00		12.84	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.47					
Intersection LOS	B					

Boron Beyond Food Mart Project

Vistro File: G:\...\PME.vistro

Scenario 2 Existing Plus Project (no passby reduction)

Report File: G:\...\PMEp.pdf

3/27/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	US-395 Hwy (NS) at SR-58 WB Ramps (EW)	Signalized	HCM 6th Edition	WB Left	0.311	14.8	B
2	US-395 Hwy (NS) at SR-58 EB Ramps (EW)	Signalized	HCM 6th Edition	EB Left	0.462	22.7	C
3	US-395 Hwy (NS) at Twenty Mule Team Rd (EW)	Signalized	HCM 6th Edition	WB Left	0.372	15.2	B
4	US-395 Hwy (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	EB Right	0.090	13.6	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: US-395 Hwy (NS) at SR-58 WB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.311

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	三三三			三三三						三三三		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Base Volume Input [veh/h]	134	142	0	0	244	3	0	0	0	46	0	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	75	50	0	0	50	0	0	0	0	75	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	209	192	0	0	294	3	0	0	0	121	0	15
Peak Hour Factor	0.7724	0.7724	1.0000	1.0000	0.7724	0.7724	1.0000	1.0000	1.0000	0.7724	0.7724	0.7724
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	62	0	0	95	1	0	0	0	39	0	5
Total Analysis Volume [veh/h]	271	249	0	0	381	4	0	0	0	157	0	19
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	11	22	0	0	11	0	0	0	0	0	38	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		C	R
C, Cycle Length [s]	60	60	60	60		60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	7	45	34	34		7	7
g / C, Green / Cycle	0.12	0.74	0.56	0.56		0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.08	0.07	0.11	0.11		0.09	0.01
s, saturation flow rate [veh/h]	3329	3427	1800	1793		1714	1530
c, Capacity [veh/h]	388	2548	1009	1005		212	189
d1, Uniform Delay [s]	25.55	2.13	6.51	6.51		25.44	23.40
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	2.27	0.08	0.42	0.42		5.06	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.10	0.19	0.19		0.74	0.10
d, Delay for Lane Group [s/veh]	27.82	2.21	6.93	6.94		30.50	23.63
Lane Group LOS	C	A	A	A		C	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	1.77	0.12	0.93	0.93		2.33	0.24
50th-Percentile Queue Length [ft/ln]	44.32	3.03	23.15	23.17		58.25	5.96
95th-Percentile Queue Length [veh/ln]	3.19	0.22	1.67	1.67		4.19	0.43
95th-Percentile Queue Length [ft/ln]	79.78	5.46	41.67	41.71		104.84	10.72

Movement, Approach, & Intersection Results

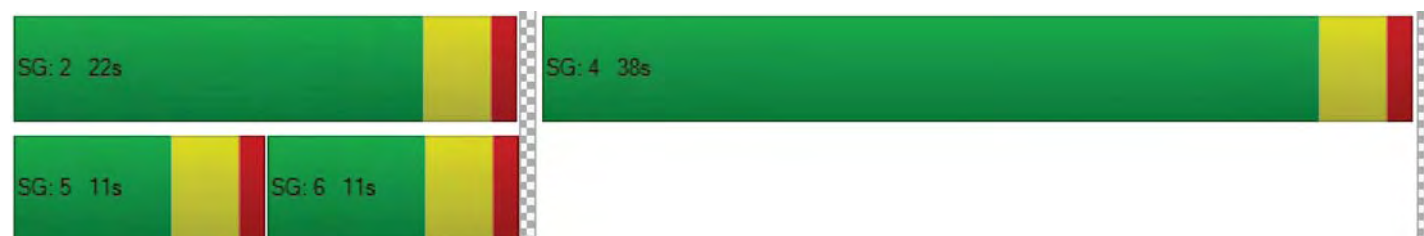
d_M, Delay for Movement [s/veh]	27.82	2.21	0.00	0.00	6.93	6.94	0.00	0.00	0.00	30.50	30.50	23.63
Movement LOS	C	A			A	A				C	C	C
d_A, Approach Delay [s/veh]	15.56			6.93			0.00			29.76		
Approach LOS	B			A			A			C		
d_I, Intersection Delay [s/veh]	14.80											
Intersection LOS	B											
Intersection V/C	0.311											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			233			0			1133		
d_b, Bicycle Delay [s]	14.70			23.41			30.00			5.63		
I_b,int, Bicycle LOS Score for Intersection	1.989			1.877			4.132			1.850		
Bicycle LOS	A			A			D			A		

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: US-395 Hwy (NS) at SR-58 EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	22.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	2	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Base Volume Input [veh/h]	0	256	58	22	246	3	3	2	3	291	1	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	51	0	0	0	38	88	125	75	13	0	75	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	256	58	22	284	91	128	77	16	291	76	9
Peak Hour Factor	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	80	18	7	89	29	40	24	5	91	24	3
Total Analysis Volume [veh/h]	64	321	73	28	357	114	161	97	20	365	95	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	12	0	20	21	0	0	11	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	27	27	3	25	25	8	8	11	11
g / C, Green / Cycle	0.07	0.41	0.41	0.04	0.38	0.38	0.13	0.13	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.11	0.01	0.14	0.14	0.09	0.07	0.14	0.14
s, saturation flow rate [veh/h]	1714	1800	1687	3329	1800	1654	1714	1747	1714	1738
c, Capacity [veh/h]	129	738	691	146	682	627	216	221	299	303
d1, Uniform Delay [s]	28.95	12.78	12.80	30.02	14.53	14.57	27.44	26.65	25.71	25.71
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.96	0.92	1.00	0.63	1.46	1.63	5.01	1.97	4.48	4.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.27	0.28	0.19	0.36	0.36	0.74	0.53	0.78	0.78
d, Delay for Lane Group [s/veh]	31.91	13.69	13.80	30.64	15.99	16.21	32.45	28.62	30.20	30.14
Lane Group LOS	C	B	B	C	B	B	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.98	1.80	1.73	0.21	2.42	2.30	2.64	1.77	3.64	3.68
50th-Percentile Queue Length [ft/ln]	24.52	44.88	43.24	5.16	60.60	57.58	65.89	44.21	90.91	92.03
95th-Percentile Queue Length [veh/ln]	1.77	3.23	3.11	0.37	4.36	4.15	4.74	3.18	6.55	6.63
95th-Percentile Queue Length [ft/ln]	44.14	80.79	77.83	9.29	109.09	103.64	118.60	79.58	163.64	165.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.91	13.73	13.80	30.64	16.06	16.21	32.45	28.62	28.62	30.18	30.14	30.14
Movement LOS	C	B	B	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	16.28			16.91			30.84			30.17		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	22.67											
Intersection LOS	C											
Intersection V/C	0.462											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			11.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			22.43			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.071			0.000		
Crosswalk LOS	F			F			B			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	246			523			215			554		
d_b, Bicycle Delay [s]	24.99			17.72			25.88			16.99		
I_b,int, Bicycle LOS Score for Intersection	1.937			1.971			2.018			2.337		
Bicycle LOS	A			A			B			B		

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 3: US-395 Hwy (NS) at Twenty Mule Team Rd (EW)**

Control Type:	Signalized	Delay (sec / veh):	15.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.372

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↔↔↔			↔↔↔			↔↔↔			↔↔↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	230.00	100.00	150.00	65.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Base Volume Input [veh/h]	49	199	5	23	460	106	94	3	46	10	7	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	38	0	0	38	13	13	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	237	5	23	498	119	107	3	46	10	7	34
Peak Hour Factor	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	67	1	6	140	33	30	1	13	3	2	10
Total Analysis Volume [veh/h]	55	266	6	26	560	134	120	3	52	11	8	38
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	21	0	11	21	0	12	22	0	11	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	36	36	3	34	34	6	9	9	1	4	4
g / C, Green / Cycle	0.07	0.55	0.55	0.04	0.53	0.53	0.10	0.14	0.14	0.02	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.03	0.15	0.00	0.02	0.20	0.20	0.07	0.00	0.03	0.01	0.00	0.02
s, saturation flow rate [veh/h]	1714	1800	1530	1714	1800	1682	1714	1800	1530	1714	1800	1530
c, Capacity [veh/h]	120	994	845	73	944	882	167	250	212	37	113	96
d1, Uniform Delay [s]	29.16	7.69	6.58	30.37	9.21	9.22	28.60	24.26	25.07	31.45	28.79	29.39
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.70	0.66	0.02	2.89	1.16	1.25	5.73	0.02	0.59	4.40	0.26	2.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.27	0.01	0.36	0.38	0.38	0.72	0.01	0.25	0.30	0.07	0.39
d, Delay for Lane Group [s/veh]	31.85	8.35	6.59	33.26	10.37	10.47	34.33	24.28	25.66	35.85	29.05	32.00
Lane Group LOS	C	A	A	C	B	B	C	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.84	1.59	0.03	0.42	2.54	2.40	1.86	0.04	0.66	0.20	0.11	0.57
50th-Percentile Queue Length [ft/ln]	21.12	39.65	0.77	10.56	63.39	60.06	46.41	0.90	16.46	4.92	2.81	14.36
95th-Percentile Queue Length [veh/ln]	1.52	2.85	0.06	0.76	4.56	4.32	3.34	0.07	1.19	0.35	0.20	1.03
95th-Percentile Queue Length [ft/ln]	38.01	71.36	1.38	19.02	114.10	108.11	83.53	1.63	29.63	8.86	5.05	25.85

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.85	8.35	6.59	33.26	10.40	10.47	34.33	24.28	25.66	35.85	29.05	32.00
Movement LOS	C	A	A	C	B	B	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	12.27			11.24			31.58			32.33		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	15.23											
Intersection LOS	B											
Intersection V/C	0.372											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			0.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	22.43			22.43			0.00			22.43		
I_p,int, Pedestrian LOS Score for Intersection	2.560			2.531			0.000			2.315		
Crosswalk LOS	B			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	523			523			554			523		
d_b, Bicycle Delay [s]	17.72			17.72			16.99			17.72		
I_b,int, Bicycle LOS Score for Intersection	2.099			2.154			1.704			1.607		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: US-395 Hwy (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.090

Intersection Setup

Name	US-395 Hwy		US-395 Hwy		Project Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	I		IT		R	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	US-395 Hwy		US-395 Hwy		Project Dwy	
Base Volume Input [veh/h]	0	327	589	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	51	13	38	0	38
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	378	602	38	0	38
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	103	164	10	0	10
Total Analysis Volume [veh/h]	0	411	654	41	0	41
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.64
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.29
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	7.34
d_A, Approach Delay [s/veh]	0.00		0.00		13.64	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.49					
Intersection LOS	B					

OPENING YEAR (2021) WITHOUT PROJECT

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Report File: G:\...\AMOY.pdf

Boron Beyond Food Mart Project
Scenario 1 Opening Year Without Project
3/27/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	US-395 Hwy (NS) at SR-58 WB Ramps (EW)	Signalized	HCM 6th Edition	WB Left	0.202	15.3	B
2	US-395 Hwy (NS) at SR-58 EB Ramps (EW)	Signalized	HCM 6th Edition	NB Left	0.339	15.6	B
3	US-395 Hwy (NS) at Twenty Mule Team Rd (EW)	Signalized	HCM 6th Edition	WB Left	0.371	18.4	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: US-395 Hwy (NS) at SR-58 WB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	15.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.202

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Base Volume Input [veh/h]	180	121	0	0	143	4	0	0	0	51	0	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	9	0	0	6	0	0	0	0	9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	189	130	0	0	149	4	0	0	0	60	0	22
Peak Hour Factor	0.7397	0.7397	1.0000	1.0000	0.7397	0.7397	1.0000	1.0000	1.0000	0.7397	0.7397	0.7397
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	44	0	0	50	1	0	0	0	20	0	7
Total Analysis Volume [veh/h]	256	176	0	0	201	5	0	0	0	81	0	30
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	16	27	0	0	11	0	0	0	0	0	33	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		C	R
C, Cycle Length [s]	60	60	60	60		60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	7	46	35	35		6	6
g / C, Green / Cycle	0.12	0.77	0.59	0.59		0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.08	0.05	0.06	0.06		0.05	0.02
s, saturation flow rate [veh/h]	3329	3427	1800	1785		1714	1530
c, Capacity [veh/h]	388	2628	1051	1042		172	153
d1, Uniform Delay [s]	25.44	1.72	5.52	5.53		25.56	24.84
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	1.93	0.05	0.19	0.19		2.00	0.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.07	0.10	0.10		0.47	0.20
d, Delay for Lane Group [s/veh]	27.37	1.77	5.71	5.72		27.57	25.46
Lane Group LOS	C	A	A	A		C	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	1.66	0.05	0.42	0.42		1.13	0.40
50th-Percentile Queue Length [ft/ln]	41.39	1.18	10.53	10.55		28.21	9.95
95th-Percentile Queue Length [veh/ln]	2.98	0.08	0.76	0.76		2.03	0.72
95th-Percentile Queue Length [ft/ln]	74.51	2.12	18.95	18.98		50.77	17.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.37	1.77	0.00	0.00	5.71	5.72	0.00	0.00	0.00	27.57	27.57	25.46
Movement LOS	C	A			A	A				C	C	C
d_A, Approach Delay [s/veh]	16.94			5.71			0.00			27.00		
Approach LOS	B			A			A			C		
d_I, Intersection Delay [s/veh]	15.34											
Intersection LOS	B											
Intersection V/C	0.202											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	767			233			0			967		
d_b, Bicycle Delay [s]	11.41			23.41			30.00			8.01		
I_b,int, Bicycle LOS Score for Intersection	1.916			1.730			4.132			1.743		
Bicycle LOS	A			A			D			A		

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: US-395 Hwy (NS) at SR-58 EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	15.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.339

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	2	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Base Volume Input [veh/h]	13	459	86	37	239	7	4	4	9	271	0	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	9	0	15	0	0	0	0	10	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	475	95	37	254	7	4	4	9	281	0	8
Peak Hour Factor	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	132	26	10	71	2	1	1	3	78	0	2
Total Analysis Volume [veh/h]	14	529	106	41	283	8	4	4	10	313	0	9
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	17	0	15	21	0	0	11	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	35	35	4	37	37	2	2	8	8
g / C, Green / Cycle	0.02	0.54	0.54	0.06	0.57	0.57	0.03	0.03	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.01	0.18	0.18	0.01	0.08	0.08	0.00	0.01	0.09	0.09
s, saturation flow rate [veh/h]	1714	1800	1697	3329	1800	1783	1714	1599	1714	1703
c, Capacity [veh/h]	43	963	908	192	1021	1011	53	50	224	223
d1, Uniform Delay [s]	31.20	8.60	8.61	29.29	6.63	6.63	30.65	30.85	27.17	27.17
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.25	0.95	1.02	0.55	0.29	0.30	0.59	3.06	4.33	4.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.34	0.34	0.21	0.14	0.14	0.08	0.28	0.72	0.72
d, Delay for Lane Group [s/veh]	35.46	9.55	9.63	29.84	6.93	6.93	31.25	33.91	31.50	31.54
Lane Group LOS	D	A	A	C	A	A	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.25	2.17	2.08	0.29	0.75	0.75	0.07	0.25	2.56	2.55
50th-Percentile Queue Length [ft/ln]	6.24	54.24	51.92	7.36	18.86	18.79	1.71	6.30	63.95	63.63
95th-Percentile Queue Length [veh/ln]	0.45	3.91	3.74	0.53	1.36	1.35	0.12	0.45	4.60	4.58
95th-Percentile Queue Length [ft/ln]	11.23	97.63	93.46	13.25	33.96	33.82	3.08	11.34	115.11	114.53

Movement, Approach, & Intersection Results

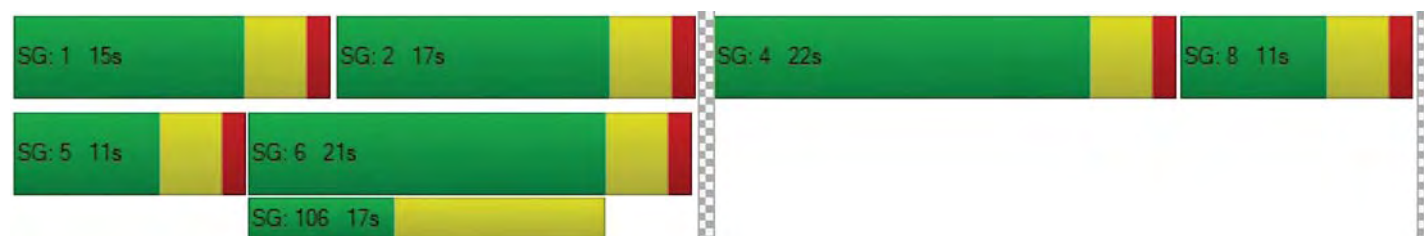
d_M, Delay for Movement [s/veh]	35.46	9.58	9.63	29.84	6.93	6.93	31.25	33.91	33.91	31.52	31.54	31.54
Movement LOS	D	A	A	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	10.15			9.76			33.31			31.52		
Approach LOS	B			A			C			C		
d_I, Intersection Delay [s/veh]	15.57											
Intersection LOS	B											
Intersection V/C	0.339											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			11.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			22.43			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			1.933			0.000		
Crosswalk LOS	F			F			A			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	400			523			215			554		
d_b, Bicycle Delay [s]	20.80			17.72			25.88			16.99		
I_b,int, Bicycle LOS Score for Intersection	2.095			1.834			1.589			2.091		
Bicycle LOS	B			A			A			B		

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 3: US-395 Hwy (NS) at Twenty Mule Team Rd (EW)**

Control Type:	Signalized	Delay (sec / veh):	18.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.371

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	230.00	100.00	150.00	65.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Base Volume Input [veh/h]	53	239	9	22	252	94	123	9	44	1	16	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	25	0	0	22	3	0	2	0	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	264	9	22	274	97	123	11	44	1	18	24
Peak Hour Factor	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	89	3	7	92	33	41	4	15	0	6	8
Total Analysis Volume [veh/h]	72	354	12	30	368	130	165	15	59	1	24	32
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	21	0	11	21	0	22	32	0	11	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	42	42	3	40	40	9	14	14	0	5	5
g / C, Green / Cycle	0.07	0.56	0.56	0.04	0.53	0.53	0.12	0.18	0.18	0.00	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.04	0.20	0.01	0.02	0.14	0.15	0.10	0.01	0.04	0.00	0.01	0.02
s, saturation flow rate [veh/h]	1714	1800	1530	1714	1800	1643	1714	1800	1530	1714	1800	1530
c, Capacity [veh/h]	126	1003	852	76	950	867	206	329	280	5	117	100
d1, Uniform Delay [s]	33.66	9.17	7.43	34.91	9.77	9.80	32.16	25.29	26.08	37.38	33.26	33.52
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.05	0.98	0.03	3.29	0.70	0.79	6.98	0.06	0.37	21.44	0.85	1.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.35	0.01	0.39	0.27	0.28	0.80	0.05	0.21	0.21	0.20	0.32
d, Delay for Lane Group [s/veh]	37.71	10.15	7.46	38.20	10.47	10.59	39.14	25.35	26.46	58.82	34.11	35.35
Lane Group LOS	D	B	A	D	B	B	D	C	C	E	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.33	2.76	0.08	0.57	2.07	1.95	3.02	0.20	0.83	0.04	0.40	0.56
50th-Percentile Queue Length [ft/ln]	33.16	68.98	1.89	14.23	51.73	48.67	75.42	5.06	20.71	1.11	10.10	13.91
95th-Percentile Queue Length [veh/ln]	2.39	4.97	0.14	1.02	3.72	3.50	5.43	0.36	1.49	0.08	0.73	1.00
95th-Percentile Queue Length [ft/ln]	59.68	124.16	3.39	25.62	93.11	87.61	135.75	9.10	37.27	2.01	18.19	25.05

Movement, Approach, & Intersection Results

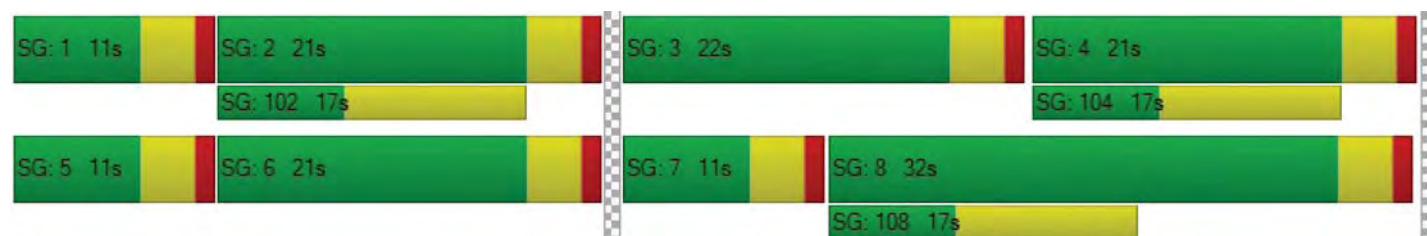
d_M, Delay for Movement [s/veh]	37.71	10.15	7.46	38.20	10.51	10.59	39.14	25.35	26.46	58.82	34.11	35.35
Movement LOS	D	B	A	D	B	B	D	C	C	E	C	D
d_A, Approach Delay [s/veh]	14.61			12.10			35.14			35.24		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.38											
Intersection LOS	B											
Intersection V/C	0.371											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			0.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	27.31			27.31			0.00			27.31		
I_p,int, Pedestrian LOS Score for Intersection	2.543			2.516			0.000			2.331		
Crosswalk LOS	B			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	453			453			747			453		
d_b, Bicycle Delay [s]	22.43			22.43			14.73			22.43		
I_b,int, Bicycle LOS Score for Intersection	2.282			1.995			1.757			1.607		
Bicycle LOS	B			A			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Report File: G:\...\PMOY.pdf

Boron Beyond Food Mart Project

Scenario 1 Opening Year Without Project
3/27/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	US-395 Hwy (NS) at SR-58 WB Ramps (EW)	Signalized	HCM 6th Edition	WB Left	0.214	12.0	B
2	US-395 Hwy (NS) at SR-58 EB Ramps (EW)	Signalized	HCM 6th Edition	EB Right	0.292	16.2	B
3	US-395 Hwy (NS) at Twenty Mule Team Rd (EW)	Signalized	HCM 6th Edition	WB Left	0.361	15.2	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: US-395 Hwy (NS) at SR-58 WB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.214

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Base Volume Input [veh/h]	137	145	0	0	249	3	0	0	0	47	0	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	6	0	0	6	2	0	0	0	8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	147	151	0	0	255	5	0	0	0	55	0	16
Peak Hour Factor	0.7724	0.7724	1.0000	1.0000	0.7724	0.7724	1.0000	1.0000	1.0000	0.7724	0.7724	0.7724
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	49	0	0	83	2	0	0	0	18	0	5
Total Analysis Volume [veh/h]	190	195	0	0	330	6	0	0	0	71	0	21
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	11	22	0	0	11	0	0	0	0	0	38	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		C	R
C, Cycle Length [s]	60	60	60	60		60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	7	47	36	36		6	6
g / C, Green / Cycle	0.11	0.77	0.60	0.60		0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.06	0.06	0.09	0.09		0.04	0.01
s, saturation flow rate [veh/h]	3329	3427	1800	1789		1714	1530
c, Capacity [veh/h]	377	2651	1069	1062		160	143
d1, Uniform Delay [s]	25.09	1.64	5.47	5.48		25.79	25.06
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	1.04	0.05	0.31	0.32		1.91	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.07	0.16	0.16		0.44	0.15
d, Delay for Lane Group [s/veh]	26.13	1.69	5.79	5.80		27.70	25.53
Lane Group LOS	C	A	A	A		C	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	1.19	0.04	0.68	0.69		0.99	0.28
50th-Percentile Queue Length [ft/ln]	29.69	1.02	17.11	17.14		24.83	6.99
95th-Percentile Queue Length [veh/ln]	2.14	0.07	1.23	1.23		1.79	0.50
95th-Percentile Queue Length [ft/ln]	53.45	1.83	30.80	30.85		44.70	12.58

Movement, Approach, & Intersection Results

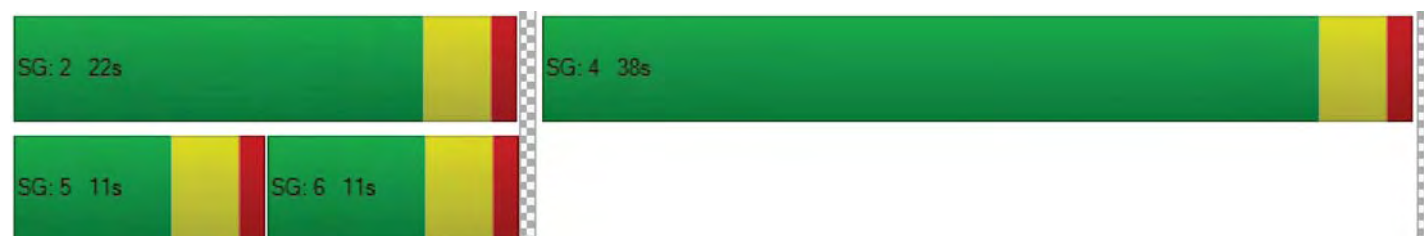
d_M, Delay for Movement [s/veh]	26.13	1.69	0.00	0.00	5.79	5.80	0.00	0.00	0.00	27.70	27.70	25.53
Movement LOS	C	A			A	A				C	C	C
d_A, Approach Delay [s/veh]	13.75			5.79			0.00			27.21		
Approach LOS	B			A			A			C		
d_I, Intersection Delay [s/veh]	11.98											
Intersection LOS	B											
Intersection V/C	0.214											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			233			0			1133		
d_b, Bicycle Delay [s]	14.70			23.41			30.00			5.63		
I_b,int, Bicycle LOS Score for Intersection	1.877			1.837			4.132			1.711		
Bicycle LOS	A			A			D			A		

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: US-395 Hwy (NS) at SR-58 EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	16.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.292

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	2	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Base Volume Input [veh/h]	0	261	59	23	251	3	4	2	3	297	1	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	11	0	14	0	0	0	0	8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	277	70	23	265	3	4	2	3	305	1	10
Peak Hour Factor	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	87	22	7	83	1	1	1	1	96	0	3
Total Analysis Volume [veh/h]	0	348	88	29	333	4	5	3	4	383	1	13
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	14	0	18	21	0	0	11	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	35	35	3	38	38	1	1	10	10
g / C, Green / Cycle	0.00	0.53	0.53	0.04	0.58	0.58	0.02	0.02	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.00	0.12	0.13	0.01	0.09	0.09	0.00	0.00	0.12	0.12
s, saturation flow rate [veh/h]	1714	1800	1677	3329	1800	1792	1714	1635	1714	1701
c, Capacity [veh/h]	2	960	895	150	1040	1035	38	36	264	262
d1, Uniform Delay [s]	0.00	8.10	8.12	29.95	6.41	6.41	31.24	31.28	26.39	26.39
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.57	0.63	0.62	0.33	0.34	1.56	2.58	4.40	4.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.23	0.24	0.19	0.16	0.16	0.13	0.19	0.76	0.76
d, Delay for Lane Group [s/veh]	0.00	8.66	8.75	30.57	6.74	6.75	32.80	33.86	30.79	30.83
Lane Group LOS	A	A	A	C	A	A	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	1.39	1.33	0.21	0.85	0.85	0.09	0.13	3.12	3.10
50th-Percentile Queue Length [ft/ln]	0.00	34.66	33.36	5.33	21.24	21.20	2.29	3.29	78.06	77.55
95th-Percentile Queue Length [veh/ln]	0.00	2.50	2.40	0.38	1.53	1.53	0.17	0.24	5.62	5.58
95th-Percentile Queue Length [ft/ln]	0.00	62.38	60.04	9.60	38.24	38.16	4.13	5.92	140.51	139.60

Movement, Approach, & Intersection Results

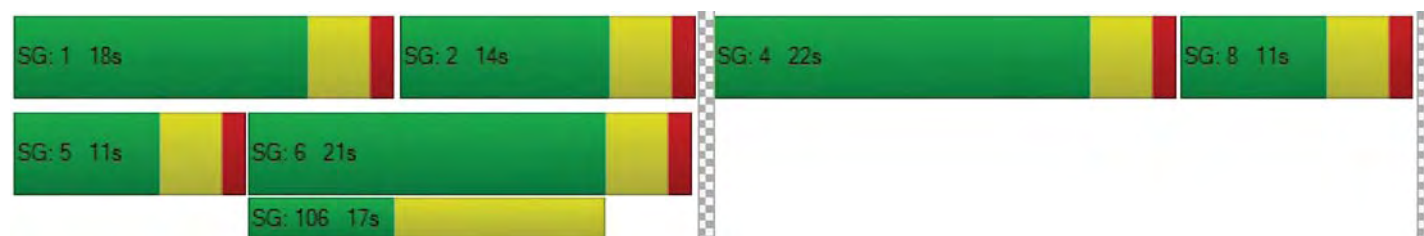
d_M, Delay for Movement [s/veh]	0.00	8.69	8.75	30.57	6.75	6.75	32.80	33.86	33.86	30.81	30.83	30.83
Movement LOS	A	A	A	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	8.70			8.63			33.42			30.81		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	16.17											
Intersection LOS	B											
Intersection V/C	0.292											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			11.0			0.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			22.43			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			1.927			0.000		
Crosswalk LOS	F			F			A			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	308			523			215			554		
d_b, Bicycle Delay [s]	23.27			17.72			25.88			16.99		
I_b,int, Bicycle LOS Score for Intersection	1.919			1.862			1.579			2.215		
Bicycle LOS	A			A			A			B		

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 3: US-395 Hwy (NS) at Twenty Mule Team Rd (EW)**

Control Type:	Signalized	Delay (sec / veh):	15.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.361

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↔↔↔			↔↔↔			↔↔↔			↔↔↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	230.00	100.00	150.00	65.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Base Volume Input [veh/h]	50	203	5	23	469	108	96	3	47	10	7	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	23	0	0	22	0	3	2	1	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	226	5	23	491	108	99	5	48	10	9	35
Peak Hour Factor	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	64	1	6	138	30	28	1	13	3	3	10
Total Analysis Volume [veh/h]	56	254	6	26	552	121	111	6	54	11	10	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	21	0	11	21	0	12	22	0	11	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	36	36	3	34	34	6	9	9	1	4	4
g / C, Green / Cycle	0.07	0.55	0.55	0.04	0.53	0.53	0.09	0.14	0.14	0.02	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.03	0.14	0.00	0.02	0.19	0.19	0.06	0.00	0.04	0.01	0.01	0.03
s, saturation flow rate [veh/h]	1714	1800	1530	1714	1800	1690	1714	1800	1530	1714	1800	1530
c, Capacity [veh/h]	121	993	844	73	943	885	163	250	212	37	118	100
d1, Uniform Delay [s]	29.13	7.64	6.58	30.37	9.17	9.18	28.58	24.28	25.09	31.45	28.67	29.26
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.71	0.62	0.02	2.89	1.11	1.19	4.93	0.04	0.62	4.40	0.31	2.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.26	0.01	0.36	0.37	0.37	0.68	0.02	0.25	0.30	0.08	0.39
d, Delay for Lane Group [s/veh]	31.84	8.26	6.60	33.26	10.28	10.37	33.51	24.32	25.71	35.85	28.98	31.72
Lane Group LOS	C	A	A	C	B	B	C	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.86	1.50	0.03	0.42	2.44	2.32	1.69	0.07	0.68	0.20	0.14	0.59
50th-Percentile Queue Length [ft/ln]	21.49	37.57	0.77	10.56	60.95	58.02	42.28	1.81	17.12	4.92	3.50	14.63
95th-Percentile Queue Length [veh/ln]	1.55	2.70	0.06	0.76	4.39	4.18	3.04	0.13	1.23	0.35	0.25	1.05
95th-Percentile Queue Length [ft/ln]	38.67	67.62	1.38	19.02	109.72	104.43	76.10	3.26	30.81	8.86	6.29	26.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.84	8.26	6.60	33.26	10.31	10.37	33.51	24.32	25.71	35.85	28.98	31.72
Movement LOS	C	A	A	C	B	B	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	12.40			11.17			30.72			32.02		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	15.17											
Intersection LOS	B											
Intersection V/C	0.361											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			0.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	22.43			22.43			0.00			22.43		
I_p,int, Pedestrian LOS Score for Intersection	2.555			2.516			0.000			2.317		
Crosswalk LOS	B			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	523			523			554			523		
d_b, Bicycle Delay [s]	17.72			17.72			16.99			17.72		
I_b,int, Bicycle LOS Score for Intersection	2.081			2.136			1.701			1.609		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



OPENING YEAR (2021) WITH PROJECT

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Report File: G:\...\AMOYp.pdf

Boron Beyond Food Mart Project

Scenario 2 Opening Year With Project
3/27/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	US-395 Hwy (NS) at SR-58 WB Ramps (EW)	Signalized	HCM 6th Edition	WB Left	0.347	17.2	B
2	US-395 Hwy (NS) at SR-58 EB Ramps (EW)	Signalized	HCM 6th Edition	EB Left	0.476	22.6	C
3	US-395 Hwy (NS) at Twenty Mule Team Rd (EW)	Signalized	HCM 6th Edition	WB Left	0.422	18.6	B
4	US-395 Hwy (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	EB Right	0.101	13.3	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: US-395 Hwy (NS) at SR-58 WB Ramps (EW)

Control Type:
 Analysis Method:
 Analysis Period:

Signalized
 HCM 6th Edition
 15 minutes

Delay (sec / veh):
 Level Of Service:
 Volume to Capacity (v/c):

17.2
 B
 0.347

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Base Volume Input [veh/h]	180	121	0	0	143	4	0	0	0	51	0	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	100	69	0	0	66	0	0	0	0	99	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	280	190	0	0	209	4	0	0	0	150	0	22
Peak Hour Factor	0.7397	0.7397	1.0000	1.0000	0.7397	0.7397	1.0000	1.0000	1.0000	0.7397	0.7397	0.7397
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	95	64	0	0	71	1	0	0	0	51	0	7
Total Analysis Volume [veh/h]	379	257	0	0	283	5	0	0	0	203	0	30
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	16	27	0	0	11	0	0	0	0	0	33	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		C	R
C, Cycle Length [s]	60	60	60	60		60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	9	43	30	30		9	9
g / C, Green / Cycle	0.15	0.71	0.50	0.50		0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.11	0.07	0.08	0.08		0.12	0.02
s, saturation flow rate [veh/h]	3329	3427	1800	1789		1714	1530
c, Capacity [veh/h]	502	2443	892	887		264	236
d1, Uniform Delay [s]	24.48	2.68	8.32	8.32		24.41	21.95
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	2.34	0.09	0.39	0.39		4.66	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.11	0.16	0.16		0.77	0.13
d, Delay for Lane Group [s/veh]	26.82	2.77	8.71	8.72		29.07	22.19
Lane Group LOS	C	A	A	A		C	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	2.43	0.20	0.85	0.85		2.93	0.36
50th-Percentile Queue Length [ft/ln]	60.86	4.96	21.30	21.33		73.30	9.00
95th-Percentile Queue Length [veh/ln]	4.38	0.36	1.53	1.54		5.28	0.65
95th-Percentile Queue Length [ft/ln]	109.55	8.92	38.34	38.39		131.94	16.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.82	2.77	0.00	0.00	8.71	8.72	0.00	0.00	0.00	29.07	29.07	22.19
Movement LOS	C	A			A	A				C	C	C
d_A, Approach Delay [s/veh]	17.10			8.71			0.00			28.19		
Approach LOS	B			A			A			C		
d_I, Intersection Delay [s/veh]	17.25											
Intersection LOS	B											
Intersection V/C	0.347											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	767			233			0			967		
d_b, Bicycle Delay [s]	11.41			23.41			30.00			8.01		
I_b,int, Bicycle LOS Score for Intersection	2.084			1.797			4.132			1.944		
Bicycle LOS	B			A			D			A		

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: US-395 Hwy (NS) at SR-58 EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	22.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.476

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	2	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Base Volume Input [veh/h]	13	459	86	37	239	7	4	4	9	271	0	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	60	16	9	0	60	105	151	91	15	10	90	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	475	95	37	299	112	155	95	24	281	90	8
Peak Hour Factor	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979	0.8979
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	132	26	10	83	31	43	26	7	78	25	2
Total Analysis Volume [veh/h]	81	529	106	41	333	125	173	106	27	313	100	9
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	17	0	15	21	0	0	11	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	26	26	4	25	25	9	9	10	10
g / C, Green / Cycle	0.08	0.40	0.40	0.06	0.38	0.38	0.13	0.13	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.05	0.18	0.18	0.01	0.13	0.13	0.10	0.08	0.12	0.12
s, saturation flow rate [veh/h]	1714	1800	1697	3329	1800	1636	1714	1738	1714	1744
c, Capacity [veh/h]	145	721	680	196	674	613	231	234	276	281
d1, Uniform Delay [s]	28.69	14.32	14.33	29.28	14.71	14.76	27.18	26.47	26.18	26.18
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.31	2.04	2.18	0.53	1.44	1.64	4.83	2.16	4.27	4.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.45	0.45	0.21	0.35	0.36	0.75	0.57	0.76	0.76
d, Delay for Lane Group [s/veh]	32.00	16.36	16.51	29.80	16.15	16.40	32.02	28.63	30.45	30.38
Lane Group LOS	C	B	B	C	B	B	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.24	3.29	3.15	0.29	2.38	2.25	2.81	2.01	3.26	3.31
50th-Percentile Queue Length [ft/ln]	30.99	82.34	78.63	7.36	59.51	56.16	70.32	50.35	81.57	82.83
95th-Percentile Queue Length [veh/ln]	2.23	5.93	5.66	0.53	4.28	4.04	5.06	3.63	5.87	5.96
95th-Percentile Queue Length [ft/ln]	55.79	148.22	141.53	13.24	107.11	101.09	126.57	90.63	146.83	149.10

Movement, Approach, & Intersection Results

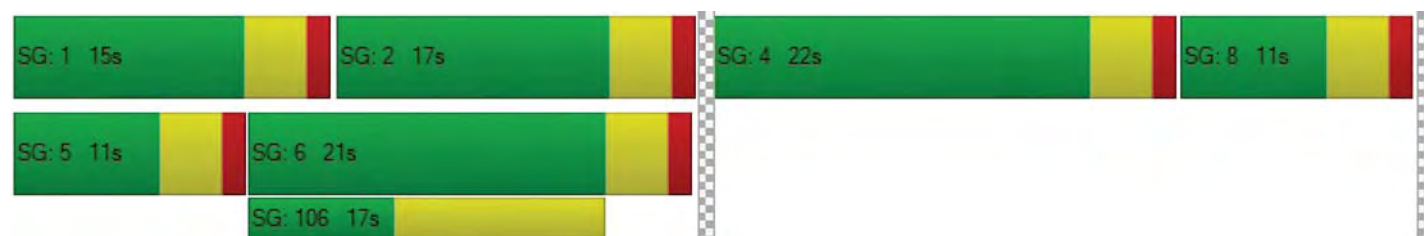
d_M, Delay for Movement [s/veh]	32.00	16.42	16.51	29.80	16.22	16.40	32.02	28.63	28.63	30.43	30.38	30.38
Movement LOS	C	B	B	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	18.19			17.38			30.54			30.41		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	22.58											
Intersection LOS	C											
Intersection V/C	0.476											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			11.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			22.43			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.088			0.000		
Crosswalk LOS	F			F			B			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	400			523			215			554		
d_b, Bicycle Delay [s]	20.80			17.72			25.88			16.99		
I_b,int, Bicycle LOS Score for Intersection	2.150			1.971			2.065			2.256		
Bicycle LOS	B			A			B			B		

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 3: US-395 Hwy (NS) at Twenty Mule Team Rd (EW)**

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.422

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	230.00	100.00	150.00	65.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Base Volume Input [veh/h]	53	239	9	22	252	94	123	9	44	1	16	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	70	0	0	67	18	15	2	0	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	309	9	22	319	112	138	11	44	1	18	24
Peak Hour Factor	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452	0.7452
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	104	3	7	107	38	46	4	15	0	6	8
Total Analysis Volume [veh/h]	72	415	12	30	428	150	185	15	59	1	24	32
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	21	0	11	21	0	22	32	0	11	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	41	41	3	39	39	10	15	15	0	5	5
g / C, Green / Cycle	0.07	0.55	0.55	0.04	0.52	0.52	0.13	0.19	0.19	0.00	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.04	0.23	0.01	0.02	0.17	0.17	0.11	0.01	0.04	0.00	0.01	0.02
s, saturation flow rate [veh/h]	1714	1800	1530	1714	1800	1643	1714	1800	1530	1714	1800	1530
c, Capacity [veh/h]	126	980	833	76	928	847	228	352	299	5	117	100
d1, Uniform Delay [s]	33.66	10.13	7.86	34.91	10.59	10.61	31.65	24.52	25.29	37.38	33.26	33.52
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.05	1.34	0.03	3.29	0.93	1.03	6.80	0.05	0.32	21.44	0.85	1.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.42	0.01	0.39	0.32	0.33	0.81	0.04	0.20	0.21	0.20	0.32
d, Delay for Lane Group [s/veh]	37.71	11.47	7.89	38.20	11.51	11.65	38.46	24.56	25.61	58.82	34.11	35.35
Lane Group LOS	D	B	A	D	B	B	D	C	C	E	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.33	3.55	0.08	0.57	2.59	2.42	3.35	0.20	0.81	0.04	0.40	0.56
50th-Percentile Queue Length [ft/ln]	33.16	88.79	1.97	14.23	64.67	60.47	83.70	4.95	20.25	1.11	10.10	13.91
95th-Percentile Queue Length [veh/ln]	2.39	6.39	0.14	1.02	4.66	4.35	6.03	0.36	1.46	0.08	0.73	1.00
95th-Percentile Queue Length [ft/ln]	59.68	159.82	3.54	25.62	116.41	108.85	150.66	8.91	36.44	2.01	18.19	25.05

Movement, Approach, & Intersection Results

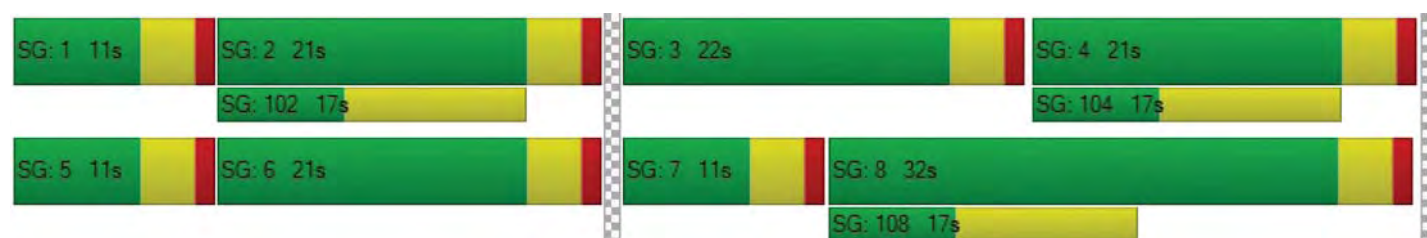
d_M, Delay for Movement [s/veh]	37.71	11.47	7.89	38.20	11.55	11.65	38.46	24.56	25.61	58.82	34.11	35.35
Movement LOS	D	B	A	D	B	B	D	C	C	E	C	D
d_A, Approach Delay [s/veh]	15.17			12.89			34.72			35.24		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	18.56											
Intersection LOS	B											
Intersection V/C	0.422											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			0.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	27.31			27.31			0.00			27.31		
I_p,int, Pedestrian LOS Score for Intersection	2.578			2.574			0.000			2.331		
Crosswalk LOS	B			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	453			453			747			453		
d_b, Bicycle Delay [s]	22.43			22.43			14.73			22.43		
I_b,int, Bicycle LOS Score for Intersection	2.383			2.061			1.773			1.607		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: US-395 Hwy (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.101

Intersection Setup

Name	US-395 Hwy		US-395 Hwy		Project Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	US-395 Hwy		US-395 Hwy		Project Dwy	
Base Volume Input [veh/h]	0	558	519	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	85	40	45	0	45
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	643	559	45	0	45
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	175	152	12	0	12
Total Analysis Volume [veh/h]	0	699	608	49	0	49
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.10
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.28
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.34
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	8.40
d_A, Approach Delay [s/veh]	0.00		0.00		13.28	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.46					
Intersection LOS	B					

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Report File: G:\...\PMOYp.pdf

Boron Beyond Food Mart Project

Scenario 2 Opening Year With Project
3/27/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	US-395 Hwy (NS) at SR-58 WB Ramps (EW)	Signalized	HCM 6th Edition	WB Left	0.329	15.1	B
2	US-395 Hwy (NS) at SR-58 EB Ramps (EW)	Signalized	HCM 6th Edition	EB Left	0.477	22.8	C
3	US-395 Hwy (NS) at Twenty Mule Team Rd (EW)	Signalized	HCM 6th Edition	WB Left	0.390	15.5	B
4	US-395 Hwy (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	EB Right	0.094	14.1	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: US-395 Hwy (NS) at SR-58 WB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.329

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Base Volume Input [veh/h]	137	145	0	0	249	3	0	0	0	47	0	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	85	56	0	0	56	2	0	0	0	83	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	222	201	0	0	305	5	0	0	0	130	0	16
Peak Hour Factor	0.7724	0.7724	1.0000	1.0000	0.7724	0.7724	1.0000	1.0000	1.0000	0.7724	0.7724	0.7724
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	65	0	0	99	2	0	0	0	42	0	5
Total Analysis Volume [veh/h]	287	260	0	0	395	6	0	0	0	168	0	21
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	11	22	0	0	11	0	0	0	0	0	38	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		C	R
C, Cycle Length [s]	60	60	60	60		60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	7	44	33	33		8	8
g / C, Green / Cycle	0.12	0.74	0.55	0.55		0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.09	0.08	0.11	0.11		0.10	0.01
s, saturation flow rate [veh/h]	3329	3427	1800	1791		1714	1530
c, Capacity [veh/h]	391	2522	994	989		225	201
d1, Uniform Delay [s]	25.65	2.27	6.79	6.80		25.18	23.03
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	2.69	0.08	0.46	0.46		4.92	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.10	0.20	0.20		0.75	0.10
d, Delay for Lane Group [s/veh]	28.34	2.35	7.25	7.26		30.10	23.26
Lane Group LOS	C	A	A	A		C	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	1.90	0.15	1.00	1.00		2.47	0.26
50th-Percentile Queue Length [ft/ln]	47.54	3.63	25.08	25.11		61.84	6.51
95th-Percentile Queue Length [veh/ln]	3.42	0.26	1.81	1.81		4.45	0.47
95th-Percentile Queue Length [ft/ln]	85.57	6.54	45.14	45.20		111.31	11.72

Movement, Approach, & Intersection Results

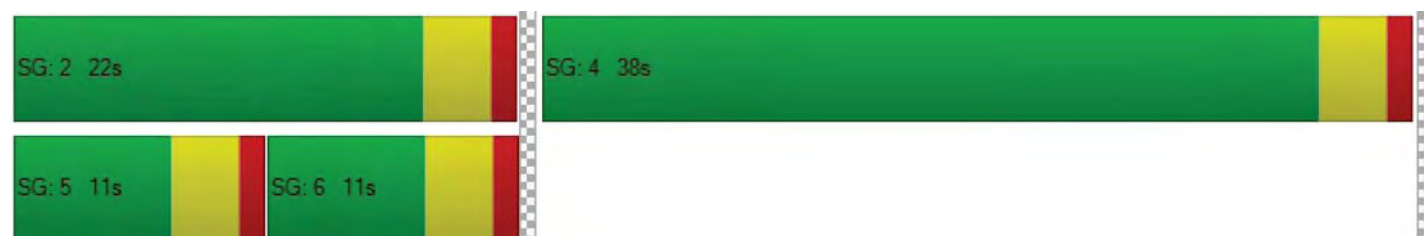
d_M, Delay for Movement [s/veh]	28.34	2.35	0.00	0.00	7.25	7.26	0.00	0.00	0.00	30.10	30.10	23.26
Movement LOS	C	A			A	A				C	C	C
d_A, Approach Delay [s/veh]	15.99			7.25			0.00			29.34		
Approach LOS	B			A			A			C		
d_I, Intersection Delay [s/veh]	15.13											
Intersection LOS	B											
Intersection V/C	0.329											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			233			0			1133		
d_b, Bicycle Delay [s]	14.70			23.41			30.00			5.63		
I_b,int, Bicycle LOS Score for Intersection	2.011			1.890			4.132			1.871		
Bicycle LOS	B			A			D			A		

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 2: US-395 Hwy (NS) at SR-58 EB Ramps (EW)**

Control Type:	Signalized	Delay (sec / veh):	22.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.477

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	2	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Base Volume Input [veh/h]	0	261	59	23	251	3	4	2	3	297	1	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	51	16	11	0	52	88	125	75	13	8	75	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	277	70	23	303	91	129	77	16	305	76	10
Peak Hour Factor	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965	0.7965
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	87	22	7	95	29	40	24	5	96	24	3
Total Analysis Volume [veh/h]	64	348	88	29	380	114	162	97	20	383	95	13
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	14	0	18	21	0	0	11	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	26	26	3	24	24	8	8	12	12
g / C, Green / Cycle	0.07	0.40	0.40	0.04	0.37	0.37	0.13	0.13	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.04	0.12	0.13	0.01	0.14	0.14	0.09	0.07	0.14	0.14
s, saturation flow rate [veh/h]	1714	1800	1677	3329	1800	1660	1714	1747	1714	1735
c, Capacity [veh/h]	129	724	675	150	671	619	217	221	309	313
d1, Uniform Delay [s]	28.95	13.28	13.31	29.95	14.94	14.98	27.44	26.63	25.52	25.52
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.96	1.11	1.22	0.62	1.64	1.82	5.06	1.96	4.51	4.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.31	0.31	0.19	0.38	0.39	0.75	0.53	0.79	0.79
d, Delay for Lane Group [s/veh]	31.91	14.39	14.53	30.57	16.57	16.80	32.50	28.59	30.03	29.98
Lane Group LOS	C	B	B	C	B	B	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.98	2.07	1.98	0.21	2.61	2.48	2.65	1.77	3.79	3.83
50th-Percentile Queue Length [ft/ln]	24.52	51.70	49.49	5.33	65.19	61.97	66.37	44.18	94.64	95.68
95th-Percentile Queue Length [veh/ln]	1.77	3.72	3.56	0.38	4.69	4.46	4.78	3.18	6.81	6.89
95th-Percentile Queue Length [ft/ln]	44.14	93.06	89.08	9.60	117.34	111.55	119.46	79.52	170.36	172.22

Movement, Approach, & Intersection Results

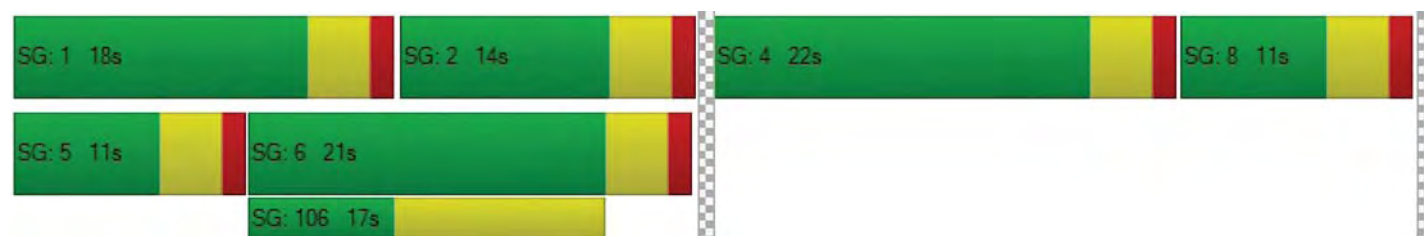
d_M, Delay for Movement [s/veh]	31.91	14.44	14.53	30.57	16.65	16.80	32.50	28.59	28.59	30.01	29.98	29.98
Movement LOS	C	B	B	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	16.69			17.45			30.86			30.01		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	22.76											
Intersection LOS	C											
Intersection V/C	0.477											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			11.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			22.43			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.072			0.000		
Crosswalk LOS	F			F			B			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	308			523			215			554		
d_b, Bicycle Delay [s]	23.27			17.72			25.88			16.99		
I_b,int, Bicycle LOS Score for Intersection	1.972			1.991			2.020			2.370		
Bicycle LOS	A			A			B			B		

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: US-395 Hwy (NS) at Twenty Mule Team Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.390

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	230.00	100.00	150.00	65.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Base Volume Input [veh/h]	50	203	5	23	469	108	96	3	47	10	7	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	61	0	0	60	13	16	2	1	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	264	5	23	529	121	112	5	48	10	9	35
Peak Hour Factor	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897	0.8897
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	74	1	6	149	34	31	1	13	3	3	10
Total Analysis Volume [veh/h]	56	297	6	26	595	136	126	6	54	11	10	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	21	0	11	21	0	12	22	0	11	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	36	36	3	34	34	6	9	9	1	4	4
g / C, Green / Cycle	0.07	0.55	0.55	0.04	0.52	0.52	0.10	0.14	0.14	0.02	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.03	0.17	0.00	0.02	0.21	0.21	0.07	0.00	0.04	0.01	0.01	0.03
s, saturation flow rate [veh/h]	1714	1800	1530	1714	1800	1686	1714	1800	1530	1714	1800	1530
c, Capacity [veh/h]	121	987	839	73	936	877	169	256	218	37	118	100
d1, Uniform Delay [s]	29.13	7.98	6.69	30.37	9.51	9.52	28.62	24.09	24.88	31.45	28.67	29.26
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.71	0.78	0.02	2.89	1.29	1.38	6.39	0.04	0.59	4.40	0.31	2.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.30	0.01	0.36	0.40	0.40	0.75	0.02	0.25	0.30	0.08	0.39
d, Delay for Lane Group [s/veh]	31.84	8.76	6.70	33.26	10.80	10.90	35.01	24.12	25.47	35.85	28.98	31.72
Lane Group LOS	C	A	A	C	B	B	D	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.86	1.84	0.03	0.42	2.75	2.61	1.97	0.07	0.68	0.20	0.14	0.59
50th-Percentile Queue Length [ft/ln]	21.49	45.95	0.78	10.56	68.85	65.28	49.34	1.80	17.00	4.92	3.50	14.63
95th-Percentile Queue Length [veh/ln]	1.55	3.31	0.06	0.76	4.96	4.70	3.55	0.13	1.22	0.35	0.25	1.05
95th-Percentile Queue Length [ft/ln]	38.67	82.72	1.40	19.02	123.94	117.51	88.81	3.24	30.60	8.86	6.29	26.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.84	8.76	6.70	33.26	10.83	10.90	35.01	24.12	25.47	35.85	28.98	31.72
Movement LOS	C	A	A	C	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	12.33			11.62			31.89			32.02		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	15.47											
Intersection LOS	B											
Intersection V/C	0.390											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			0.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	22.43			22.43			0.00			22.43		
I_p,int, Pedestrian LOS Score for Intersection	2.580			2.559			0.000			2.317		
Crosswalk LOS	B			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	523			523			554			523		
d_b, Bicycle Delay [s]	17.72			17.72			16.99			17.72		
I_b,int, Bicycle LOS Score for Intersection	2.152			2.184			1.713			1.609		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: US-395 Hwy (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.094

Intersection Setup

Name	US-395 Hwy		US-395 Hwy		Project Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	US-395 Hwy		US-395 Hwy		Project Dwy	
Base Volume Input [veh/h]	0	334	600	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	77	35	38	0	38
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	411	635	38	0	38
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	112	173	10	0	10
Total Analysis Volume [veh/h]	0	447	690	41	0	41
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	14.10
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.31
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	7.72
d_A, Approach Delay [s/veh]	0.00		0.00		14.10	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.47					
Intersection LOS	B					

YEAR 2040 WITHOUT PROJECT

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Boron Beyond Food Mart Project

Scenario 1 Long Range Without Project
3/27/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	US-395 Hwy (NS) at SR-58 WB Ramps (EW)	Signalized	HCM 6th Edition	WB Left	0.014	18.8	B
2	US-395 Hwy (NS) at SR-58 EB Ramps (EW)	Signalized	HCM 6th Edition	NB Left	0.042	16.0	B
3	US-395 Hwy (NS) at Twenty Mule Team Rd (EW)	Signalized	HCM 6th Edition	NB Left	0.019	6.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: US-395 Hwy (NS) at SR-58 WB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	18.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Base Volume Input [veh/h]	5	1	0	0	1	0	0	0	0	1	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	9	0	0	6	0	0	0	0	9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	10	0	0	7	0	0	0	0	10	0	0
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	3	0	0	2	0	0	0	0	3	0	0
Total Analysis Volume [veh/h]	15	11	0	0	7	0	0	0	0	11	0	0
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	18	31	0	0	13	0	0	0	0	0	29	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		C	R
C, Cycle Length [s]	60	60	60	60		60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	2	51	45	45		1	1
g / C, Green / Cycle	0.03	0.85	0.75	0.75		0.02	0.02
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.00		0.01	0.00
s, saturation flow rate [veh/h]	3329	3427	1800	1800		1714	1530
c, Capacity [veh/h]	93	2897	1352	1352		37	33
d1, Uniform Delay [s]	28.55	0.72	1.87	1.87		28.98	0.00
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.80	0.00	0.00	0.00		4.33	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.16	0.00	0.00	0.00		0.30	0.00
d, Delay for Lane Group [s/veh]	29.35	0.72	1.87	1.87		33.31	0.00
Lane Group LOS	C	A	A	A		C	A
Critical Lane Group	Yes	No	Yes	No		Yes	No
50th-Percentile Queue Length [veh/ln]	0.11	0.00	0.00	0.00		0.19	0.00
50th-Percentile Queue Length [ft/ln]	2.65	0.02	0.08	0.08		4.84	0.00
95th-Percentile Queue Length [veh/ln]	0.19	0.00	0.01	0.01		0.35	0.00
95th-Percentile Queue Length [ft/ln]	4.76	0.04	0.15	0.15		8.72	0.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.35	0.72	0.00	0.00	1.87	1.87	0.00	0.00	0.00	33.31	33.31	0.00
Movement LOS	C	A			A	A				C	C	A
d_A, Approach Delay [s/veh]	17.24			1.87			0.00			33.31		
Approach LOS	B			A			A			C		
d_I, Intersection Delay [s/veh]	18.81											
Intersection LOS	B											
Intersection V/C	0.014											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0				0.0				0.0			
M_corner, Corner Circulation Area [ft ² /ped]	0.00				0.00				0.00			
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00				0.00				0.00			
d_p, Pedestrian Delay [s]	0.00				0.00				0.00			
I_p,int, Pedestrian LOS Score for Intersection	0.000				0.000				0.000			
Crosswalk LOS	F				F				F			
s_b, Saturation Flow Rate of the bicycle lane	2000				2000				2000			
c_b, Capacity of the bicycle lane [bicycles/h]	900				300				0			
d_b, Bicycle Delay [s]	9.08				21.68				30.00			
I_b,int, Bicycle LOS Score for Intersection	1.581				1.565				4.132			
Bicycle LOS	A				A				D			

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 2: US-395 Hwy (NS) at SR-58 EB Ramps (EW)**

Control Type:	Signalized	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.042

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	2	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Base Volume Input [veh/h]	12	20	16	7	3	7	5	6	11	1	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	9	0	15	0	0	0	0	10	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	36	25	7	18	7	5	6	11	11	0	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	9	7	2	5	2	1	2	3	3	0	1
Total Analysis Volume [veh/h]	13	38	26	7	19	7	5	6	12	12	0	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	16	21	0	16	21	0	0	17	0	0	16	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	49	49	1	48	48	3	3	2	2
g / C, Green / Cycle	0.02	0.70	0.70	0.01	0.69	0.69	0.04	0.04	0.02	0.02
(v / s)_i Volume / Saturation Flow Rate	0.01	0.02	0.02	0.00	0.01	0.01	0.00	0.01	0.00	0.00
s, saturation flow rate [veh/h]	1714	1800	1572	3329	1800	1643	1714	1611	1714	1657
c, Capacity [veh/h]	42	1249	1091	49	1231	1124	65	61	44	43
d1, Uniform Delay [s]	33.70	3.35	3.36	34.18	3.53	3.53	32.60	32.88	33.47	33.48
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.17	0.04	0.05	1.34	0.02	0.02	0.49	2.62	1.64	1.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.03	0.03	0.14	0.01	0.01	0.08	0.29	0.16	0.16
d, Delay for Lane Group [s/veh]	37.86	3.39	3.41	35.52	3.55	3.55	33.10	35.50	35.12	35.24
Lane Group LOS	D	A	A	D	A	A	C	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.25	0.09	0.09	0.06	0.04	0.04	0.09	0.34	0.13	0.13
50th-Percentile Queue Length [ft/ln]	6.27	2.27	2.27	1.60	0.97	0.98	2.24	8.44	3.34	3.35
95th-Percentile Queue Length [veh/ln]	0.45	0.16	0.16	0.12	0.07	0.07	0.16	0.61	0.24	0.24
95th-Percentile Queue Length [ft/ln]	11.29	4.09	4.09	2.88	1.74	1.76	4.04	15.19	6.01	6.04

Movement, Approach, & Intersection Results

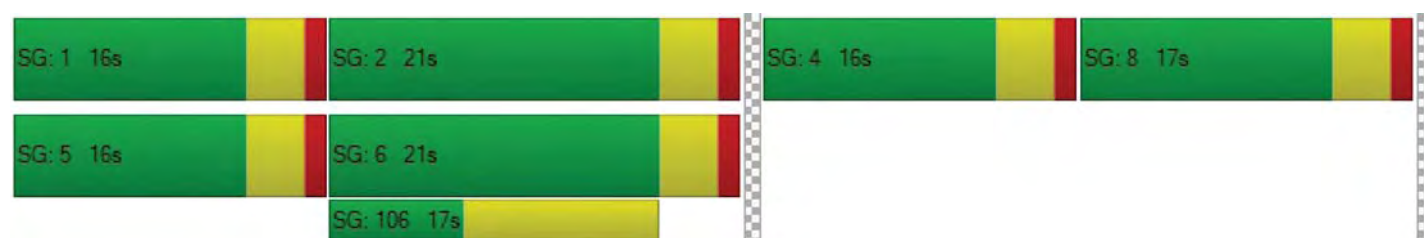
d_M, Delay for Movement [s/veh]	37.86	3.40	3.41	35.52	3.55	3.55	33.10	35.50	35.50	35.17	35.24	35.24
Movement LOS	D	A	A	D	A	A	C	D	D	D	D	D
d_A, Approach Delay [s/veh]	9.22			10.33			34.98			35.18		
Approach LOS	A			B			C			D		
d_I, Intersection Delay [s/veh]	15.97											
Intersection LOS	B											
Intersection V/C	0.042											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			11.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			24.86			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			1.938			0.000		
Crosswalk LOS	F			F			A			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	486			486			371			343		
d_b, Bicycle Delay [s]	20.06			20.06			23.21			24.03		
I_b,int, Bicycle LOS Score for Intersection	1.623			1.587			1.598			1.583		
Bicycle LOS	A			A			A			A		

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 3: US-395 Hwy (NS) at Twenty Mule Team Rd (EW)**

Control Type:	Signalized	Delay (sec / veh):	6.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↔↔↔			↔↔↔			↔↔↔			↔↔↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	230.00	100.00	150.00	65.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Base Volume Input [veh/h]	2	2	0	0	1	2	0	0	0	0	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	25	0	0	22	3	0	2	0	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	27	0	0	23	5	0	2	0	0	2	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	0	0	6	1	0	1	0	0	1	0
Total Analysis Volume [veh/h]	3	28	0	0	24	5	0	2	0	0	2	1
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	16	22	0	11	17	0	11	26	0	11	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	54	54	0	53	53	0	0	0	0	0	0
g / C, Green / Cycle	0.01	0.76	0.76	0.00	0.76	0.76	0.00	0.01	0.01	0.00	0.01	0.01
(v / s)_i Volume / Saturation Flow Rate	0.00	0.02	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1714	1800	1530	1714	1800	1697	1714	1800	1800	1714	1800	1611
c, Capacity [veh/h]	13	1371	1165	3	1360	1282	3	13	13	3	13	12
d1, Uniform Delay [s]	34.67	2.03	0.00	0.00	2.11	2.11	0.00	34.63	34.63	0.00	34.64	34.64
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.16	0.03	0.00	0.00	0.01	0.02	0.00	2.35	2.35	0.00	3.66	4.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.24	0.02	0.00	0.00	0.01	0.01	0.00	0.07	0.07	0.00	0.11	0.13
d, Delay for Lane Group [s/veh]	43.83	2.06	0.00	0.00	2.13	2.13	0.00	36.98	36.98	0.00	38.30	39.27
Lane Group LOS	D	A	A	A	A	A	A	D	D	A	D	D
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.08	0.04	0.00	0.00	0.02	0.02	0.00	0.02	0.02	0.00	0.04	0.04
50th-Percentile Queue Length [ft/ln]	2.00	1.00	0.00	0.00	0.56	0.56	0.00	0.60	0.60	0.00	0.91	0.96
95th-Percentile Queue Length [veh/ln]	0.14	0.07	0.00	0.00	0.04	0.04	0.00	0.04	0.04	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	3.59	1.80	0.00	0.00	1.00	1.01	0.00	1.08	1.08	0.00	1.65	1.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.83	2.06	0.00	0.00	2.13	2.13	0.00	36.98	36.98	0.00	38.54	39.27
Movement LOS	D	A	A	A	A	A	A	D	D	A	D	D
d_A, Approach Delay [s/veh]	6.10			2.13			36.98			38.79		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	6.79											
Intersection LOS	A											
Intersection V/C	0.019											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			0.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	24.86			24.86			0.00			24.86		
I_p,int, Pedestrian LOS Score for Intersection	2.302			2.138			0.000			2.288		
Crosswalk LOS	B			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	514			371			629			629		
d_b, Bicycle Delay [s]	19.31			23.21			16.46			16.46		
I_b,int, Bicycle LOS Score for Intersection	1.611			1.584			1.561			1.562		
Bicycle LOS	A			A			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Report File: G:\...\PMLR.pdf

Boron Beyond Food Mart Project

Scenario 1 Long Range Without Project
3/27/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	US-395 Hwy (NS) at SR-58 WB Ramps (EW)	Signalized	HCM 6th Edition	WB Left	0.015	18.6	B
2	US-395 Hwy (NS) at SR-58 EB Ramps (EW)	Signalized	HCM 6th Edition	SB Left	0.039	13.1	B
3	US-395 Hwy (NS) at Twenty Mule Team Rd (EW)	Signalized	HCM 6th Edition	NB Left	0.021	8.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report**Intersection 1: US-395 Hwy (NS) at SR-58 WB Ramps (EW)**

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Base Volume Input [veh/h]	7	3	0	0	2	0	0	0	0	1	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	6	0	0	6	2	0	0	0	8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	9	0	0	8	2	0	0	0	9	0	1
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	2	0	0	2	1	0	0	0	2	0	0
Total Analysis Volume [veh/h]	18	9	0	0	8	2	0	0	0	9	0	1
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	22	37	0	0	15	0	0	0	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		C	R
C, Cycle Length [s]	60	60	60	60		60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	2	51	45	45		1	1
g / C, Green / Cycle	0.03	0.85	0.75	0.75		0.02	0.02
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.00	0.00		0.01	0.00
s, saturation flow rate [veh/h]	3329	3427	1800	1681		1714	1530
c, Capacity [veh/h]	108	2903	1346	1258		34	31
d1, Uniform Delay [s]	28.31	0.71	1.92	1.92		29.04	28.91
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.72	0.00	0.00	0.01		3.97	0.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.17	0.00	0.00	0.00		0.26	0.03
d, Delay for Lane Group [s/veh]	29.03	0.71	1.92	1.92		33.01	29.33
Lane Group LOS	C	A	A	A		C	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	0.12	0.00	0.00	0.01		0.16	0.02
50th-Percentile Queue Length [ft/ln]	3.12	0.02	0.12	0.13		4.00	0.43
95th-Percentile Queue Length [veh/ln]	0.22	0.00	0.01	0.01		0.29	0.03
95th-Percentile Queue Length [ft/ln]	5.62	0.03	0.22	0.23		7.20	0.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.03	0.71	0.00	0.00	1.92	1.92	0.00	0.00	0.00	33.01	33.01	29.33
Movement LOS	C	A			A	A				C	C	C
d_A, Approach Delay [s/veh]	19.59			1.92			0.00			32.64		
Approach LOS	B			A			A			C		
d_I, Intersection Delay [s/veh]	18.61											
Intersection LOS	B											
Intersection V/C	0.015											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1100			367			0			633		
d_b, Bicycle Delay [s]	6.08			20.01			30.00			14.01		
I_b,int, Bicycle LOS Score for Intersection	1.582			1.568			4.132			1.576		
Bicycle LOS	A			A			D			A		

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 2: US-395 Hwy (NS) at SR-58 EB Ramps (EW)**

Control Type:	Signalized	Delay (sec / veh):	13.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.039

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	2	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Base Volume Input [veh/h]	0	22	15	5	3	18	8	10	6	1	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	11	0	14	0	0	0	0	8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	38	26	5	17	18	8	10	6	9	1	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	10	7	1	4	5	2	3	2	2	0	0
Total Analysis Volume [veh/h]	0	40	27	5	18	19	8	11	6	9	1	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	16	21	0	16	21	0	0	18	0	0	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	59	59	1	60	60	3	3	1	1
g / C, Green / Cycle	0.00	0.73	0.73	0.01	0.74	0.74	0.04	0.04	0.02	0.02
(v / s)_i Volume / Saturation Flow Rate	0.00	0.02	0.02	0.00	0.01	0.01	0.00	0.01	0.00	0.00
s, saturation flow rate [veh/h]	1714	1800	1574	3329	1800	1530	1714	1694	1714	1731
c, Capacity [veh/h]	3	1317	1152	36	1334	1134	67	66	33	33
d1, Uniform Delay [s]	0.00	2.94	2.95	39.31	2.72	2.72	37.21	37.41	38.71	38.71
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.04	0.05	1.75	0.02	0.03	0.79	2.02	2.13	2.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.03	0.03	0.14	0.01	0.02	0.12	0.26	0.15	0.15
d, Delay for Lane Group [s/veh]	0.00	2.98	3.00	41.06	2.74	2.75	38.00	39.44	40.84	40.80
Lane Group LOS	A	A	A	D	A	A	D	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	0.09	0.09	0.05	0.05	0.05	0.17	0.36	0.11	0.11
50th-Percentile Queue Length [ft/ln]	0.00	2.36	2.37	1.37	1.15	1.25	4.13	8.98	2.86	2.86
95th-Percentile Queue Length [veh/ln]	0.00	0.17	0.17	0.10	0.08	0.09	0.30	0.65	0.21	0.21
95th-Percentile Queue Length [ft/ln]	0.00	4.25	4.27	2.47	2.07	2.25	7.44	16.16	5.15	5.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	2.98	3.00	41.06	2.74	2.75	38.00	39.44	39.44	40.82	40.80	40.80
Movement LOS	A	A	A	D	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	2.99			7.31			38.98			40.82		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	13.12											
Intersection LOS	B											
Intersection V/C	0.039											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			11.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			29.76			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			1.946			0.000		
Crosswalk LOS	F			F			A			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	425			425			350			625		
d_b, Bicycle Delay [s]	24.81			24.81			27.23			18.91		
I_b,int, Bicycle LOS Score for Intersection	1.615			1.594			1.601			1.576		
Bicycle LOS	A			A			A			A		

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 3: US-395 Hwy (NS) at Twenty Mule Team Rd (EW)**

Control Type:	Signalized	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↔↔↔			↔↔↔			↔↔↔			↔↔↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	230.00	100.00	150.00	65.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Base Volume Input [veh/h]	3	4	0	0	2	3	0	0	0	0	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	23	0	0	22	0	3	2	1	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	27	0	0	24	3	3	2	1	0	2	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	0	0	6	1	1	1	0	0	1	0
Total Analysis Volume [veh/h]	3	28	0	0	25	3	3	2	1	0	2	1
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	22	0	11	14	0	11	21	0	11	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	48	48	0	48	48	0	1	1	0	0	0
g / C, Green / Cycle	0.01	0.74	0.74	0.00	0.73	0.73	0.01	0.01	0.01	0.00	0.01	0.01
(v / s)_i Volume / Saturation Flow Rate	0.00	0.02	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1714	1800	1530	1714	1800	1734	1714	1800	1610	1714	1800	1611
c, Capacity [veh/h]	13	1328	1129	3	1318	1270	13	24	22	3	14	12
d1, Uniform Delay [s]	32.20	2.28	0.00	0.00	2.36	2.36	32.20	31.80	31.80	0.00	32.17	32.18
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.73	0.03	0.00	0.00	0.01	0.02	8.73	1.07	1.35	0.00	3.50	4.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.23	0.02	0.00	0.00	0.01	0.01	0.23	0.06	0.07	0.00	0.11	0.12
d, Delay for Lane Group [s/veh]	40.94	2.31	0.00	0.00	2.37	2.38	40.94	32.87	33.15	0.00	35.68	36.60
Lane Group LOS	D	A	A	A	A	A	D	C	C	A	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.07	0.04	0.00	0.00	0.02	0.02	0.07	0.03	0.03	0.00	0.03	0.04
50th-Percentile Queue Length [ft/ln]	1.87	1.08	0.00	0.00	0.57	0.58	1.84	0.70	0.72	0.00	0.86	0.90
95th-Percentile Queue Length [veh/ln]	0.13	0.08	0.00	0.00	0.04	0.04	0.13	0.05	0.05	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	3.37	1.94	0.00	0.00	1.03	1.04	3.31	1.26	1.30	0.00	1.54	1.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.94	2.31	0.00	0.00	2.38	2.38	40.94	32.94	33.15	0.00	35.91	36.60
Movement LOS	D	A	A	A	A	A	D	C	C	A	D	D
d_A, Approach Delay [s/veh]	6.04			2.38			36.97			36.14		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	8.59											
Intersection LOS	A											
Intersection V/C	0.021											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			0.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	22.43			22.43			0.00			22.43		
I_p,int, Pedestrian LOS Score for Intersection	2.299			2.135			0.000			2.284		
Crosswalk LOS	B			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	554			308			523			523		
d_b, Bicycle Delay [s]	16.99			23.27			17.72			17.72		
I_b,int, Bicycle LOS Score for Intersection	1.611			1.583			1.565			1.562		
Bicycle LOS	A			A			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



YEAR 2040 WITH PROJECT

Vistro File: G:\...\AMLR.vistro
Report File: G:\...\AMLRp.pdf

Boron Beyond Food Mart Project

Scenario 2 Long Range With Project
3/27/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	US-395 Hwy (NS) at SR-58 WB Ramps (EW)	Signalized	HCM 6th Edition	WB Left	0.126	19.5	B
2	US-395 Hwy (NS) at SR-58 EB Ramps (EW)	Signalized	HCM 6th Edition	SB Left	0.313	22.4	C
3	US-395 Hwy (NS) at Twenty Mule Team Rd (EW)	Signalized	HCM 6th Edition	NB Left	0.059	7.1	A
4	US-395 Hwy (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	EB Right	0.048	8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: US-395 Hwy (NS) at SR-58 WB Ramps (EW)

Control Type:
Analysis Method:
Analysis Period:

Signalized
HCM 6th Edition
15 minutes

Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c):

19.5
B
0.126

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	三三三			三三三						三三三		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Base Volume Input [veh/h]	5	1	0	0	1	0	0	0	0	1	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	100	69	0	0	66	0	0	0	0	99	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	70	0	0	67	0	0	0	0	100	0	0
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	18	0	0	18	0	0	0	0	26	0	0
Total Analysis Volume [veh/h]	111	74	0	0	71	0	0	0	0	105	0	0
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	20	33	0	0	13	0	0	0	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		C	R
C, Cycle Length [s]	65	65	65	65		65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	6	51	41	41		6	6
g / C, Green / Cycle	0.09	0.78	0.63	0.63		0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.03	0.02	0.02	0.02		0.06	0.00
s, saturation flow rate [veh/h]	3329	3427	1800	1800		1714	1530
c, Capacity [veh/h]	316	2687	1130	1130		160	143
d1, Uniform Delay [s]	27.61	1.55	4.60	4.60		28.53	0.00
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.67	0.02	0.05	0.05		4.53	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.03	0.03	0.03		0.66	0.00
d, Delay for Lane Group [s/veh]	28.27	1.57	4.66	4.66		33.06	0.00
Lane Group LOS	C	A	A	A		C	A
Critical Lane Group	Yes	No	Yes	No		Yes	No
50th-Percentile Queue Length [veh/ln]	0.76	0.02	0.13	0.13		1.71	0.00
50th-Percentile Queue Length [ft/ln]	19.12	0.49	3.25	3.25		42.84	0.00
95th-Percentile Queue Length [veh/ln]	1.38	0.04	0.23	0.23		3.08	0.00
95th-Percentile Queue Length [ft/ln]	34.41	0.88	5.84	5.84		77.11	0.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.27	1.57	0.00	0.00	4.66	4.66	0.00	0.00	0.00	33.06	33.06	0.00
Movement LOS	C	A			A	A				C	C	A
d_A, Approach Delay [s/veh]	17.59			4.66			0.00			33.06		
Approach LOS	B			A			A			C		
d_I, Intersection Delay [s/veh]	19.55											
Intersection LOS	B											
Intersection V/C	0.126											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	892			277			0			862		
d_b, Bicycle Delay [s]	9.97			24.12			32.50			10.53		
I_b,int, Bicycle LOS Score for Intersection	1.712			1.618			4.132			1.733		
Bicycle LOS	A			A			D			A		

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 2: US-395 Hwy (NS) at SR-58 EB Ramps (EW)**

Control Type:	Signalized	Delay (sec / veh):	22.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.313

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	2	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Base Volume Input [veh/h]	12	20	16	7	3	7	5	6	11	1	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	60	16	9	0	60	105	151	91	15	10	90	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	72	36	25	7	63	112	156	97	26	11	90	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	9	7	2	17	29	41	26	7	3	24	1
Total Analysis Volume [veh/h]	76	38	26	7	66	118	164	102	27	12	95	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	21	0	11	21	0	0	17	0	0	11	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	29	29	1	25	25	8	8	6	6
g / C, Green / Cycle	0.09	0.49	0.49	0.01	0.42	0.42	0.13	0.13	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.04	0.02	0.02	0.00	0.04	0.08	0.10	0.07	0.01	0.05
s, saturation flow rate [veh/h]	1714	1800	1570	3329	1800	1530	1714	1736	1714	1793
c, Capacity [veh/h]	148	878	766	50	750	637	226	229	171	179
d1, Uniform Delay [s]	26.34	8.06	8.07	29.31	10.65	11.12	25.12	24.54	24.60	25.83
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.74	0.08	0.10	1.25	0.23	0.64	4.38	2.17	0.17	2.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.51	0.04	0.04	0.14	0.09	0.19	0.73	0.56	0.07	0.54
d, Delay for Lane Group [s/veh]	29.08	8.13	8.17	30.56	10.88	11.76	29.50	26.71	24.77	28.37
Lane Group LOS	C	A	A	C	B	B	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.04	0.18	0.18	0.05	0.47	0.90	2.42	1.79	0.16	1.37
50th-Percentile Queue Length [ft/ln]	26.12	4.60	4.51	1.35	11.74	22.49	60.62	44.74	3.88	34.36
95th-Percentile Queue Length [veh/ln]	1.88	0.33	0.32	0.10	0.85	1.62	4.36	3.22	0.28	2.47
95th-Percentile Queue Length [ft/ln]	47.01	8.28	8.11	2.43	21.13	40.49	109.11	80.53	6.99	61.85

Movement, Approach, & Intersection Results

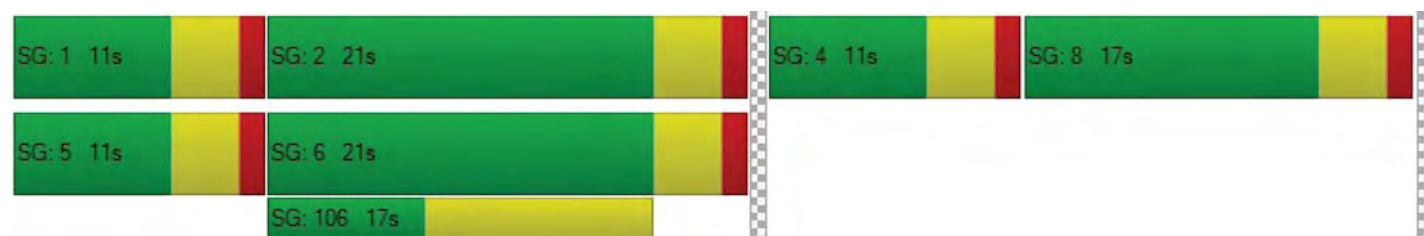
d_M, Delay for Movement [s/veh]	29.08	8.14	8.17	30.56	10.88	11.76	29.50	26.71	26.71	24.77	28.37	28.37
Movement LOS	C	A	A	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	19.51			12.15			28.27			27.97		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	22.35											
Intersection LOS	C											
Intersection V/C	0.313											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			11.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			20.01			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.075			0.000		
Crosswalk LOS	F			F			B			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	567			567			433			233		
d_b, Bicycle Delay [s]	15.41			15.41			18.41			23.41		
I_b,int, Bicycle LOS Score for Intersection	1.675			1.717			2.043			1.739		
Bicycle LOS	A			A			B			A		

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 3: US-395 Hwy (NS) at Twenty Mule Team Rd (EW)**

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.059

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	230.00	100.00	150.00	65.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Base Volume Input [veh/h]	2	2	0	0	1	2	0	0	0	0	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	70	0	0	67	18	15	2	0	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	72	0	0	68	20	15	2	0	0	2	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	19	0	0	18	5	4	1	0	0	1	0
Total Analysis Volume [veh/h]	3	76	0	0	72	21	16	2	0	0	2	1
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	16	22	0	11	17	0	11	26	0	11	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	52	52	0	51	51	2	2	2	0	0	0
g / C, Green / Cycle	0.01	0.74	0.74	0.00	0.73	0.73	0.03	0.03	0.03	0.00	0.01	0.01
(v / s)_i Volume / Saturation Flow Rate	0.00	0.04	0.00	0.00	0.03	0.03	0.01	0.00	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1714	1800	1530	1714	1800	1666	1714	1800	1800	1714	1800	1611
c, Capacity [veh/h]	13	1322	1124	3	1312	1214	49	62	62	3	13	12
d1, Uniform Delay [s]	34.67	2.59	0.00	0.00	2.66	2.66	33.45	32.76	32.76	0.00	34.64	34.64
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.16	0.08	0.00	0.00	0.05	0.06	3.74	0.10	0.10	0.00	3.66	4.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.24	0.06	0.00	0.00	0.04	0.04	0.32	0.02	0.02	0.00	0.11	0.13
d, Delay for Lane Group [s/veh]	43.83	2.67	0.00	0.00	2.71	2.72	37.19	32.87	32.87	0.00	38.30	39.27
Lane Group LOS	D	A	A	A	A	A	D	C	C	A	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.08	0.15	0.00	0.00	0.10	0.10	0.29	0.02	0.02	0.00	0.04	0.04
50th-Percentile Queue Length [ft/ln]	2.00	3.87	0.00	0.00	2.48	2.48	7.30	0.41	0.41	0.00	0.91	0.96
95th-Percentile Queue Length [veh/ln]	0.14	0.28	0.00	0.00	0.18	0.18	0.53	0.03	0.03	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	3.59	6.96	0.00	0.00	4.46	4.47	13.15	0.75	0.75	0.00	1.65	1.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.83	2.67	0.00	0.00	2.71	2.72	37.19	32.87	32.87	0.00	38.54	39.27
Movement LOS	D	A	A	A	A	A	D	C	C	A	D	D
d_A, Approach Delay [s/veh]	4.23			2.71			36.71			38.79		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	7.07											
Intersection LOS	A											
Intersection V/C	0.059											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			0.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	24.86			24.86			0.00			24.86		
I_p,int, Pedestrian LOS Score for Intersection	2.330			2.185			0.000			2.288		
Crosswalk LOS	B			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	514			371			629			629		
d_b, Bicycle Delay [s]	19.31			23.21			16.46			16.46		
I_b,int, Bicycle LOS Score for Intersection	1.690			1.636			1.574			1.562		
Bicycle LOS	A			A			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: US-395 Hwy (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	US-395 Hwy		US-395 Hwy		Project Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	US-395 Hwy		US-395 Hwy		Project Dwy	
Base Volume Input [veh/h]	0	48	15	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	85	40	45	0	45
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	133	55	45	0	45
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	35	14	12	0	12
Total Analysis Volume [veh/h]	0	140	58	47	0	47
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.05
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	8.84
Movement LOS		A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.15
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	3.76
d_A, Approach Delay [s/veh]	0.00		0.00		8.84	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.42					
Intersection LOS	A					

Vistro File: G:\...\PMLR.vistro
Report File: G:\...\PMLRp.pdf

Boron Beyond Food Mart Project

Scenario 2 Long Range With Project
3/27/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	US-395 Hwy (NS) at SR-58 WB Ramps (EW)	Signalized	HCM 6th Edition	WB Left	0.108	19.2	B
2	US-395 Hwy (NS) at SR-58 EB Ramps (EW)	Signalized	HCM 6th Edition	SB Left	0.266	21.4	C
3	US-395 Hwy (NS) at Twenty Mule Team Rd (EW)	Signalized	HCM 6th Edition	NB Left	0.054	8.7	A
4	US-395 Hwy (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	EB Right	0.040	8.7	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report**Intersection 1: US-395 Hwy (NS) at SR-58 WB Ramps (EW)**

Control Type:	Signalized	Delay (sec / veh):	19.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.108

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			SR-58 WB Ramps			SR-58 WB Ramps		
Base Volume Input [veh/h]	7	3	0	0	2	0	0	0	0	1	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	85	56	0	0	56	2	0	0	0	83	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	92	59	0	0	58	2	0	0	0	84	0	1
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	16	0	0	15	1	0	0	0	22	0	0
Total Analysis Volume [veh/h]	97	62	0	0	61	2	0	0	0	88	0	1
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	18	31	0	0	13	0	0	0	0	0	34	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		C	R
C, Cycle Length [s]	65	65	65	65		65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	6	51	42	42		6	6
g / C, Green / Cycle	0.09	0.79	0.64	0.64		0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.03	0.02	0.02	0.02		0.05	0.00
s, saturation flow rate [veh/h]	3329	3427	1800	1780		1714	1530
c, Capacity [veh/h]	302	2705	1147	1134		151	134
d1, Uniform Delay [s]	27.74	1.47	4.36	4.37		28.57	27.12
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.61	0.02	0.04	0.05		3.56	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.02	0.03	0.03		0.58	0.01
d, Delay for Lane Group [s/veh]	28.35	1.49	4.41	4.41		32.12	27.14
Lane Group LOS	C	A	A	A		C	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	0.67	0.01	0.11	0.11		1.41	0.01
50th-Percentile Queue Length [ft/ln]	16.73	0.33	2.73	2.74		35.30	0.36
95th-Percentile Queue Length [veh/ln]	1.20	0.02	0.20	0.20		2.54	0.03
95th-Percentile Queue Length [ft/ln]	30.11	0.59	4.92	4.92		63.55	0.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.35	1.49	0.00	0.00	4.41	4.41	0.00	0.00	0.00	32.12	32.12	27.14
Movement LOS	C	A			A	A				C	C	C
d_A, Approach Delay [s/veh]	17.87			4.41			0.00			32.07		
Approach LOS	B			A			A			C		
d_I, Intersection Delay [s/veh]	19.21											
Intersection LOS	B											
Intersection V/C	0.108											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	831			277			0			923		
d_b, Bicycle Delay [s]	11.11			24.12			32.50			9.42		
I_b,int, Bicycle LOS Score for Intersection	1.691			1.612			4.132			1.706		
Bicycle LOS	A			A			D			A		

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 2: US-395 Hwy (NS) at SR-58 EB Ramps (EW)**

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.266

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	2	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	US-395 Hwy			US-395 Hwy			Project Dwy			SR-58 EB Ramps		
Base Volume Input [veh/h]	0	22	15	5	3	18	8	10	6	1	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	51	16	11	0	52	88	125	75	13	8	75	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	38	26	5	55	106	133	85	19	9	76	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	10	7	1	14	28	35	22	5	2	20	0
Total Analysis Volume [veh/h]	54	40	27	5	58	112	140	89	20	9	80	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	21	0	11	21	0	0	17	0	0	11	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	31	31	1	27	27	7	7	6	6
g / C, Green / Cycle	0.07	0.52	0.52	0.01	0.46	0.46	0.12	0.12	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.03	0.02	0.02	0.00	0.03	0.07	0.08	0.06	0.01	0.04
s, saturation flow rate [veh/h]	1714	1800	1573	3329	1800	1530	1714	1744	1714	1800
c, Capacity [veh/h]	123	924	807	38	815	693	201	205	159	167
d1, Uniform Delay [s]	26.81	7.28	7.30	29.50	9.33	9.74	25.57	25.05	24.96	25.98
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.43	0.07	0.09	1.52	0.17	0.50	4.28	2.14	0.15	2.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.04	0.04	0.13	0.07	0.16	0.70	0.53	0.06	0.48
d, Delay for Lane Group [s/veh]	29.25	7.36	7.39	31.02	9.50	10.24	29.85	27.19	25.10	28.12
Lane Group LOS	C	A	A	C	A	B	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.75	0.18	0.17	0.04	0.37	0.77	2.08	1.53	0.12	1.13
50th-Percentile Queue Length [ft/ln]	18.76	4.41	4.34	1.01	9.26	19.14	52.10	38.21	2.94	28.21
95th-Percentile Queue Length [veh/ln]	1.35	0.32	0.31	0.07	0.67	1.38	3.75	2.75	0.21	2.03
95th-Percentile Queue Length [ft/ln]	33.76	7.94	7.82	1.83	16.66	34.46	93.77	68.78	5.30	50.77

Movement, Approach, & Intersection Results

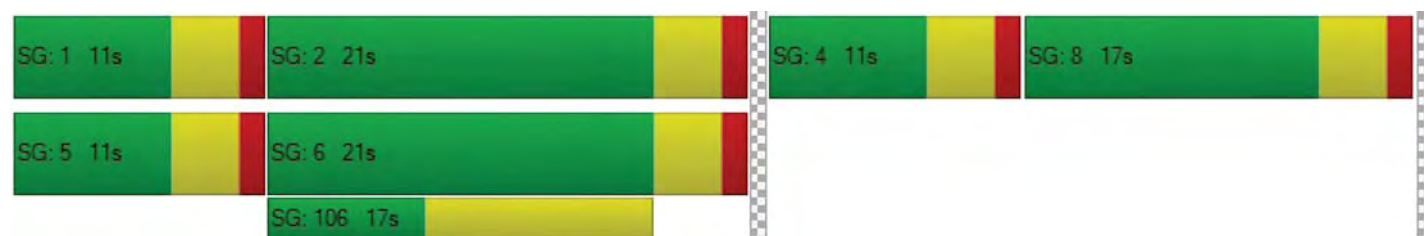
d_M, Delay for Movement [s/veh]	29.25	7.36	7.39	31.02	9.50	10.24	29.85	27.19	27.19	25.10	28.12	28.12
Movement LOS	C	A	A	C	A	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	17.13			10.59			28.69			27.81		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	21.37											
Intersection LOS	C											
Intersection V/C	0.266											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			11.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			20.01			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.052			0.000		
Crosswalk LOS	F			F			B			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	567			567			433			233		
d_b, Bicycle Delay [s]	15.41			15.41			18.41			23.41		
I_b,int, Bicycle LOS Score for Intersection	1.659			1.704			1.970			1.706		
Bicycle LOS	A			A			A			A		

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 3: US-395 Hwy (NS) at Twenty Mule Team Rd (EW)**

Control Type:	Signalized	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.054

Intersection Setup

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↔↔↔			↔↔↔			↔↔↔			↔↔↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	230.00	100.00	150.00	65.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	US-395 Hwy			US-395 Hwy			Twenty Mule Team Rd			Twenty Mule Team Rd		
Base Volume Input [veh/h]	3	4	0	0	2	3	0	0	0	0	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	61	0	0	60	13	16	2	1	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	65	0	0	62	16	16	2	1	0	2	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	17	0	0	16	4	4	1	0	0	1	0
Total Analysis Volume [veh/h]	3	68	0	0	65	17	17	2	1	0	2	1
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	16	22	0	12	18	0	12	39	0	12	39	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	66	66	0	66	66	2	3	3	0	1	1
g / C, Green / Cycle	0.01	0.78	0.78	0.00	0.77	0.77	0.03	0.03	0.03	0.00	0.01	0.01
(v / s)_i Volume / Saturation Flow Rate	0.00	0.04	0.00	0.00	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1714	1800	1530	1714	1800	1677	1714	1800	1610	1714	1800	1611
c, Capacity [veh/h]	12	1395	1186	2	1385	1290	49	62	56	2	13	11
d1, Uniform Delay [s]	42.07	2.24	0.00	0.00	2.32	2.32	40.58	39.75	39.75	0.00	42.04	42.04
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.28	0.07	0.00	0.00	0.04	0.05	4.08	0.16	0.19	0.00	4.06	5.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.25	0.05	0.00	0.00	0.03	0.03	0.34	0.02	0.03	0.00	0.12	0.13
d, Delay for Lane Group [s/veh]	52.35	2.31	0.00	0.00	2.36	2.37	44.67	39.90	39.94	0.00	46.09	47.17
Lane Group LOS	D	A	A	A	A	A	D	D	D	A	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.09	0.15	0.00	0.00	0.09	0.09	0.38	0.03	0.03	0.00	0.04	0.05
50th-Percentile Queue Length [ft/ln]	2.36	3.66	0.00	0.00	2.33	2.33	9.54	0.78	0.78	0.00	1.09	1.14
95th-Percentile Queue Length [veh/ln]	0.17	0.26	0.00	0.00	0.17	0.17	0.69	0.06	0.06	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	4.25	6.59	0.00	0.00	4.19	4.20	17.17	1.40	1.40	0.00	1.96	2.04

Movement, Approach, & Intersection Results

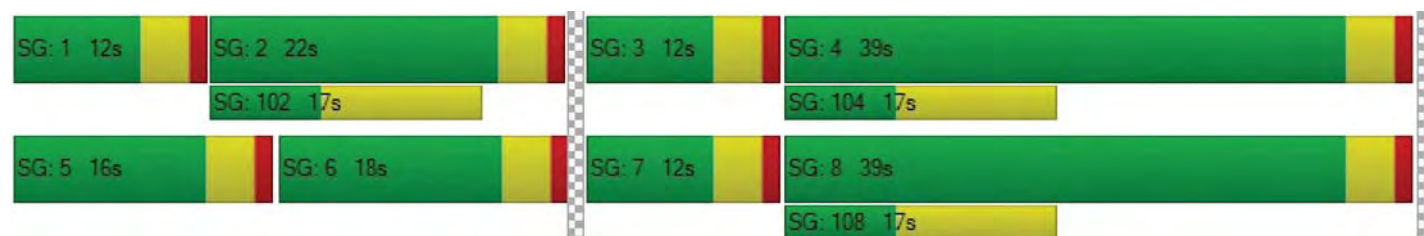
d_M, Delay for Movement [s/veh]	52.35	2.31	0.00	0.00	2.36	2.37	44.67	39.91	39.94	0.00	46.36	47.17
Movement LOS	D	A	A	A	A	A	D	D	D	A	D	D
d_A, Approach Delay [s/veh]	4.42			2.36			43.96			46.63		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	8.68											
Intersection LOS	A											
Intersection V/C	0.054											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			0.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	32.21			32.21			0.00			32.21		
I_p,int, Pedestrian LOS Score for Intersection	2.336			2.189			0.000			2.298		
Crosswalk LOS	B			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	424			329			824			824		
d_b, Bicycle Delay [s]	26.41			29.65			14.71			14.71		
I_b,int, Bicycle LOS Score for Intersection	1.677			1.627			1.576			1.562		
Bicycle LOS	A			A			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: US-395 Hwy (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.040

Intersection Setup

Name	US-395 Hwy		US-395 Hwy		Project Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	US-395 Hwy		US-395 Hwy		Project Dwy	
Base Volume Input [veh/h]	0	37	10	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	77	35	38	0	38
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	114	45	38	0	38
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	30	12	10	0	10
Total Analysis Volume [veh/h]	0	120	47	40	0	40
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	8.74
Movement LOS		A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	3.11
d_A, Approach Delay [s/veh]	0.00		0.00		8.74	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.42					
Intersection LOS	A					

APPENDIX G

TRAFFIC SIGNAL WARRANT WORKSHEETS

PEAK HOUR VOLUME WARRANT (Rural Areas)

Opening Year (2021) With Project - AM

Major Street Name = **US-395 #4**

Total of Both Approaches (VPH) = **1247**

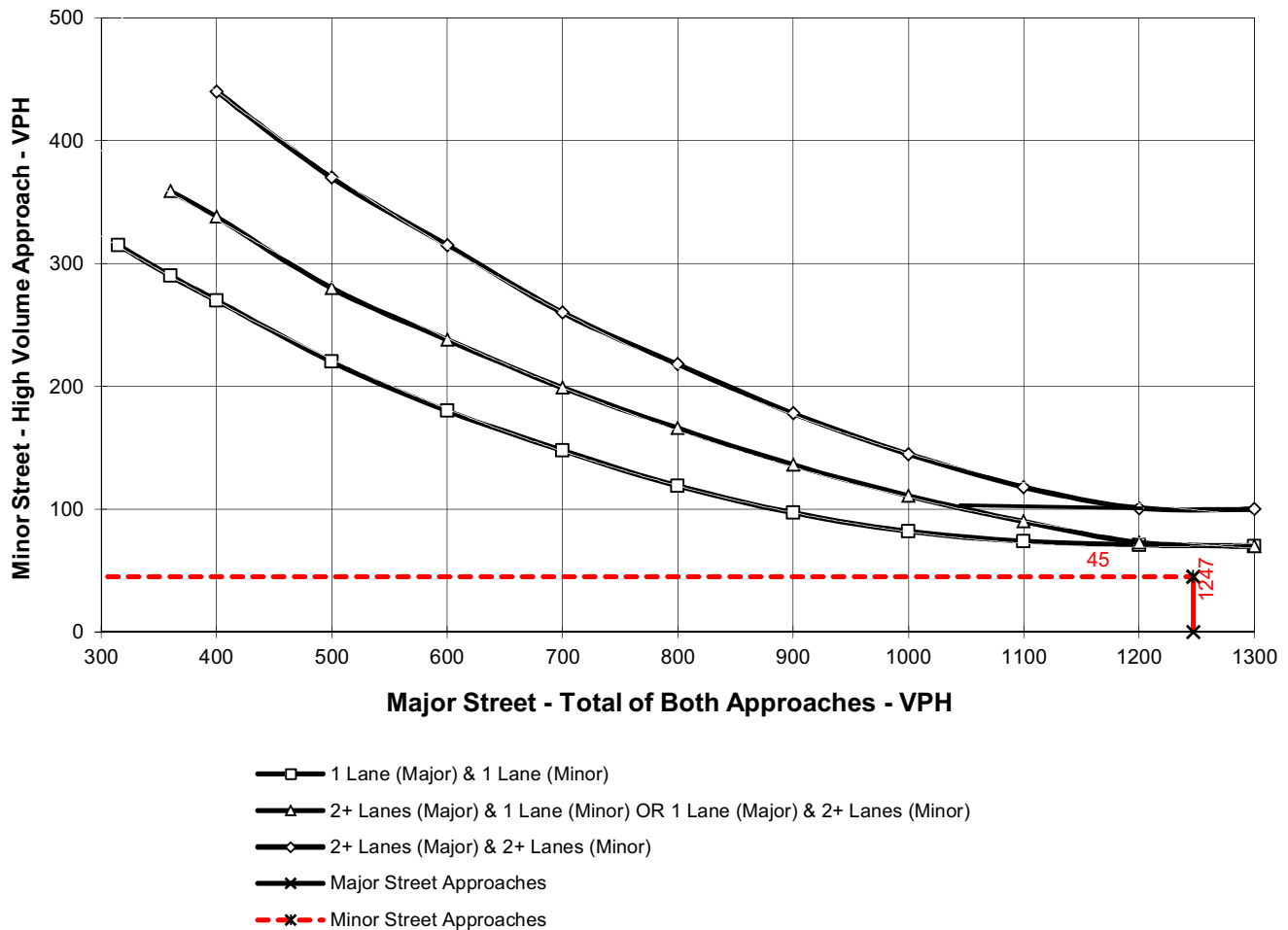
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Project South DWY**

High Volume Approach (VPH) = **45**

Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



** NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT (Rural Areas)

Opening Year (2021) With Project - PM

Major Street Name = **US-395 #4**

Total of Both Approaches (VPH) = **1084**

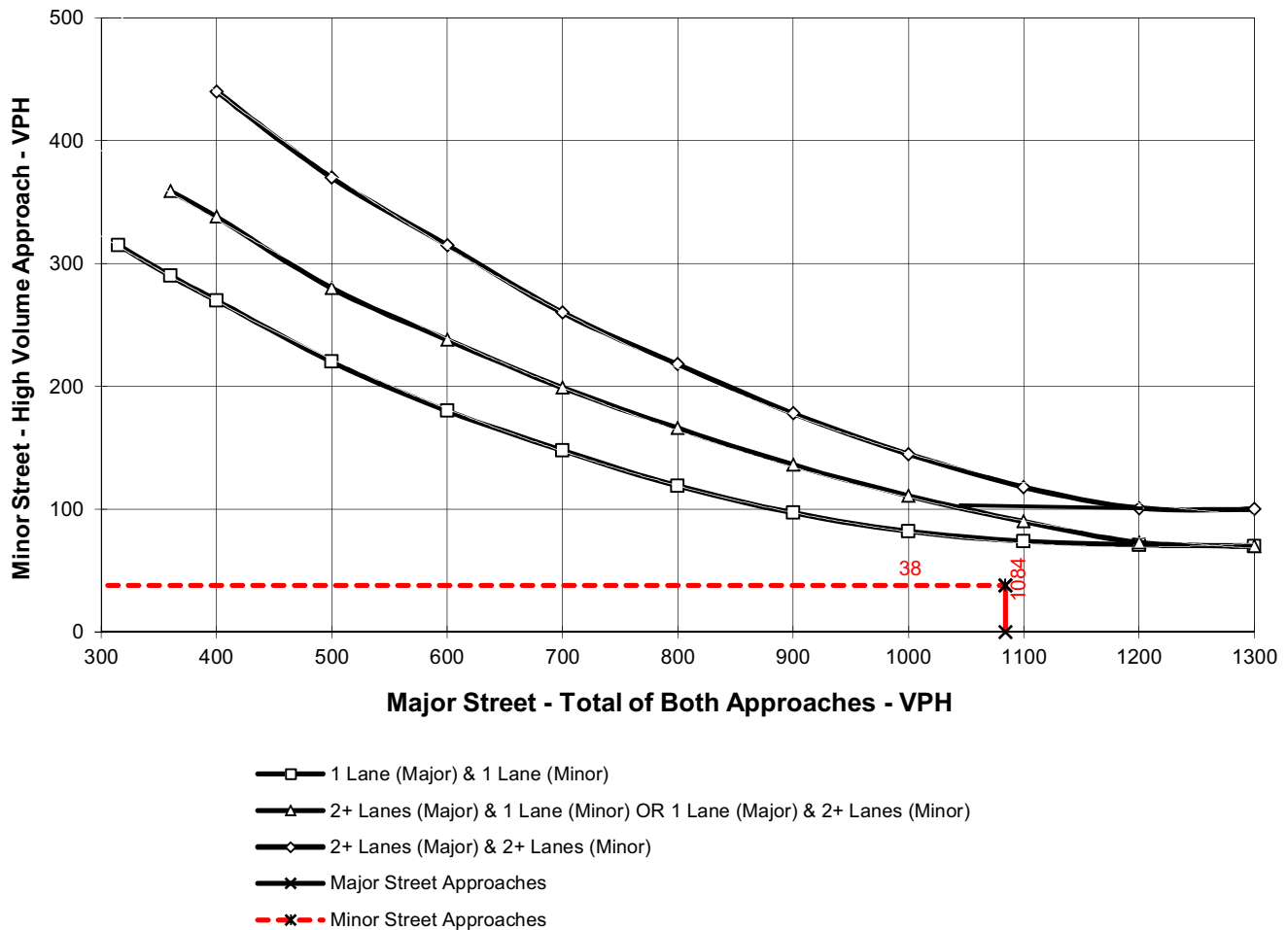
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Project South DWY**

High Volume Approach (VPH) = **38**

Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



** NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.



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