Traffic Impact Study
Lone Sun Brewery

Final Report

April 2022

Prepared for:

Lone Sun Builders

Prepared By:

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EXECUTIVE SUMMARY

The following contains a Traffic Impact Study (TIS) for a brewery and warehouse to be located on the southwest corner of El Pueblo Rd and Las Lomitas Dr within the city of Albuquerque (CABQ), NM. This report has been completed by Lee Engineering for Lone Sun Builders. All analyses and items contained herein conform to scoping requirements set forth in the CABQ Traffic Scoping Form dated September 1, 2021. Scoping forms are located in Appendix A.

BACKGROUND

The proposed development will consist of a newly constructed 11.875 ksf warehouse, and a newly constructed building, including a 5.334 ksf brewery and 9.054 ksf taproom, to be located at 8111 Las Lomitas Dr near the intersection of El Pueblo Rd and Las Lomitas Dr within the City of Albuquerque, NM. The development is expected to be completed by 2022. A detailed site plan is included in Figure 2 of this report. Access to the site is to be taken from Las Lomitas Dr via one proposed full access driveway and El Pueblo Rd via one driveway; movements are to be determined by the study. Study Intersections, as shown in Figure 1, include:

- El Pueblo Rd & Edith Blvd
- El Pueblo Rd & Las Lomitas Dr
- El Pueblo Rd & Jacs Ln
- El Pueblo Rd & Site Driveway 2
- Las Lomitas Dr & Site Driveway 1

9-hour turning movement counts were collected on Wednesday, August 25, 2021, for the intersection of El Pueblo Rd and Las Lomitas Dr and on September 22, 2021, for all other study intersections. These volumes were used in the existing conditions analysis. Traffic volumes for opening year scenarios (2022) were projected from 2021 turning movement counts using MRCOG growth rates. Construction is anticipated to begin in 2021, with full completion of the development in 2022. The development is to be constructed in one single phase.

Analysis scenarios for this study include:

1. Existing Conditions (2021)
2. Background - No Build (2022)
3. Full Build – Complete Construction (2022)

EL PUEBLO RD ACCESS (DRIVEWAY 2) ANALYSIS

Three alternatives for a driveway on El Pueblo Rd were analyzed to determine the overall operations of the study area for the proposed development.

CONFIGURATION 1

This configuration analyzes the study area intersections assuming there is no Driveway 2 on El Pueblo Rd. Therefore, all traffic must enter and exit the site using Driveway 1 on Las Lomitas Dr. This configuration is identified as “No Driveway 2” in this report.

The capacity analysis for this configuration shows that, under the full build 2022 conditions, during the PM peak, the northbound left-turn movement of El Pueblo Rd and Las Lomitas Dr will operate below acceptable delay and level of service. This is due to the intersection carrying all EB/WB and NB site traffic entering and exiting the site through Driveway 1. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.

Constructability:

Regardless of the driveway configuration and levels of service, it is recommended that the inner westbound through/left approach lane on El Pueblo Rd at Las Lomitas Dr be converted to a dedicated left-turn lane via re-striping the lane.

Configuration 2

This configuration analyzes the study area intersections assuming there is a restricted partial access Driveway 2 on El Pueblo Rd. Therefore, traffic is allowed to make a right turn in and a right turn out of Driveway 2. All traffic going west and north toward Edith Blvd will be required to exit at Driveway 1. This configuration is identified as "Driveway 2 Right-In/Right-Out" in this report.

The capacity analysis for this configuration shows that, under the full build 2022 conditions, during the PM peak, the northbound left-turn movement of El Pueblo Rd and Las Lomitas Dr will operate below acceptable delay and level of service. This is due to the intersection carrying the WB and some of the NB site traffic exiting the site through Driveway 1. Although the proposed right-in/right-out driveway will decrease the amount of site traffic using the intersection of El Pueblo Rd and Las Lomitas Dr, the intersection is shown to operate below acceptable levels of service.

Per the NMDOT SAMM, the required spacing for a right-in/right-out driveway (partial access) is 225 feet, and the current available spacing of the proposed driveway is 230 feet. Therefore, this spacing meets NMDOT SAMM recommended spacings. Furthermore, based on SAMM criteria, a dedicated right-turn lane is not required for this configuration.

Constructability:

Regardless of the driveway configuration and levels of service, it is recommended that the inner westbound through/left approach lane on El Pueblo Rd at Las Lomitas Dr be converted to a dedicated left-turn lane via re-striping the lane.

For the existing turn lane for the eastbound right turn at Las Lomitas Dr, it is recommended that the turn lane be shortened to approximately 230 feet, including taper between the Driveway 2 and Las Lomitas Dr. This configuration meets SAMM recommendations using the provisions of Chapter 8 Section K.(a).ii and Chapter 8 Section K.(b).ii.

It is recommended that a physical barrier be provided on El Pueblo Rd to prevent left turns into and out of Driveway 2.

Configuration 3

This configuration analyzes the study area intersections assuming full access is provided at Driveway 2 on El Pueblo Rd. This configuration allows entering and exiting traffic to make all movements at Driveway 2. This configuration is identified as "Driveway 2 Full Access" in this report.

The capacity analysis for this configuration shows that, under the full build 2022 conditions, all movements and approaches at all intersections will operate at acceptable levels of service and delay.

Per the NMDOT SAMM, the recommended spacing for a full access driveway is 330 feet, and the current available spacing of the proposed driveway is approximately 250 feet. While this spacing does not meet SAMM recommendations, the expected left turns generated by the proposed development at this driveway are 5 left turns during the mid-day peak and 6 left turns during the PM peak. Therefore, the provided spacing and low volumes of this movement are not likely to significantly impact the operations along El Pueblo Rd. Additionally, and based on the constructability recommendation below, the recommended roadway configuration provides additional areas for turning vehicles.

Based on SAMM criteria, turn lanes are not required for this configuration.

Constructability:

Regardless of the driveway configuration and levels of service, it is recommended that the inner westbound through/left approach lane on El Pueblo Rd at Las Lomitas Dr be converted to a dedicated left-turn lane via re-striping the lane.

For the existing turn lane for the EBR at Las Lomitas Dr, it is recommended that the turn lane be shortened to approximately 230 feet, including taper between the Driveway 2 and Las Lomitas Dr. This configuration meets SAMM recommendations using the provisions of Chapter 8 Section K.(a).ii and Chapter 8 Section K.(b).ii.

It is recommended that the second westbound lane at Driveway 2 be converted to a left turn lane via re-striping the lane.

CONCLUSION AND DRIVEWAY CONFIGURATION RECOMMENDATION

Based on the findings of this report, and information presented regarding driveway configuration, it is recommended that site access be provided via either one full access driveway on Las Lomitas Dr and one full access driveway on El Pueblo Rd or a partial access on El Pueblo Rd with full access to Las Lomitas Dr.

ADDITIONAL RECOMMENDATIONS

- Regardless of the driveway configuration and levels of service, it is recommended that the inner westbound through/left approach lane on El Pueblo Rd at Las Lomitas Dr be converted to a dedicated left-turn lane via re-striping the lane.
- It is recommended that intersection sight distance, as detailed in the sight distance section of this report, be provided/maintained.

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INTRODUCTION

This report details the procedures and findings of a Traffic Impact Study (TIS) performed by Lee Engineering for Lone Sun Builders. This report and the analyses contained herein were performed for a proposed brewery and warehouse to be located on the southwest corner of El Pueblo Rd and Las Lomitas Dr in Albuquerque, NM.

All analyses and items contained herein conform to scoping requirements set forth in the NMDOT Traffic Study Scoping meeting held on September 1, 2021. Scoping meeting notes are located in Appendix A. Analysis procedures, conclusions, and recommendations for this study were developed according to the *ITE Trip Generation Manual 10th Edition, and Highway Capacity Manual 6th Edition*.

Construction is anticipated to begin in 2021, with full completion of the development in 2022. The development is to be constructed in one single phase.

Analysis procedures included in this report were performed for the following scenarios:

1. Existing Conditions (2021)
2. Background - No Build (2022)
3. Full Build – Complete Construction (2022)
    a. Background 2022 traffic volumes plus site trips with no Driveway 2 on El Pueblo Rd
    b. Background 2022 traffic volumes plus site trips with Right-In/Right-Out Driveway 2 on El Pueblo Rd
    c. Background 2022 traffic volumes plus site trips with Full Access Driveway 2 on El Pueblo Rd

PROJECT LOCATION & SITE PLAN

The proposed development will consist of a newly constructed 26.263 ksf building, including a brewery, taproom, and warehouse. The development will be located on the southwest corner of El Pueblo Rd, and Las Lomitas Dr in Albuquerque, NM at 8111 Las Lomitas Dr. Surrounding major intersections include El Pueblo Rd & Edith Blvd. The project area is bounded by existing industrial type development. Adjacent to the proposed development, to the west, is a truck service center. South of the proposed development, along Las Lomitas Dr, consists of industrial and office buildings and single-family residential developments. East of the site is industrial and office buildings. Figure 2 shows the proposed site plan.

SITE ACCESS

Access to the site is to be taken from Las Lomitas Dr via one proposed full access driveway and El Pueblo Rd via one possible driveway, in which the following configurations were analyzed within this study:

Configuration 1 – Analyzes the study area intersections assuming there is no Driveway 2 on El Pueblo Rd. Therefore, all traffic must enter the site using Driveway 1 on Las Lomitas Dr. This configuration is identified as “No Driveway 2” in this report.

Configuration 2 – Analyzes the study area intersections assuming there is a restricted partial access Driveway 2 on El Pueblo Rd. Therefore, traffic is allowed to make a right turn in and a right turn out of Driveway 2. All traffic going west and north toward Edith Blvd will be required to exit at Driveway 1. This configuration is identified as “Driveway 2 Right-In/Right-Out” in this report.

Configuration 3 – Analyzes the study area intersections assuming full access is provided at Driveway 2 on El Pueblo Rd. This configuration allows entering and exiting traffic to make all movements at Driveway 2. This configuration is identified as “Driveway 2 Full Access” in this report.

Details of the driveway’s location and access are included in subsequent sections of this report.

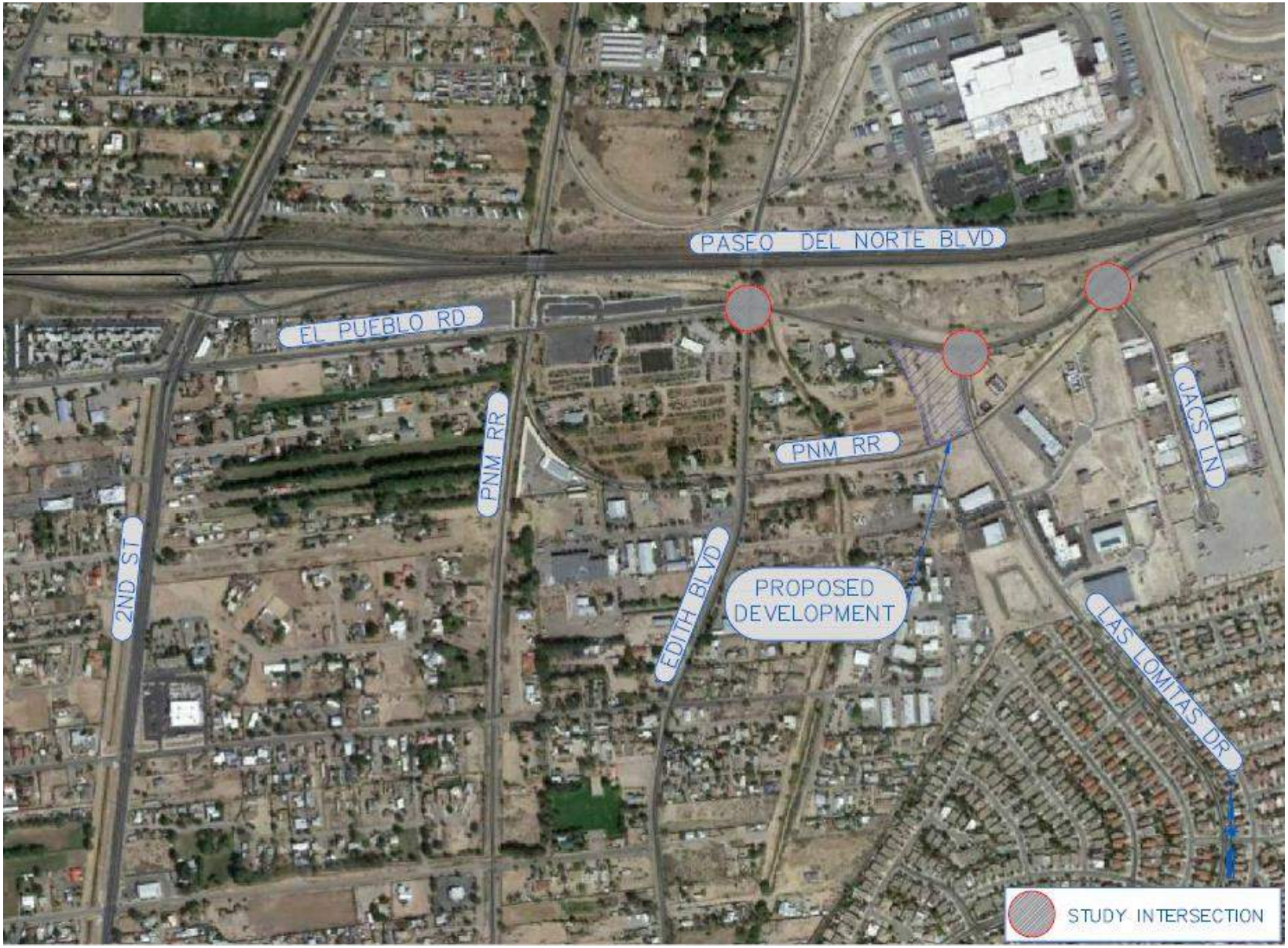

Figure 1. Vicinity Map

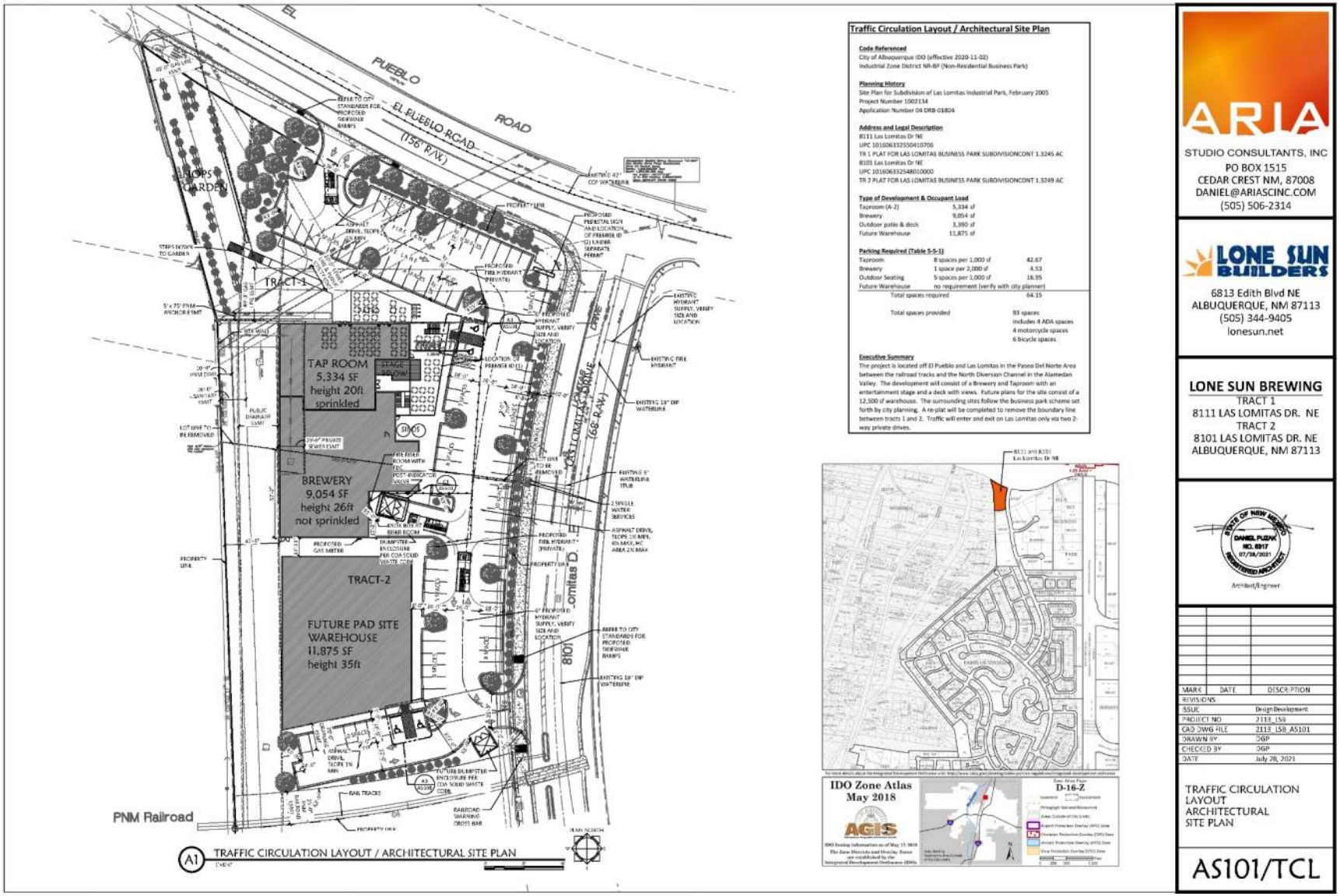

Figure 2. Site Plan

Study Area, Area Land Use, and Streets

STUDY AREA

The study area is defined as the area bounded by El Pueblo Rd and Las Lomitas Dr immediately surrounding the site. The following intersections were identified and agreed upon in the scoping form and will serve as the study intersections for this report:

- El Pueblo Rd & Edith Blvd
- El Pueblo Rd & Las Lomitas Dr
- El Pueblo Rd & Jacs Ln
- El Pueblo Rd & Site Driveway 2
- Las Lomitas Dr & Site Driveway 1

AREA LAND USE

As described, the proposed brewery and warehouse development is to be located on the north side of CABQ at 8111 Las Lomitas Dr within the city of Albuquerque. Surrounding major intersections include El Pueblo Rd and Edith Blvd. Adjacent to and surrounding the project site are land uses consisting of the following:

- Industrial: A majority of the surrounding land use is industrial in nature, with industrial developments located east, west, and south of the proposed developments.
- Residential: Just west and south of the proposed development, there are several multi-family housing developments as well as an area of single-family housing.

STREETS

The following details the characteristics and features of streets included in the study area:

El Pueblo Rd is a three-lane undivided roadway classified by MRCOG as a Major Collector, running east and west north of the proposed development. Travel lanes range from 11-12 feet wide, with two westbound lanes and one eastbound lane. The roadway incorporates auxiliary right turn lanes throughout the corridor at intersections. Curb and gutter are not present; however, a multi-use trail is present on the north side of the road. The roadway has a posted speed limit of 35 MPH.

Las Lomitas Dr is a two-lane undivided roadway classified by MRCOG as a Local Street, running north and south and serves as the eastern boundary of the proposed development. Travel lanes range from 10-12 feet wide. Las Lomitas Dr incorporates curb and gutter, and sidewalk is present on both sides of the road. The roadway has a posted speed limit of 35 MPH.

Jacs Ln is currently classified by MRCOG as a Local Street and runs north and south with a speed limit of 30 MPH. The roadway is 36 feet wide and provides marked left turn and right turns lanes at the northbound approach to El Pueblo Rd. Curb and gutter are present and incorporate sidewalks on both sides of the street.

INTERSECTIONS

The following details the traffic control and characteristics of existing intersections in the study area:

El Pueblo Rd & Edith Blvd is a 4-legged signalized intersection maintained by the City of Albuquerque. The signal operates with time-of-day coordination. Pedestrian crosswalks are present on the west leg of the intersection.

El Pueblo Rd & Las Lomitas Dr is a stop-controlled t-intersection with a stop on Las Lomitas Dr and is maintained by the City of Albuquerque.

El Pueblo Rd & Jacs Ln is a stop-controlled t-intersection with a stop on Jacs Ln and is maintained by the City of Albuquerque.

Transit

Currently, one bus route, Route 251, serves the study area on El Pueblo Rd at the Rail Runner Station near 2nd St. The route operates every weekday with two stops in the morning and two stops in the evening.

Multimodal Connectivity

Currently, bicycle facilities are not present immediately near the development or on its frontage. However, there is an existing multi-use trail along El Pueblo Rd on the north side of the street. El Pueblo Rd is identified as a future bike route and is highly used by bicyclists. Access from the trail to the intersection of El Pueblo Rd and Las Lomitas Dr is provided on the north side of the intersection. Pedestrian facilities for El Pueblo Rd are provided with the multi-use trail on the north side of the street, and sidewalks are present on both sides of Las Lomitas Dr.

Current Adjacent Projects

CABQ has an ongoing project to make improvements to the bike and pedestrian facilities on El Pueblo Rd.

ANALYSIS OF EXISTING CONDITIONS

Data Collection

Turning movement counts were collected for 9 hours in 3-periods: 6:00 AM-9:00 AM (morning), 11:00 AM-2:00 PM (mid-day), and 3:00 PM-6:00 PM (evening) on:

- On August 25, 2021, at:
  - El Pueblo Rd & Las Lomitas Dr on
- On September 22, 2021, at:
  - El Pueblo Rd & Edith Blvd
  - El Pueblo Rd & Jacs Ln

Growth rates were also obtained from the nearby traffic study for opening year and horizon year (10 years after projected build-out) analyses. Table 1 shows the peak hours for each intersection used in the analysis. Current year turning movement counts, lane geometry, and traffic control for the study intersections are presented in Figure 3. Full turning movement count sheets can be found in Appendix B.

Table 1: Intersection Peak Hours

Intersection	Data Collection Date	Mid-Day Peak Hour	PM Peak Hour
El Pueblo Rd & Las Lomitas Blvd	8/18/2021	12:00-1:00	4:45-5:45
El Pueblo Rd & Edith Dr	8/18/2021	12:00-1:00	4:45-5:45
El Pueblo Rd & Jacs Ln	8/18/2021	12:00-1:00	4:45-5:45

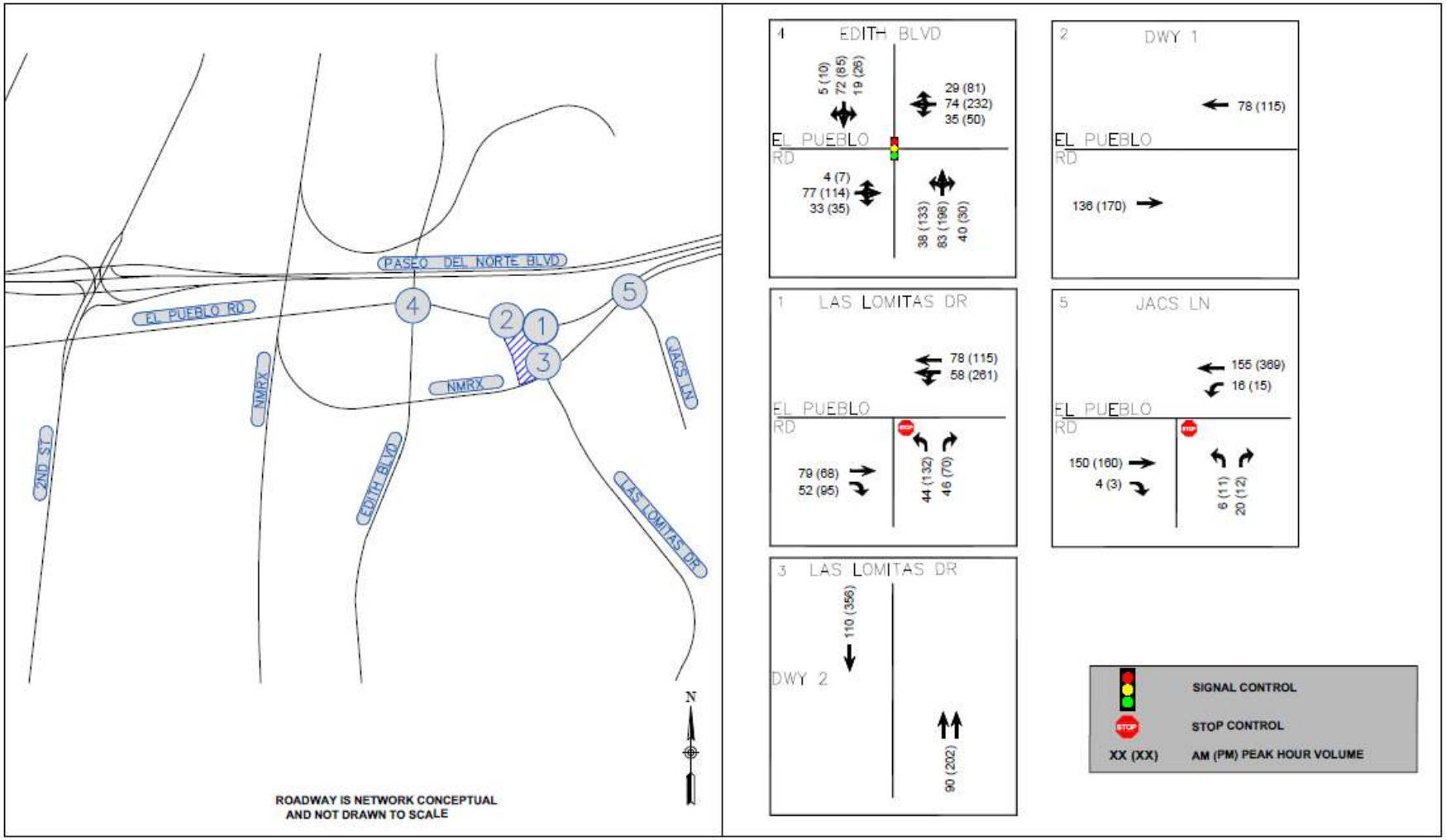

Figure 3. Existing 2021 Turning Movement Counts

Level of Service and Capacity Analysis

Intersection Analysis

Intersection Capacity and Level of Service (LOS) analysis were performed according to the methods and procedures provided in the *Highway Capacity Manual, 6th Edition (HCM6).* Highway Capacity software was used to facilitate the analysis. Per the Highway Capacity Manual, LOS is presented as a letter grade (A through F) based on the calculated average delay for an intersection or movement. Delay is calculated as a function of several variables, including signal phasing operations, cycle length, traffic volumes, and opposing traffic volumes, but is a measurement of the average wait time a driver can expect when moving through an intersection. Factors such as total cycle time (for all movements), queueing restrictions, and vehicle volumes can affect measurements of delay, especially for lower volume movements and side streets. Generally, these factors are only realized when delays reach or exceed LOS E thresholds. In such cases, a narrative is offered in subsequent sections specific to the individual movement in question.

Table 2 below, reproduced from the Highway Capacity Manual, shows delay thresholds and the associated Level of Service assigned to delay ranges. Generally, a LOS of D or better is considered an acceptable level of service.

Table 2: LOS Criteria and Descriptions for Signalized Intersections

Level of Service	Average Control Delay (sec/vehicle)	General Description (Signalized Intersections)
A	≤10	Free flow
B	>10 – 20	Stable flow (slight delays)
C	>10 – 35	Stable flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F	>80	Forced flow (jammed)

Unsignalized intersection LOS is divided into two intersection types: all-way stop-controlled and two-way stop-controlled. All-way stop-controlled intersection LOS is expressed in terms of average vehicle delay of all the movements. Two-way stop-controlled intersection LOS is defined in terms of average vehicle delay of an individual movement. Table 3 shows LOS criteria for unsignalized intersections.

Table 3: LOS Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (sec/veh)
A	≤10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F	>50

Based on procedures outlined in the Highway Capacity Manual, intersection delay and LOS for study intersections are reported as the delay and level of service for the worst-case movement. Per HCM6 procedures, peak hour factors obtained from collected traffic counts for the intersections were used in the existing conditions analysis and all other scenarios. Queues are reported for queue measurements falling within the 95th percentile. It should be noted that 95th percentile queues are statistically expected to occur during only 5% of the peak hour's sign cycles. It is also noted that un-reported average queueing at an intersection would statistically be much shorter than 95th percentile queueing.

ANALYSIS OF SIGNALIZED INTERSECTIONS

Table 4 below summarizes intersection capacity and LOS analysis performed for existing conditions for the signalized intersections at El Pueblo Rd & Edith Blvd. Per HCM6 procedures, peak hour factors obtained from collected traffic counts for the intersections were used in the existing conditions analysis and all other scenarios. Existing signal timings for El Pueblo Rd & Edith Blvd, provided by CABQ, were used in each analysis scenario unless otherwise stated. Queueing is reported as a ratio Queue Storage Ratio (QSR) for signalized intersections and indicates the ratio of demand to capacity based on possible lengths of waiting vehicles during "red" times for specific movements. Table 5 below summarizes queuing results. Detailed capacity output sheets can be found in Appendix D.

Table 4: 2021 Existing Signalized Capacity Analysis Summary

Study Intersection	Scenario	Individual Movement LOS and Delay								Intersection LOS			
		Mid-day				PM				Mid-day		PM	
		Movement	Delay[1]	V/C	LOS[2]	Movement	Delay[1]	V/C	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
El Pueblo Rd & Edith Blvd	Existing 2021	EBT	13.5	0.14	B	EBT	14.1	0.2	B	15.1	B	18.4	B
		WBT	13.9	0.18	B	WBT	17.6	0.5	B				
		NBT	16.8	0.23	B	NBT	21.8	0.54	C				
		SBT	15.7	0.13	B	SBR	16.2	0.18	B				

[1]Average delay in seconds per vehicle.

[2]LOS stands for Level of Service.

Table 5: 2021 Existing Signalized Queue Storage Summary

Study Intersection	Movement	Existing 2021		Storage Length Present (ft)
		Mid-day	PM	
		95th Percentile (QSR)	95th Percentile (QSR)	
El Pueblo Rd & Edith Blvd	EBT	0.00	0.00	---
	WBT	0.00	0.00	---
	NBT	0.00	0.00	---
	SBT	0.00	0.00	---

*95th Percentile (QSR)= Queue Storage Ratio

From the tables above, the following is summarized:

El Pueblo Rd & Edith Blvd

- Capacity Analysis:
  - Under existing conditions, the intersection is observed to operate at an acceptable level of service in both the Midday and PM peak hours. Individual movements are also observed to operate at an acceptable Level of Service (LOS) for the Midday and PM peaks. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
- Queueing Analysis:
  - Under existing conditions, 95th percentile Queue Storage Ratios (QSR) lengths at the intersection are observed to be less than 1 vehicle during the Midday and PM peak hours.

ANALYSIS OF STOP-CONTROLLED INTERSECTIONS

Table 6 below summarizes stop-controlled intersection capacity and LOS analysis performed for existing conditions for the unsignalized intersections. Per the HCM, queueing for stop-controlled intersections is reported as a number of vehicles in the queue. For the purposes of this report, queued vehicles were converted to feet by multiplying queued vehicles by the HCM average vehicle length, 20 feet. Table 7 below summarizes queuing results. Detailed capacity output sheets can be found in Appendix D.

Table 6: 2021 Existing Stop Control Capacity Analysis Summary

Study Intersection	Scenario	Individual Movement LOS and Delay								Intersection LOS			
		Mid-day				PM				Mid-day		PM	
		Movement	Delay[1]	V/C	LOS[2]	Movement	Delay[1]	V/C	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
El Pueblo Rd & Las Lomitas Dr	Existing 2021	WBL/T	7.6	0.04	A	WBL/T	8.2	0.20	A	10.7	B	27.1	D
		NBL	10.7	0.07	B	NBL	27.1	0.46	D				
		NBR	8.9	0.05	A	NBR	8.9	0.07	A				
El Pueblo Rd & Jacs Ln	Existing 2021	WBL	7.6	0.01	A	WBL	7.6	0.01	A	10.8	B	13.6	B
		NBL	10.8	0.01	B	NBL	13.6	0.03	B				
		NBR	9.2	0.02	A	NBR	9.3	0.02	A				

[1]Average delay in seconds per vehicle.
[2]LOS stands for Level of Service.

Table 7: 2021 Existing Stop Control Queue Storage Summary

Study Intersection	Movement	Existing 2021		Storage Length Present (ft)
		Mid-day	PM	
		95th Percentile (ft)	95th Percentile (ft)	
El Pueblo Rd & Las Lomitas Dr	EBT	---	---	---
	EBR	---	---	310
	WBT	---	---	---
	WBL/T	2.0	14.0	---
	NBL	4.0	50.0	350
	NBR	4.0	4.0	260
El Pueblo Rd & Jacs Ln	EBT	---	---	---
	EBR	---	---	200
	WBT	---	---	---
	WBL	0.0	0.0	135
	NBL	0.0	2.0	200
	NBR	2.0	0.0	---
Las Lomitas Dr & Driveway 1	EBL/R	---	---	---
	NBL/T	---	---	---

*95th Percentile Queues are calculated in feet

From Tables 6 and 7, the following is summarized:

El Pueblo Rd & Las Lomitas Dr

- Capacity Analysis:
  - Under existing conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
- Queueing Analysis:
  - Under existing conditions, 95th percentile queue lengths at the intersection are observed to accommodate existing storage lengths during the Midday and PM peak hours.

El Pueblo Rd & Jacs Ln

- Capacity Analysis:
  - Under existing conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
- Queueing Analysis:
  - Under existing conditions, 95th percentile queue lengths at the intersection are observed to accommodate existing storage lengths during the Midday and PM peak hours.

ANALYSIS OF FUTURE CONDITIONS

The following sections detail the methods and calculations used to obtain traffic volumes for each analysis scenario. This process used the following tools as described below: Traffic Projections and Site Trip Distributions & Assignment. Figures at the end of this section show the resulting traffic volumes determined for each analysis scenario.

SITE ACCESS CONFIGURATION

Three configurations for Driveway 2 on El Pueblo Rd were analyzed for this report, as requested by NMDOT. It is noted that an EBR lane exists at Las Lomitas under existing conditions.

Configuration 1 – Analyzes the study area intersections assuming there is no Driveway 2 on El Pueblo Rd. Therefore, all traffic must enter the site using Driveway 1 on Las Lomitas Dr. This configuration is identified as “No Driveway 2” in this report.

Configuration 2 – Analyzes the study area intersections assuming there is a right turn restricted Driveway 2 on El Pueblo Rd. Therefore, traffic is allowed to make a right turn in and a right turn out of Driveway 2. All traffic going west and north toward Edith Blvd will be required to exit at Driveway 1. This configuration is identified as “Driveway 2 Right-In/Right-Out” in this report.

Configuration 3 – Analyzes the study area intersections assuming full access is provided at Driveway 2 on El Pueblo Rd. This configuration allows entering and exiting traffic to make all movements at Driveway 2. This configuration is identified as “Driveway 2 Full Access” in this report.

Each configuration is analyzed in sections below, and a comparison of the configurations is provided at the end of this report.

TRAFFIC PROJECTIONS

Construction is anticipated to begin in 2021, with full completion of the development in 2022. To forecast existing traffic volumes to future analysis background conditions, loading values from the 2016 and 2040 (updated) travel demand models were provided by MRCOG. These models were then compared using AM

and PM peak hour direction volumes (AMPH LOAD and PMPH LOAD) to calculate anticipated growth rates for individual roadways near the study area. To facilitate a conservative analysis, roadways calculated to have a yearly growth rate of less than 1% were analyzed with a 1% per year growth rate. Growth rates were then converted to growth factors for specific analysis scenarios. Values provided by MRCOG are reproduced verbatim in Table 8, in addition to the calculated growth rates used in the analysis. Growth rates were then applied to the 2021 turning movement volumes to forecast future volumes. MRCOG traffic growth data excerpts can found in Appendix E.

Table 8: Growth Rate Method

Roadway				MRCOG 2016 Model "Peak Hour Load"	MRCOG 2040 Model "Peak Hour Load"	Yearly Growth Rate	Average Yearly Growth	Growth Rate Used
El Pueblo Rd	East of Las Lomitas Dr	AM	PH	612	291	-3.05%	-2.18%	1.00%
		PM	PH	378	87	-5.94%		
El Pueblo Rd	West of Las Lomitas Dr	AM	PH	468	272	-2.24%		
		PM	PH	268	80	-4.91%		
El Pueblo Rd	West of Edith Blvd	AM	PH	219	273	0.92%		
		PM	PH	677	1120	2.12%		
Edith Blvd	North of El Pueblo Rd	AM	PH	163	181	0.44%	0.87%	
		PM	PH	300	410	1.31%		
Edith Blvd	South of El Pueblo Rd	AM	PH	256	492	2.76%	2.10%	
		PM	PH	265	374	1.45%		
Las Lomitas Dr	South of El Pueblo Rd	AM	PH	144	19	-8.09%	-9.47%	
		PM	PH	110	7	-10.84%		

Trip Generation

Trip generation for the development was performed using the procedures and methodologies provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition.* The land use category Warehousing (ITE 150) was used to generate trips for the development. The midday peak rate for this land use was determined using Appendix C percentages of daily trips. Trips were calculated using rates for Midday peak hour and PM peak hour generators. Because there is no appropriate code for a brewery or taproom, data was collected during the Midday peak and PM peak at a nearby brewery to develop rates for this land use. As previously stated, the development is to consist of one single phase. Total development trips and trips generated are shown below in the tables. Site trips for the development site were generated using data and procedures according to the Institute of Transportation Engineer's Trip Generation Manual. The site-generated trips were added to background traffic volumes to create the build-out traffic volumes.

Table 9 provided below shows expected trips generated by the development.

Table 9: Trip Generation

Use	Units		TRIP GENERATION						PEAK HOUR TRIPS			
			Midday Peak			PM Peak			Midday Peak		PM Peak	
			Rate	Enter	Exit	Rate	Enter	Exit	In	Out	In	Out
Brewery (Tap Room)	5.334	1000 sq. ft. GFA	6.00	67%	33%	14.00	43%	57%	21	11	32	43
ITE 150 - Warehousing	11.875	1000 sq. ft. GFA	0.17	65%	35%	0.24	24%	76%	1	1	1	2
Total	17.209	1000 sq. ft. GFA	Total						22	12	33	45

TRIP DISTRIBUTION AND ASSIGNMENT

Trip Distribution was determined based on the analysis of existing intersection demand characteristics within the study area. Overall, trips were distributed within the roadway network to and from the development based on the proportions of existing turning movement counts/demands. Trip routing was based on logical trip attractions and destinations for residential-based trips. The figures below show the trip distribution and assignment for the development of each analysis scenario. Trips were then assigned to the background roadway networks to create build-out volumes and are shown in the figures below.

As stated previously, three access configurations are analyzed in this report. Therefore, trip distributions for each configuration were developed for a total of three trip distributions. Figure 5 through Figure 7 show the proposed trip distribution and trip assignments for each configuration.

Traffic Volume Calculations

Traffic volumes used in the analysis were calculated based on the following:

1. Existing Conditions: direct turning movement counts from 2021
2. Background 2022: 2022 growth rate applied to existing conditions
3. Full Build-out 2022:
    a. Background 2022 traffic volumes plus site trips with no Driveway 2 on El Pueblo Rd
    b. Background 2022 traffic volumes plus site trips with Right-In/Right-Out Driveway 2 on El Pueblo Rd
    c. Background 2022 traffic volumes plus site trips with Full Access Driveway 2 on El Pueblo Rd

As stated above, build-out traffic volumes were calculated using the growth rates and factors detailed in previous sections. Site trips were added to study intersections with direct access to the proposed development. Figure 8 through Figure 10 show the traffic volumes used for each individual analysis scenario.

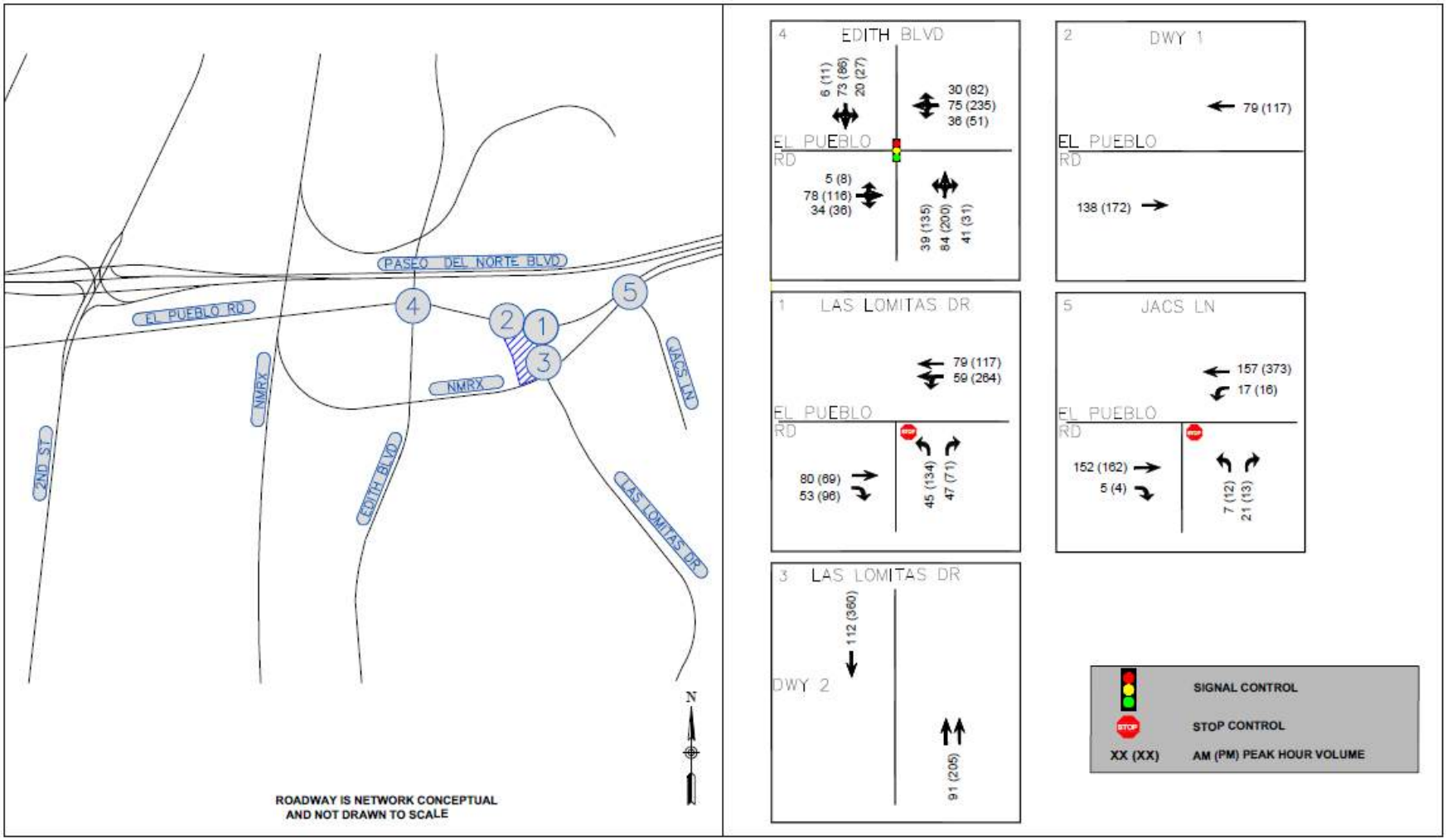

Figure 4. Background 2022 Turning Movement Traffic Volumes

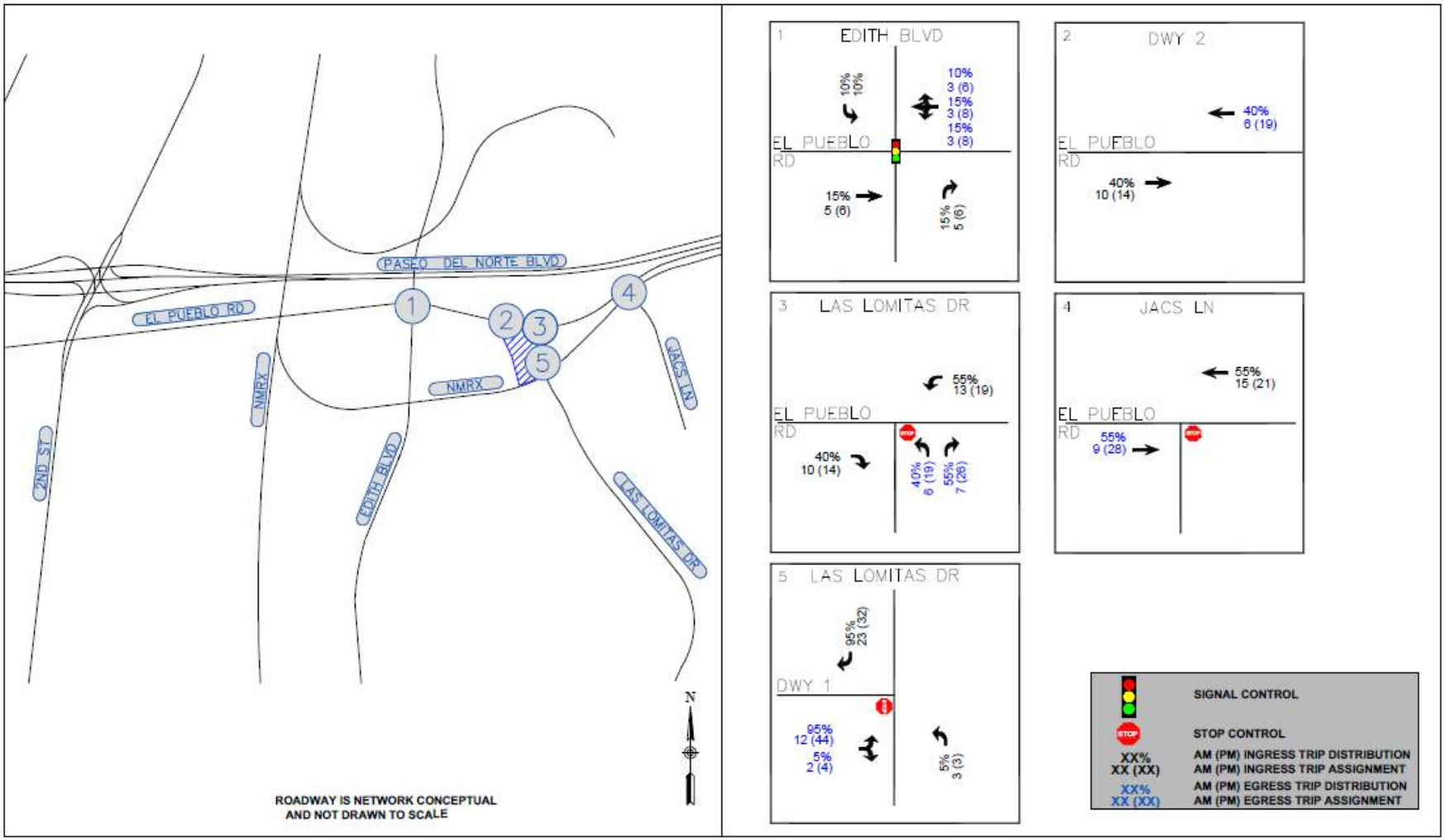

Figure 5. Trip Distribution and Assignment – No Driveway 2

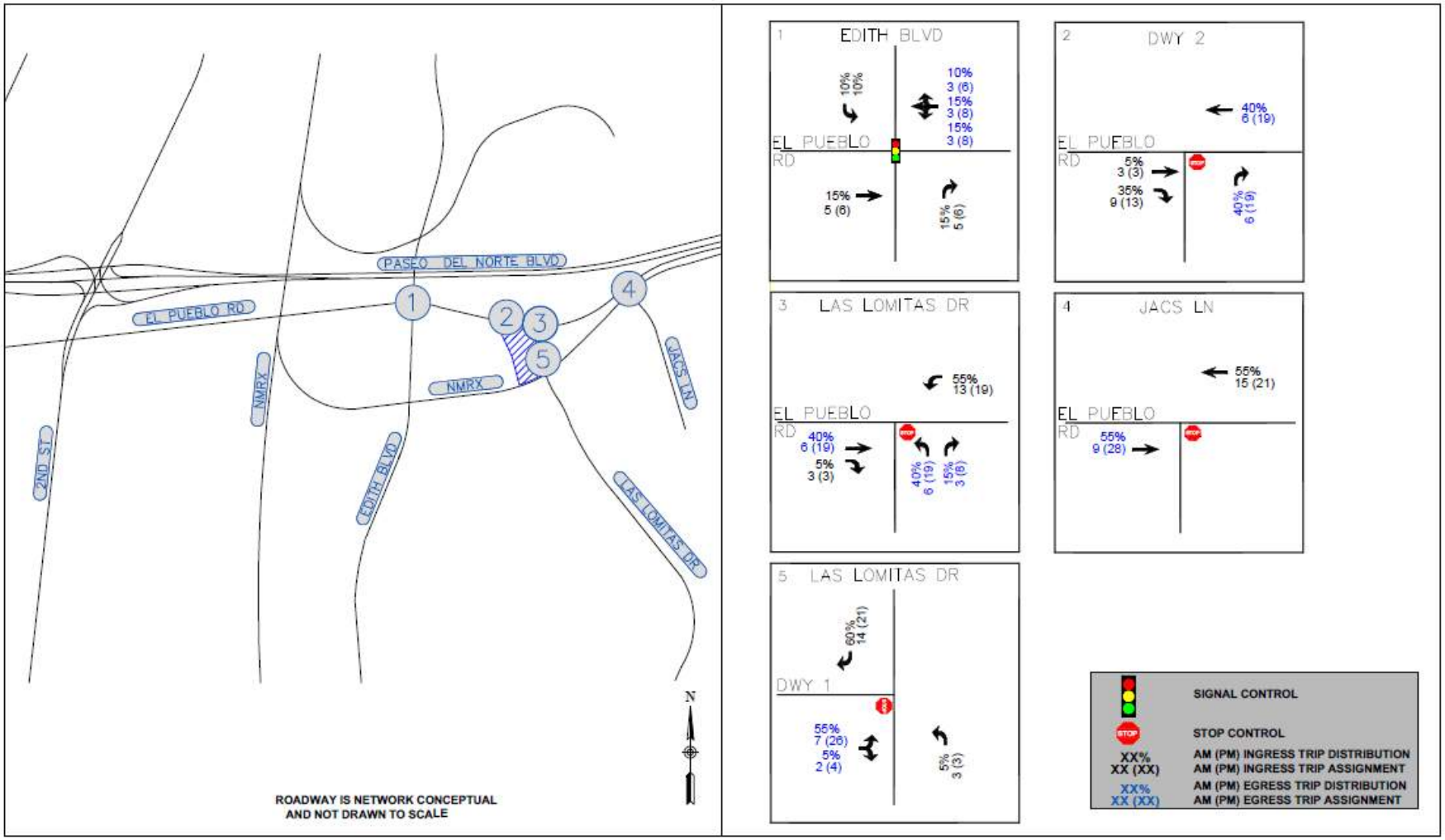

Figure 6. Trip Distribution and Assignment – Driveway 2 Right-in/Right-Out

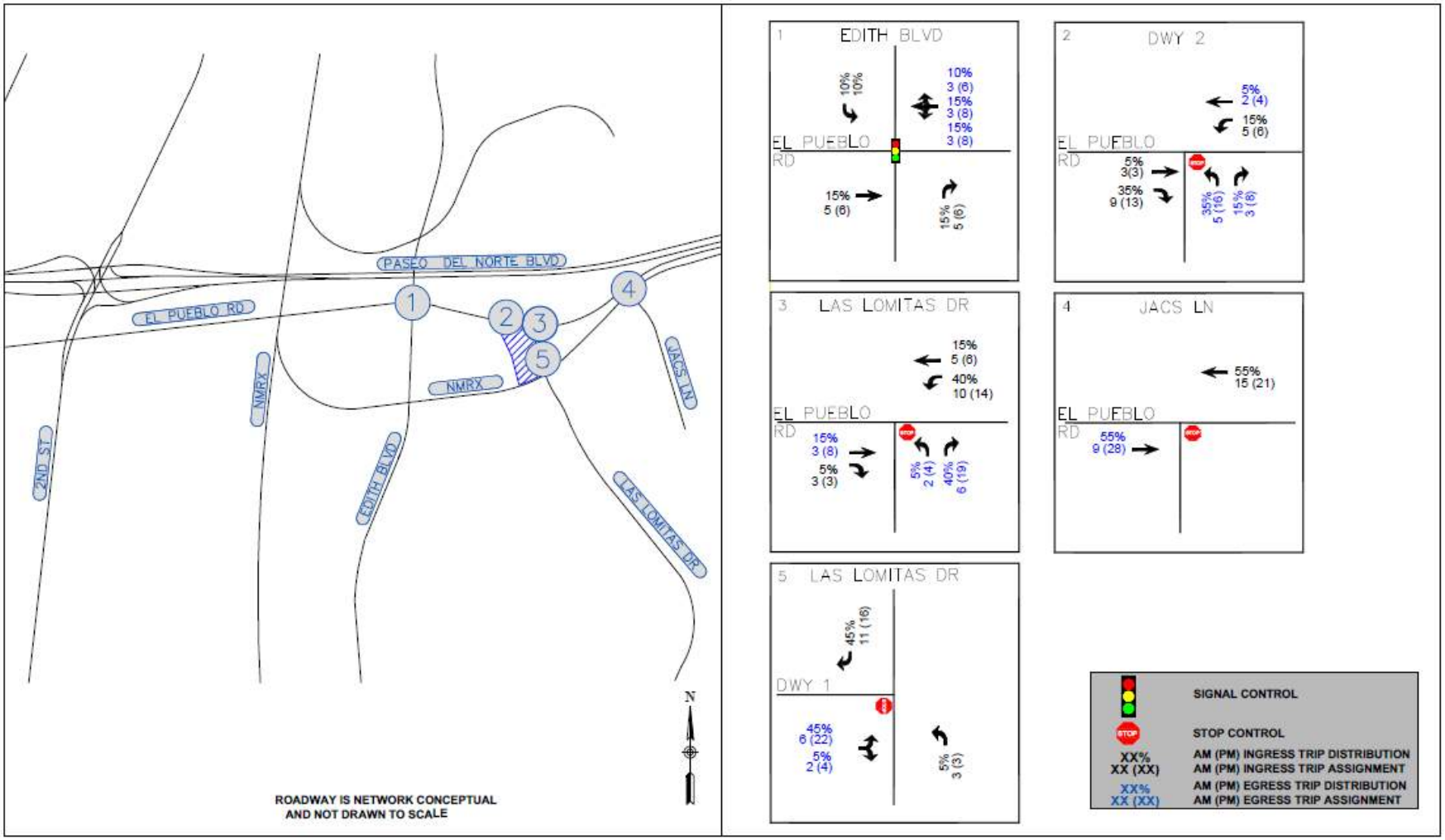

Figure 7. Trip Distribution and Assignment – Driveway 2 Full Access

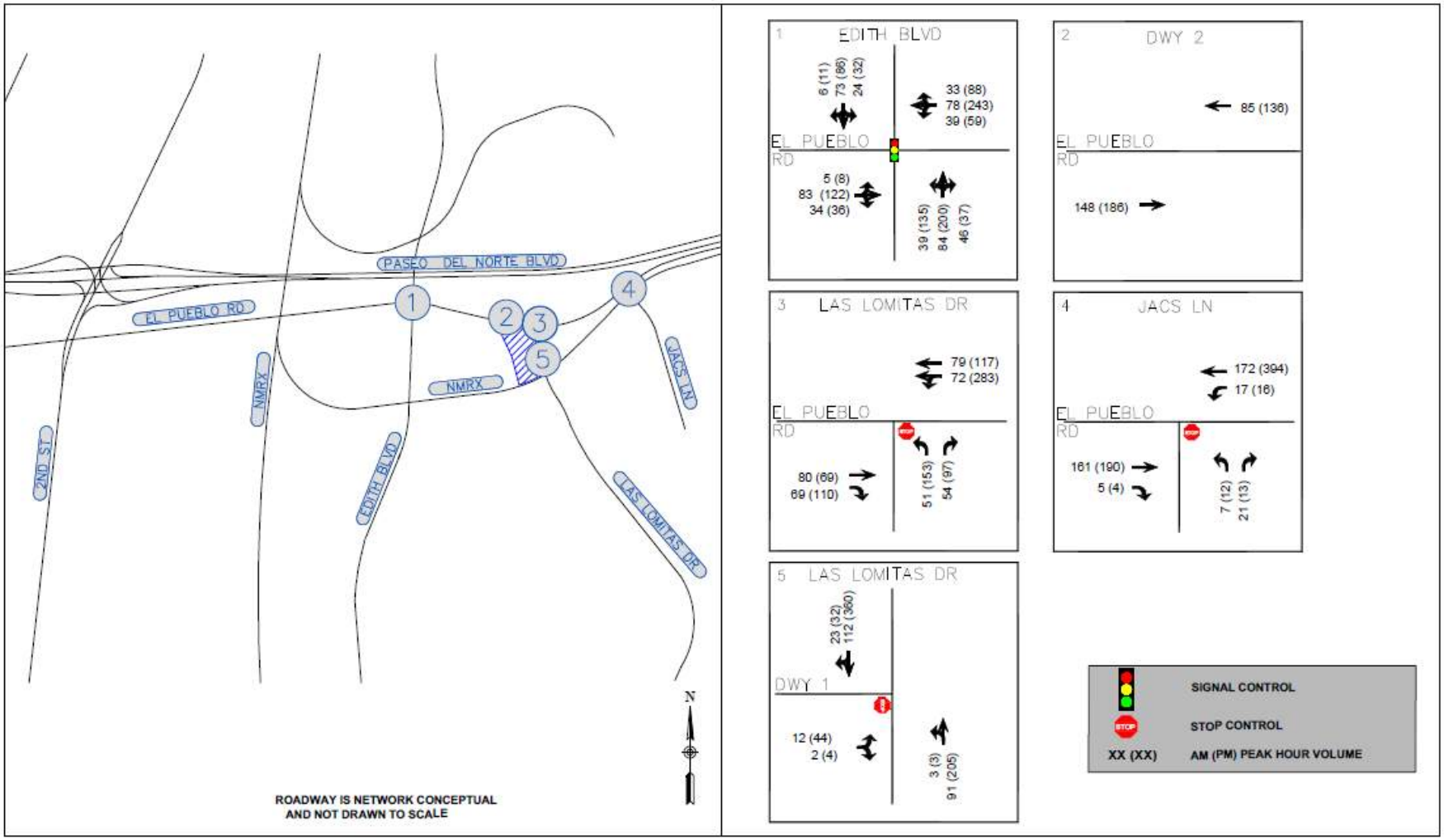

Figure 8. Full Build-Out 2022 Traffic Volumes – No Driveway 2

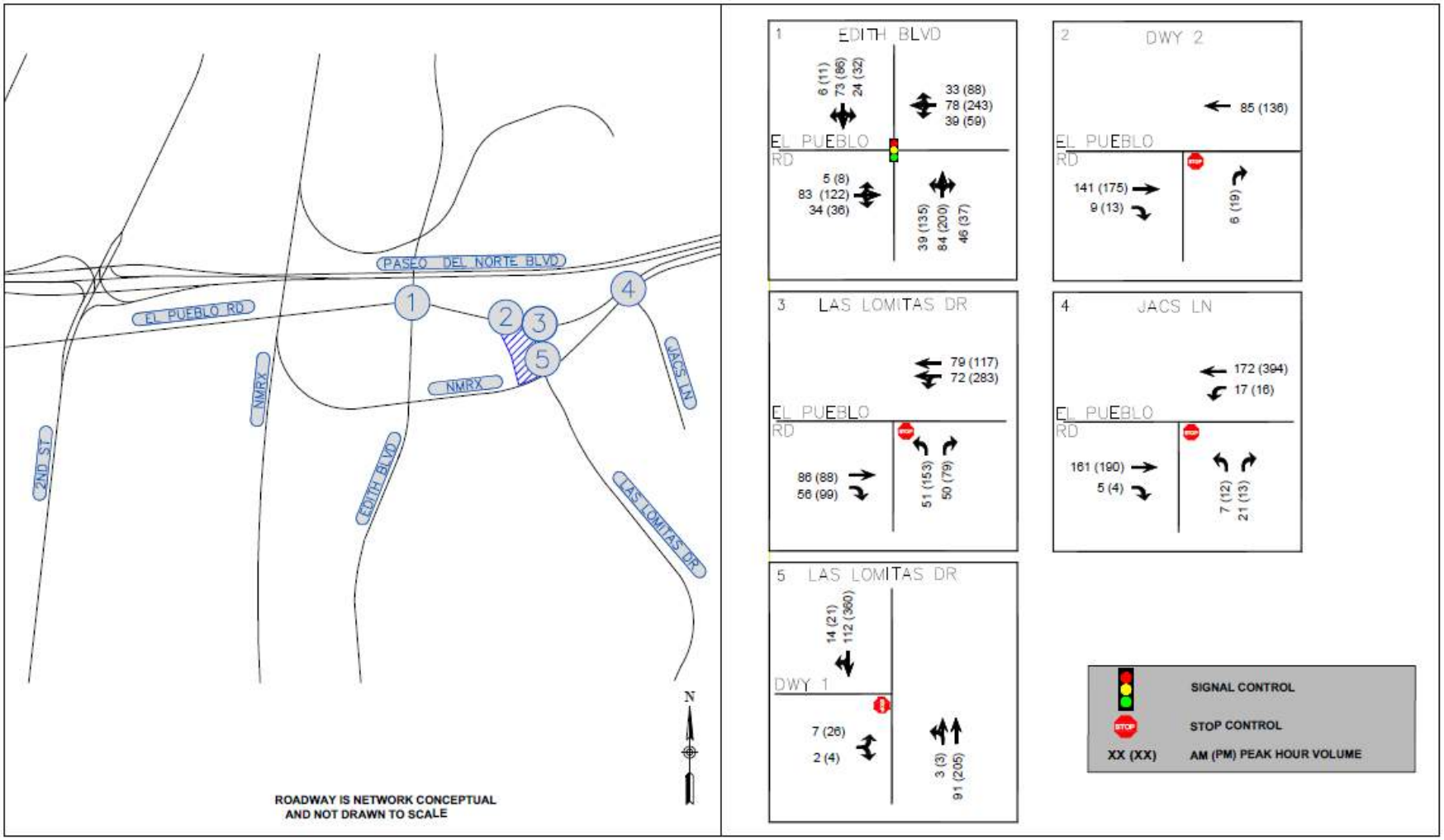

Figure 9. Full Build-Out 2022 Traffic Volumes – Right-in/Right-Out

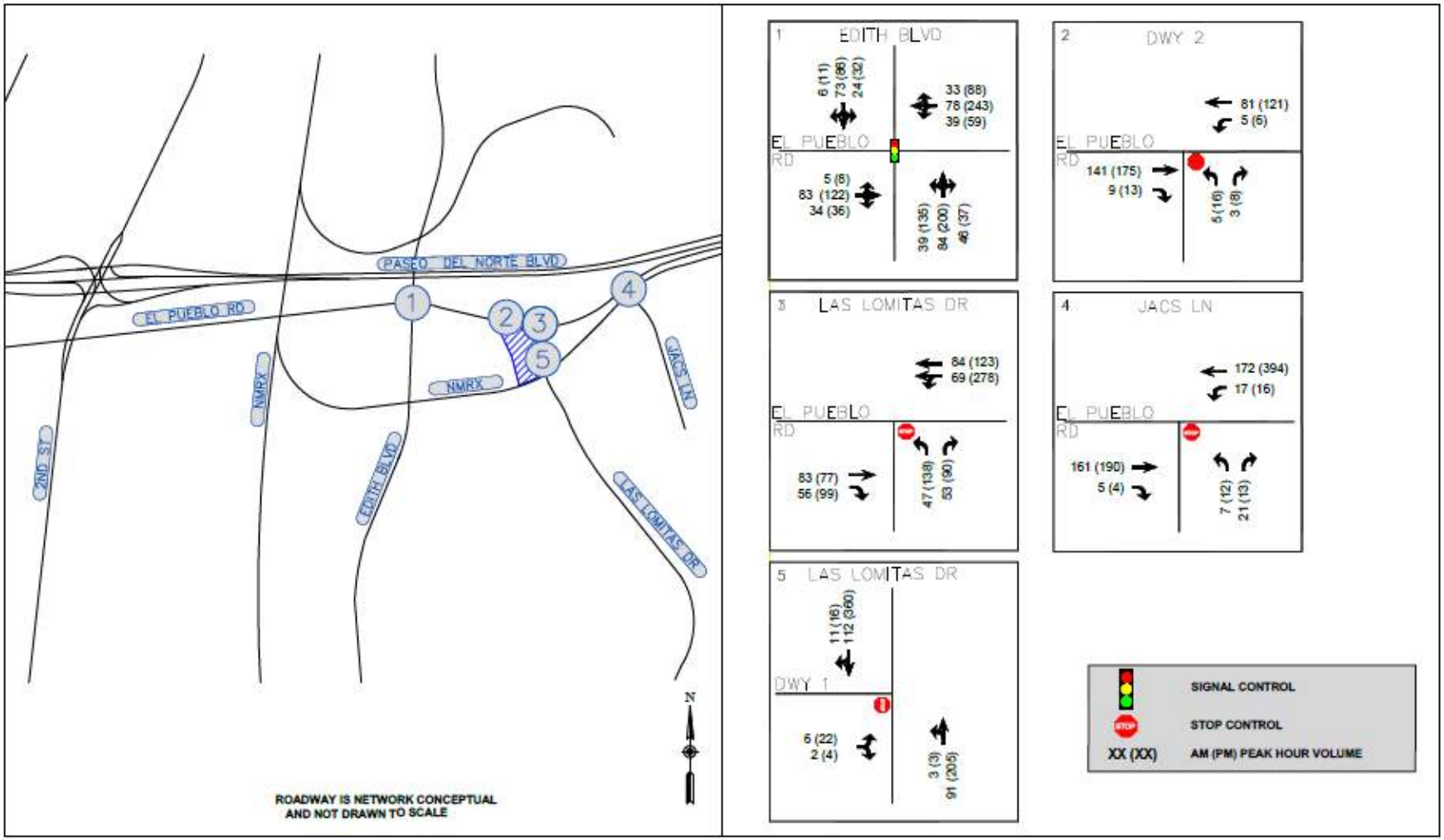

Figure 10. Full Build-Out 2022 Traffic Volumes – Full Access

TRAFFIC ANALYSIS OF BACKGROUND AND BUILD-OUT YEAR

As performed for existing conditions, a LOS, capacity, and queuing analysis was performed for all future analysis scenarios using the same procedures and assumptions. Signal timings used in the existing conditions analysis were retained and used for background conditions, build-out condition analysis, and horizon year.

2022 CONDITIONS – NO DRIVEWAY 2

ANALYSIS OF SIGNALIZED INTERSECTIONS

Table 10 below summarizes intersection capacity and LOS analysis performed for 2022 conditions for the signalized intersection at El Pueblo Rd & Edith Blvd. Table 11 below summarizes queuing results. Detailed capacity output sheets can be found in Appendix D.

Table 10: 2022 Background and Full Build-Out Signalized Capacity Analysis Summary – No Driveway 2

Study Intersection	Scenario	Individual Movement LOS and Delay								Intersection LOS			
		Mid-day				PM				Mid-day		PM	
		Movement	Delay[1]	V/C	LOS[2]	Movement	Delay[1]	V/C	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
El Pueblo Rd & Edith Blvd	Background 2022	EBT	13.6	0.14	B	EBT	14.1	0.20	B	15.1	B	18.1	C
		WBT	13.0	0.18	B	WBT	16.1	0.38	B				
		NBT	16.8	0.23	B	NBT	22.0	0.55	C				
		SBT	15.8	0.14	B	SBT	16.2	0.18	B				
	Full Build 2022	EBT	13.6	0.15	B	EBT	14.2	0.21	B	15.2	B	18.8	B
		WBT	14.0	0.20	B	WBT	18.3	0.51	B				
		NBT	16.9	0.24	B	NBT	22.2	0.56	C				
		SBT	15.8	0.14	B	SBT	16.3	0.20	B				

[1]Average delay in seconds per vehicle.

[2]LOS stands for Level of Service.

Table 11: 2022 Background and Full Build-Out Signalized Queue Storage Summary

Study Intersection	Movement	Background 2022		Full Build 2022		Storage Length Present (ft)
		Mid-day	PM	AM	PM	
		95th Percentile (QSR)	95th Percentile (QSR)	95th Percentile (QSR)	95th Percentile (QSR)	
El Pueblo Rd & Edith Blvd	EBT	0.00	0.00	0.00	0.00	---
	WBT	0.00	0.00	0.00	0.00	---
	NBT	0.00	0.00	0.00	0.00	---
	SBT	0.00	0.00	0.00	0.00	---

*95th Percentile (QSR)= Queue Storage Ratio

From the tables above, the following is summarized:

El Pueblo Rd & Edith Blvd

- Capacity Analysis:
  - Under 2022 background conditions, the intersection is observed to operate at an acceptable level of service in both the Midday and PM peak hours. Individual movements are also observed to operate at an acceptable Level of Service (LOS) for the Midday and PM peaks. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
  - Under 2022 full build conditions, the intersection is observed to operate at an acceptable level of service in both the Midday and PM peak hours. Individual movements are also observed to operate at an acceptable Level of Service (LOS) for the Midday and PM peaks. It

is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.

- Queueing Analysis:
  - Under 2022 background conditions, 95th percentile Queue Storage Ratios (QSR) lengths at the intersection are observed to be less than 1 vehicle during the Midday and PM peak hours.
  - Under 2022 full-build conditions, 95th percentile Queue Storage Ratios (QSR) lengths at the intersection are observed to be less than 1 vehicle during the Midday and PM peak hours.

ANALYSIS OF STOP-CONTROLLED INTERSECTIONS

Table 12 below summarizes stop-controlled intersection capacity and LOS analysis performed for 2022 conditions for the unsignalized intersections. Queueing is reported as a number of vehicles in the queue for stop-controlled intersections. Table 13 below summarizes queuing results. Detailed capacity output sheets can be found in Appendix D.

Table 12: 2022 Background and Full Build-Out Stop Control Capacity Analysis Summary – No Driveway 2

Study Intersection	Scenario	Individual Movement LOS and Delay								Intersection LOS			
		Mid-day				PM				Mid-day		PM	
		Movement	Delay[1]	V/C	LOS[2]	Movement	Delay[1]	V/C	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
El Pueblo Rd & Las Lomitas Dr	Background 2022	WBL/T	7.6	0.04	A	WBL/T	8.1	0.20	A	10.7	B	28.1	D
		NBL	10.7	0.07	B	NBL	28.1	0.48	D				
		NBR	8.9	0.05	A	NBR	9.0	0.08	A				
	Full Build 2022	WBL/T	7.7	0.05	A	WBL/T	8.3	0.22	A	11.1	B	36.8	E
		NBL	11.1	0.08	B	NBL	36.8	0.59	E				
		NBR	8.9	0.06	A	NBR	9.1	0.10	A				
El Pueblo Rd & Jacs Ln	Existing 2021	WBL	7.6	0.01	A	WBL	7.6	0.01	A	10.8	B	13.6	B
		NBL	10.8	0.01	B	NBL	13.6	0.03	B				
		NBR	9.2	0.02	A	NBR	9.3	0.02	A				
El Pueblo Rd & Jacs Ln	Background 2022	WBL	7.6	0.01	A	WBL	7.7	0.01	A	10.9	B	13.7	B
		NBL	10.9	0.01	B	NBL	13.7	0.03	B				
		NBR	9.2	0.03	A	NBR	9.3	0.02	A				
	Full Build 2022	WBL	7.6	0.01	A	WBL	7.7	0.01	A	11.0	B	14.5	B
		NBL	11.0	0.02	B	NBL	14.5	0.04	B				
		NBR	9.2	0.03	A	NBR	9.5	0.02	A				
Las Lomitas Dr & Driveway 1	Full Build 2022	EBL/R	13.3	0.11	B	EBL/R	9.6	0.02	A	13.3	B	9.6	A
		NBL/T	8.2	0.00	A	NBL/T	7.5	0.00	A				

[1]Average delay in seconds per vehicle.
[2]LOS stands for Level of Service.

Table 13: 2022 Background and Full Build-Out Stop Control Queue Storage Summary

Study Intersection	Movement	Background 2022		Full Build 2022		Storage Length Present (ft)
		Mid-day	PM	AM	PM	
		95th Percentile (ft)	95th Percentile (ft)	95th Percentile (veh)	95th Percentile (veh)	
El Pueblo Rd & Las Lomitas Dr	EBT	---	---	---	---	---
	EBR	---	---	---	---	310
	WBT	---	---	---	---	---
	WBL/T	2.0	14.0	4.0	16.0	---
	NBL	4.0	52.0	6.0	80.0	350
	NBR	4.0	4.0	4.0	6.0	260
El Pueblo Rd & Jacs Ln	EBT	---	---	---	---	---
	EBR	---	---	---	---	200
	WBT	---	---	---	---	---
	WBL	0.0	0.0	0.0	0.0	135
	NBL	0.0	2.0	2.0	2.0	200
	NBR	2.0	2.0	2.0	2.0	---
Las Lomitas Dr & Driveway 1	EBL/R	---	---	8.0	2.0	---
	NBL/T	---	---	0.0	0.0	---

*95th Percentile Queues are calculated in feet

From the tables above, the following is summarized:

El Pueblo Rd & Las Lomitas Dr

- Capacity Analysis:
  - Under 2022 background conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
  - Under 2022 full build conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for the Midday and PM peak hours, except for the northbound left turn movement during the PM peak. This can be attributed to all traffic moving through this intersection since the only available driveway is on Las Lomitas Dr. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
- Queueing Analysis:
  - Under 2022 background conditions, 95th percentile queue lengths at the intersection are observed to accommodate existing storage lengths during the Midday and PM peak hours.
  - Under 2022 full build conditions, 95th percentile queue lengths at the intersection are observed to accommodate existing storage lengths during the Midday and PM peak hours.

El Pueblo Rd & Jacs Ln

- Capacity Analysis:
  - Under 2022 background conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
  - Under 2022 full build conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.

- Queueing Analysis:
    - Under 2022 background conditions, 95th percentile queue lengths at the intersection are observed to accommodate existing storage lengths during the Midday and PM peak hours.
    - Under 2022 full build conditions, 95th percentile queue lengths at the intersection are observed to accommodate existing storage lengths during the Midday and PM peak hours.

Las Lomitas Dr & Driveway 1

- Capacity Analysis:
    - Under 2022 full build conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
- Queueing Analysis:
    - Under 2022 full build conditions, 95th percentile queue lengths at the intersection are observed to accommodate existing storage lengths during the Midday and PM peak hours.

2022 Conditions – Driveway 2 - Right-In/Right-Out

Analysis of Signalized Intersections

Table 14 below summarizes intersection capacity and LOS analysis performed for 2022 conditions for the signalized intersection at El Pueblo Rd & Edith Blvd. Table 15 below summarizes queuing results. Detailed capacity output sheets can be found in Appendix D.

Table 14: 2022 Background and Full Build-Out Signalized Capacity Analysis Summary – Driveway 2 Right-In/Right-Out

Study Intersection	Scenario	Individual Movement LOS and Delay								Intersection LOS			
		Mid-day				PM				Mid-day		PM	
		Movement	Delay[1]	V/C	LOS[2]	Movement	Delay[1]	V/C	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
El Pueblo Rd & Edith Blvd	Background 2022	EBT	13.6	0.14	B	EBT	14.1	0.20	B	15.1	B	18.1	C
		WBT	13.0	0.18	B	WBT	16.1	0.38	B				
		NBT	16.8	0.23	B	NBT	22.0	0.55	C				
		SBT	15.8	0.14	B	SBT	16.2	0.18	B				
	Full Build 2022	EBT	13.6	0.15	B	EBT	14.2	0.21	B	15.2	B	18.8	B
		WBT	14.0	0.20	B	WBT	18.3	0.51	B				
		NBT	16.9	0.24	B	NBT	22.2	0.56	C				
		SBT	15.8	0.14	B	SBT	16.3	0.20	B				

[1]Average delay in seconds per vehicle.
[2]LOS stands for Level of Service.

Table 15: 2022 Background and Full Build-Out Signalized Queue Storage Summary

Study Intersection	Movement	Background 2022		Full Build 2022		Storage Length Present (ft)
		Mid-day	PM	AM	PM	
		95th Percentile (QSR)	95th Percentile (QSR)	95th Percentile (QSR)	95th Percentile (QSR)	
El Pueblo Rd & Edith Blvd	EBT	0.00	0.00	0.00	0.00	---
	WBT	0.00	0.00	0.00	0.00	---
	NBT	0.00	0.00	0.00	0.00	---
	SBT	0.00	0.00	0.00	0.00	---

*95th Percentile (QSR)= Queue Storage Ratio

From the tables above, the following is summarized:

El Pueblo Rd & Edith Blvd

- Capacity Analysis:
  - Under 2022 background conditions, the intersection is observed to operate at an acceptable level of service in both the Midday and PM peak hours. Individual movements are also observed to operate at an acceptable Level of Service (LOS) for the Midday and PM peaks. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
  - Under 2022 full build conditions, the intersection is observed to operate at an acceptable level of service in both the Midday and PM peak hours. Individual movements are also observed to operate at an acceptable Level of Service (LOS) for the Midday and PM peaks. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
- Queueing Analysis:
  - Under 2022 background conditions, 95th percentile Queue Storage Ratios (QSR) lengths at the intersection are observed to be less than 1 vehicle during the Midday and PM peak hours.
  - Under 2022 full-build conditions, 95th percentile Queue Storage Ratios (QSR) lengths at the intersection are observed to be less than 1 vehicle during the Midday and PM peak hours.

ANALYSIS OF STOP-CONTROLLED INTERSECTIONS

Table 16 below summarizes stop-controlled intersection capacity and LOS analysis performed for the 2032 Horizon Year for the unsignalized intersections. Queueing is reported as a number of vehicles in the queue for stop-controlled intersections. Table 17 below summarizes queuing results. Detailed capacity output sheets can be found in Appendix D.

Table 16: 2022 Background and Full Build-Out Stop Control Capacity Analysis Summary – Driveway 2 Right-In/Right-Out

Study Intersection	Scenario	Individual Movement LOS and Delay								Intersection LOS			
		Mid-day				PM				Mid-day		PM	
		Movement	Delay[1]	V/C	LOS[2]	Movement	Delay[1]	V/C	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
El Pueblo Rd & Driveway 2	Full Build 2022	NBR	8.8	0.01	A	NBR	9.0	0.02	A	8.8	A	9.0	A
El Pueblo Rd & Las Lomitas Dr	Background 2022	WBL/T	7.6	0.04	A	WBL/T	8.1	0.20	A	10.7	B	28.1	D
		NBL	10.7	0.07	B	NBL	28.1	0.48	D				
		NBR	8.9	0.05	A	NBR	9.0	0.08	A				
	Full Build 2022	WBL/T	7.7	0.05	A	WBL/T	8.4	0.22	A	11.2	B	39.3	E
		NBL	11.2	0.08	B	NBL	39.3	0.61	E				
		NBR	9.0	0.06	A	NBR	9.1	0.09	A				
El Pueblo Rd & Jacs Ln	Background 2022	WBL	7.6	0.01	A	WBL	7.7	0.01	A	10.9	B	13.7	B
		NBL	10.9	0.01	B	NBL	13.7	0.03	B				
		NBR	9.2	0.03	A	NBR	9.3	0.02	A				
	Full Build 2022	WBL	7.6	0.01	A	WBL	7.7	0.01	A	11.0	B	14.5	B
		NBL	11.0	0.02	B	NBL	14.5	0.04	B				
		NBR	9.2	0.03	A	NBR	9.5	0.02	A				
Las Lomitas Dr & Driveway 1	Full Build 2022	EBL/R	9.5	0.01	A	EBL/R	12.7	0.07	B	9.5	A	12.7	B
		NBL/T	7.5	0.00	A	NBL/T	8.2	0.00	A				

[1]Average delay in seconds per vehicle.

[2]LOS stands for Level of Service.

Table 17: 2022 Background and Full Build-Out Stop Control Queue Storage Summary

Study Intersection	Movement	Background 2022		Full Build 2022		Storage Length Present (ft)
		Mid-day	PM	AM	PM	
		95th Percentile (ft)	95th Percentile (ft)	95th Percentile (veh)	95th Percentile (veh)	
El Pueblo Rd & Driveway 2	NBR	---	---	0.0	2.0	---
El Pueblo Rd & Las Lomitas Dr	EBT	---	---	---	---	---
	EBR	---	---	---	---	310
	WBT	---	---	---	---	---
	WBL/T	2.0	14.0	4.0	16.0	---
	NBL	4.0	52.0	6.0	86.0	350
	NBR	4.0	4.0	4.0	6.0	260
El Pueblo Rd & Jacs Ln	EBT	---	---	---	---	---
	EBR	---	---	---	---	200
	WBT	---	---	---	---	---
	WBL	0.0	0.0	0.0	0.0	135
	NBL	0.0	2.0	2.0	2.0	200
	NBR	2.0	2.0	2.0	2.0	---
Las Lomitas Dr & Driveway 1	EBL/R	---	---	0.0	4.0	---
	NBL/T	---	---	0.0	0.0	---

*95th Percentile Queues are calculated in feet

From the tables above, the following is summarized:

El Pueblo Rd & Driveway 2

- Capacity Analysis:
  - Under 2022 full build conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
- Queueing Analysis:
  - Under 2022 full build conditions, 95th percentile lengths at the intersection are observed to be less than 1 vehicle during the Midday and PM peak hours.

El Pueblo Rd & Las Lomitas Dr

- Capacity Analysis:
  - Under 2022 background conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
  - Under 2022 full build conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for the Midday and PM peak hours, except for the northbound left turn movement during the PM peak. This can be attributed to all traffic moving through this intersection since the only available driveway is on Las Lomitas Dr. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
- Queueing Analysis:
  - Under 2022 background conditions, 95th percentile queue lengths at the intersection are observed to accommodate existing storage lengths during the Midday and PM peak hours.

- Under 2022 full build conditions, 95th percentile queue lengths at the intersection are observed to accommodate existing storage lengths during the Midday and PM peak hours.

El Pueblo Rd & Jacs Ln

- Capacity Analysis:
  - Under 2022 background conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
  - Under 2022 full build conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
- Queueing Analysis:
  - Under 2022 background conditions, 95th percentile queue lengths at the intersection are observed to accommodate existing storage lengths during the Midday and PM peak hours.
  - Under 2022 full build conditions, 95th percentile queue lengths at the intersection are observed to accommodate existing storage lengths during the Midday and PM peak hours.

Las Lomitas Dr & Driveway 1

- Capacity Analysis:
  - Under 2022 background conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
- Queueing Analysis:
  - Under 2022 background conditions, 95th percentile lengths at the intersection are observed to be less than 1 vehicle during the Midday and PM peak hours.

2022 Conditions – Driveway 2 - Full Access

Analysis of Signalized Intersections

Table 18 below summarizes intersection capacity and LOS analysis performed for 2022 conditions for the signalized intersection at El Pueblo Rd & Edith Blvd. Table 19 below summarizes queuing results. Detailed capacity output sheets can be found in Appendix D.

Table 18: 2022 Background and Full Build-Out Signalized Capacity Analysis Summary – Full Access

Study Intersection	Scenario	Individual Movement LOS and Delay								Intersection LOS			
		Mid-day				PM				Mid-day		PM	
		Movement	Delay[1]	V/C	LOS[2]	Movement	Delay[1]	V/C	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
El Pueblo Rd & Edith Blvd	Background 2022	EBT	13.6	0.14	B	EBT	14.1	0.20	B	15.1	B	18.1	C
		WBT	13.0	0.18	B	WBT	16.1	0.38	B				
		NBT	16.8	0.23	B	NBT	22.0	0.55	C				
		SBT	15.8	0.14	B	SBT	16.2	0.18	B				
	Full Build 2022	EBT	13.6	0.15	B	EBT	14.2	0.21	B	15.2	B	18.8	B
		WBT	14.0	0.20	B	WBT	18.3	0.51	B				
		NBT	16.9	0.24	B	NBT	22.2	0.56	C				
		SBT	15.8	0.14	B	SBT	16.3	0.20	B				

[1]Average delay in seconds per vehicle.
[2]LOS stands for Level of Service.

Table 19: 2022 Background and Full Build-Out Signalized Queue Storage Summary

Study Intersection	Movement	Background 2022		Full Build 2022		Storage Length Present (ft)
		Mid-day	PM	AM	PM	
		95th Percentile (QSR)	95th Percentile (QSR)	95th Percentile (QSR)	95th Percentile (QSR)	
El Pueblo Rd & Edith Blvd	EBT	0.00	0.00	0.00	0.00	---
	WBT	0.00	0.00	0.00	0.00	---
	NBT	0.00	0.00	0.00	0.00	---
	SBT	0.00	0.00	0.00	0.00	---

*95th Percentile (QSR)= Queue Storage Ratio

From the tables above, the following is summarized:

El Pueblo Rd & Edith Blvd

- Capacity Analysis:
  - Under 2022 background conditions, the intersection is observed to operate at an acceptable level of service in both the Midday and PM peak hours. Individual movements are also observed to operate at an acceptable Level of Service (LOS) for the Midday and PM peaks. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
  - Under 2022 full build conditions, the intersection is observed to operate at an acceptable level of service in both the Midday and PM peak hours. Individual movements are also observed to operate at an acceptable Level of Service (LOS) for the Midday and PM peaks. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.

- Queueing Analysis:
  - Under 2022 background conditions, 95th percentile Queue Storage Ratios (QSR) lengths at the intersection are observed to be less than 1 vehicle during the Midday and PM peak hours.
  - Under 2022 full-build conditions, 95th percentile Queue Storage Ratios (QSR) lengths at the intersection are observed to be less than 1 vehicle during the Midday and PM peak hours.

ANALYSIS OF STOP-CONTROLLED INTERSECTIONS

Table 16 below summarizes stop-controlled intersection capacity and LOS analysis performed for 2022 conditions for the unsignalized intersections. Queueing is reported as a number of vehicles in the queue for stop-controlled intersections. Table 17 below summarizes queuing results. Detailed capacity output sheets can be found in Appendix D.

Table 20: 2022 Background and Full Build-Out Stop Control Capacity Analysis Summary – Driveway 2 Full Access

Study Intersection	Scenario	Individual Movement LOS and Delay								Intersection LOS			
		Mid-day				PM				Mid-day		PM	
		Movement	Delay[1]	V/C	LOS[2]	Movement	Delay[1]	V/C	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
El Pueblo Rd & Driveway 2	Full Build 2022	WBL/T	7.6	0.00	A	WBL/T	7.7	0.00	A	9.5	A	10.0	A
		NBL/R	9.5	0.01	A	NBL/R	10.0	0.03	A				
El Pueblo Rd & Las Lomitas Dr	Background 2022	WBL/T	7.6	0.04	A	WBL/T	8.1	0.20	A	10.7	B	28.1	D
		NBL	10.7	0.07	B	NBL	28.1	0.48	D				
		NBR	8.9	0.05	A	NBR	9.0	0.08	A				
	Full Build 2022	WBL/T	7.7	0.05	A	WBL/T	8.3	0.21	A	11.0	B	32.8	D
		NBL	11.0	0.08	B	NBL	32.8	0.53	D				
		NBR	9.0	0.60	A	NBR	9.1	0.10	A				
El Pueblo Rd & Jacs Ln	Background 2022	WBL	7.6	0.01	A	WBL	7.7	0.01	A	10.9	B	13.7	B
		NBL	10.9	0.01	B	NBL	13.7	0.03	B				
		NBR	9.2	0.03	A	NBR	9.3	0.02	A				
	Full Build 2022	WBL	7.6	0.01	A	WBL	7.7	0.01	A	11.0	B	14.5	B
		NBL	11.0	0.02	B	NBL	14.5	0.04	B				
		NBR	9.2	0.03	A	NBR	9.5	0.02	A				
Las Lomitas Dr & Driveway 1	Full Build 2022	EBL/R	9.5	0.01	A	EBL/R	12.6	0.06	B	9.5	A	12.6	B
		NBL/T	7.5	0.00	A	NBL/T	8.2	0.00	A				

[1]Average delay in seconds per vehicle.
[2]LOS stands for Level of Service.

Table 21: 2022 Background and Full Build-Out Stop Control Queue Storage Summary

Study Intersection	Movement	Background 2022		Movement	Full Build 2022		Storage Length Present (ft)
		Mid-day	PM		Mid-day	PM	
		95th Percentile (ft)	95th Percentile (ft)		95th Percentile (veh)	95th Percentile (veh)	
El Pueblo Rd & Driveway 2	NBR	---	---	WBL/T	0.0	0.0	---
El Pueblo Rd & Las Lomitas Dr	EBT	---	---	EBT	---	---	---
	EBR	---	---	EBR	---	---	310
	WBT	---	---	WBT	---	---	---
	WBL/T	2.0	14.0	WBL/T	4.0	16.0	---
	NBL	4.0	52.0	NBL	6.0	64.0	350
	NBR	4.0	4.0	NBR	4.0	6.0	260
El Pueblo Rd & Jacs Ln	EBT	---	---	EBT	---	---	---
	EBR	---	---	EBR	---	---	200
	WBT	---	---	WBT	---	---	---
	WBL	0.0	0.0	WBL	0.0	0.0	135
	NBL	0.0	2.0	NBL	2.0	2.0	200
	NBR	2.0	2.0	NBR	2.0	2.0	---
Las Lomitas Dr & Driveway 1	EBL/R	---	---	EBL/R	0.0	4.0	---
	NBL/T	---	---	NBL/T	0.0	0.0	---

*95th Percentile Queues are calculated in feet

From the tables above, the following is summarized:

El Pueblo Rd & Driveway 2

- Capacity Analysis:
  - Under 2022 full build conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
- Queueing Analysis:
  - Under 2022 full build conditions, 95th percentile lengths at the intersection are observed to be less than 1 vehicle during the Midday and PM peak hours.

El Pueblo Rd & Las Lomitas Dr

- Capacity Analysis:
    - Under 2022 background conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
    - Under 2022 full build conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for the Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
- Queueing Analysis:
    - Under 2022 background conditions, 95th percentile queue lengths at the intersection are observed to accommodate existing storage lengths during the Midday and PM peak hours.
- Under 2022 full build conditions, 95th percentile queue lengths at the intersection are observed to accommodate existing storage lengths during the Midday and PM peak hours.

El Pueblo Rd & Jacs Ln

- Capacity Analysis:
    - Under 2022 background conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
    - Under 2022 full build conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
- Queueing Analysis:
    - Under 2022 background conditions, 95th percentile queue lengths at the intersection are observed to accommodate existing storage lengths during the Midday and PM peak hours.
    - Under 2022 full build conditions, 95th percentile queue lengths at the intersection are observed to accommodate existing storage lengths during the Midday and PM peak hours.

Las Lomitas Dr & Driveway 1

- Capacity Analysis:
    - Under 2022 full build conditions, individual movements are observed to operate at an acceptable Level of Service (LOS) for both Midday and PM peak hours. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.
- Queueing Analysis:
    - Under 2022 full build conditions, 95th percentile lengths at the intersection are observed to be less than 1 vehicle during the Midday and PM peak hours.

DEVELOPMENT SITE-SPECIFIC OBSERVATIONS AND RECOMMENDATIONS

SIGHT DISTANCE EVALUATION

The following presents a narrative detailing recommended intersection sight distance requirements for the development. Intersection sight distance requirements were calculated per the City of Albuquerque Design Process Manual using the 2018 AASHTO "Green Book" chapter 9.5. Two sight distance cases were used for this analysis:

- Case B1 – A stopped vehicle turning left from a minor street approach onto a major road.
- Case B2 – A stopped vehicle turning right from a minor street approach onto a major road.

Intersection sight distances were calculated based on the following assumptions:

- Required intersection sight distance for Case B1 at all four access driveways was calculated based on the design vehicle crossing a single lane of traffic on an undivided roadway.
- Required intersection sight distance for Case B2 at all four access driveways was calculated based on the design vehicle crossing into the nearest lane of traffic.

Due to the nature of this development, a single passenger vehicle was used as the design vehicle. Values shown below in Table 22 were rounded up to the nearest 5-foot increment. Formulas, values, and calculations used in the sight distance analysis can be found in the Appendix F.

Table 22: Sight Distance Requirements

Case	Location	Speed	Sight Distance
Case B1 - Turning Left	Driveway 1 on Las Lomitas Dr	35 MPH	390 Feet
Case B2 - Turning Right	Driveway 1 on Las Lomitas Dr	35 MPH	335 Feet
Case B1 - Turning Left	Driveway 2 on El Pueblo Rd	35 MPH	390 Feet
Case B2 - Turning Right	Driveway 2 on El Pueblo Rd	35 MPH	335 Feet

Using the values shown in Table 22, it is recommended that all development driveways adhere to the sight distance provisions detailed in the AASHTO "Green Book." An area bounded by the above sight distances with the decision point placed 14.5 feet back from the edge of the shoulder midway between the outbound driving lane should be maintained clear of any obstructions.

Turn Lane Analysis

As part of this study, an auxiliary lane analysis was conducted for the proposed site access driveway along El Pueblo Rd for each configuration.

Guidelines in NMDOT's *State Access Management Manual (SAMM) Table 17.B-1 Criteria for Deceleration Lanes on Urban Multi-Lane Highways* state that:

- For roadways with a posted speed limit of 35 mph, a left turn deceleration lane is required when peak hour right turns are greater than 36 vehicles per hour.
- For roadways with a posted speed limit of 35 mph, a right turn deceleration lane is required when peak hour right turns are greater than 41 vehicles per hour.

The results of this analysis are shown in the table below. Full-Build turning movement volumes and full build-out trips were used in the analysis.

Table 23: Auxiliary Lane Analysis

Roadway/Driveway		Left Turn Warrants			
Warrant Location	Speed Limit (MPH)	Left Turning Volume Mid-day (PM)	Left Turn Warrant Threshold	Adjacent Through Lane Volume Per	Left Turn Warrant Result (per Table 17B-1)
El Pueblo Rd at Driveway 2 (Right-In/Right-Out Configuration)	35	-	-	-	-
El Pueblo Rd at Driveway 2 (Full Access Configuration)	35	5 (6)	426 Adjacent Vehicles	86 (127)	Not Required

Roadway/Driveway		Right Turn Warrants			
Warrant Location	Speed Limit (MPH)	Right Turning Volume Mid-day (PM)	Right Turn Warrant Threshold	Adjacent Through Lane Volume Per	Right Turn Warrant Result (per Table 17B-1)
El Pueblo Rd at Driveway 2 (Right-In/Right-Out Configuration)	35	9 (13)	328 Adjacent Vehicles	150 (188)	Not Required
El Pueblo Rd at Driveway 2 (Full Access Configuration)	35	9 (13)	328 Adjacent Vehicles	150 (188)	Not Required

Based on the analysis presented above, turn lanes are not warranted for either configuration of the proposed site driveway on El Pueblo Rd.

Site Access Analysis (Driveway Spacing)

The NMDOT's *State Access Management Manual (SAMM)* Table, 18.C-1 Access Spacing Standards for Intersections and Driveways, states the following:

- For Urban Collectors (UCOL) with a posted speed limit of 35 mph to 40 mph, the required driveway spacing for partial access is 225 feet.
- For Urban Collectors (UCOL) with a posted speed limit of 35 mph to 40 mph, the required driveway spacing for full access is 330 feet.

The available spacing between the existing driveway is shown in the table below.

Table 24: Driveway Spacing

Location	Access Category	Speed	Driveway Spacing		
			Available (Approx.)	Partial Acccess Required	Full Access Required
El Pueblo between Driveway 2 and Las Lomitas Dr	Non-Interstate Highway - UCOL	35 MPH	250'	225'	330'

Based on the above information, the space provided between the proposed Driveway 2 and Las Lomitas Dr meets SAMM recommended spacing for partial access configuration but does not meet SAMM recommended spacing for full access configuration.

CRASH SUMMARY

Aggregate crash data were obtained for the study intersections for the most recently available five years of data. This included 2015 to 2019. Crashes are summarized by year, type, lighting conditions, severity, and cause. The table below summarizes crashes occurring at the intersection.

Table 25: Crash Summary

Crash Summary		El Pueblo Rd Between Edith Blvd and 2nd	El Pueblo Rd & Edith Blvd	El Pueblo Rd & Jacs Ln	El Pueblo Rd & Las Lomitas Dr	Las Lomitas Dr South of Pueblo Rd
	Total Crashes	7	25	1	3	1
By Year	2015	0	1	0	1	1
	2016	5	11	0	1	0
	2017	0	2	0	1	0
	2018	1	5	1	0	0
	2019	1	6	0	0	0
By Type	Fixed Object	0	1	0	2	0
	Invalid Code/Left Blank	0	1	0	0	0
	Other Vehicle - Both Going Straight/Entering At Angle	2	1	0	0	0
	Other Vehicle - Both Turning/Entering At Angle	0	1	0	0	0
	Other Vehicle - From Opposite Direction	1	2	0	0	0
	Other Vehicle - From Same Direction/All Others	3	16	0	1	1
	Parked Vehicle	1	1	0	0	0
	Pedalcyclist	0	1	0	0	0
	%Other Vehicle - From Same Direction/All Others	43%	64%	0%	33%	100%
	%Fixed Object	0%	4%	0%	67%	0%
	%Other Vehicle - Both Going Straight/Entering At Angle	29%	4%	0%	0%	0%
	%Other Vehicle - From Opposite Direction	14%	8%	0%	0%	0%
	%Parked Vehicle	0%	4%	0%	67%	0%
By Lighting Conditions	Day	6	18	1	2	1
	Dawn/Dusk	1	1	0	1	0
	Dark	0	5	0	0	0
	Invalid Code/Not Specified	0	1	0	0	0
	%Day	86%	72%	100%	67%	100%
	%Dark	0%	20%	0%	0%	0%
By Severity	PDO	6	16	1	1	1
	Injury	1	9	0	2	0
	%PDO	86%	64%	100%	33%	100%
	%Injury	14%	36%	0%	67%	0%
By Contributing Factors	Alcohol/Drug Involved	0	2	0	1	0
	Avoid No Contact - Vehicle	0	1	0	0	0
	Disregarded Traffic Signal	0	1	0	0	0
	Driver Inattention	2	7	1	0	1
	Excessive Speed	0	1	0	0	0
	Failed to Yield Right of Way	2	6	0	0	0
	Following Too Closely	0	2	0	1	0
	Improper Backing	1	1	0	0	0
	Improper Overtaking	1	0	0	0	0
	Made Improper Turn	0	2	0	0	0
	None/Missing Data	0	2	0	1	0
	Speed Too Fast for Conditions	1	0	0	0	0
	%Driver Inattention	29%	28%	100%	0%	100%
	%Failed to Yield Right of Way	29%	24%	0%	0%	0%
	%Alcohol/Drug Involved	0%	8%	0%	33%	0%
	%Alcohol/Drug Involved	0%	8%	0%	33%	0%

Based on Table 25, the following is observed for the signalized intersection of El Pueblo Rd and Edith Dr:

- For the 5 years of data summarized, 25 crashes occurred.
- The most common classification of crashes (other than an invalid code) is observed to be Other Vehicle – From Same Direction/All Others.
- A majority of the crashes occurred during daylight hours, totaling 72% of the crashes.
- For the data reviewed, no fatal crashes were reported, but injury crashes accounted for 36% of the total crashes.
- The most common contributing factor was observed to be Driver Inattention.

Based on the above table, the following is observed for the remaining unsignalized study intersections along El Pueblo Rd:

- For the 5 years of data summarized, 12 crashes occurred.
- The most common classification of crashes (other than an invalid code) is observed to be Other Vehicle – From Same Direction/All Others.
- A majority of the crashes occurred during daylight hours, totaling 83% of the crashes.
- For the data reviewed, no fatal crashes were reported, but injury crashes accounted for 25% of the total crashes.
- The most common contributing factor was observed to be Driver Inattention.

Highway Safety Manual Predictive Crash Analysis

Using existing roadway configurations and existing traffic conditions, an Interactive Highway Safety Design Manual (IHSDM) model was developed for the intersection of El Pueblo Rd & Driveway 2 as a right-in/right-out driveway and full access driveway. The model utilizes Highway Manual Safety Performance Functions (SPF). Crash rates and total expected crash frequencies were predicted for a 5-year period to be consistent with historical crash data reviewed in the previous section. Table 26 shows the results of the IHSDM analysis and compares the calculated results to crash data detailed in the intersection crash analysis section of this report. Output sheets from the IHSDM software can be found in the Appendix G.

Table 26: IHSDM Predictive Crash Analysis

Location	IHSDM Analysis	
	Predicted Total Crashes in 5 Year Period	Predicted No. of Crashes/Year
El Pueblo Rd & Driveway 2 (No DWY 2)	---	---
El Pueblo Rd & Driveway 2 (RI/RO)	0.573	0.095
El Pueblo Rd & Driveway 2 (Full Access)	0.140	0.023
El Pueblo Rd & Las Lomitas Dr (No DWY 2)	1.901	0.317
El Pueblo Rd & Las Lomitas Dr (RI/RO)	0.121	0.020
El Pueblo Rd & Las Lomitas Dr (Full Access)	0.070	0.012

As shown in Table 26, all access scenarios of the intersection of El Pueblo Rd & Driveway 2 are observed to have less than 1 predicted crash per year, as predicted by the IHSDM software. The software was unable to provide results for the El Pueblo Rd & Driveway 2 (No DWY 2) scenario because the intersection does not exist. However, there were no reported crashes along this segment of El Pueblo Rd within the last five years.

It should be noted that IHSDM software uses various factors as default inputs that are based on national trends. The state of New Mexico has not yet developed inputs for local calibration adjustments. This lack of calibration would explain some of the differences between observed and predicted crash frequencies. In addition, the predictive model is focused primarily on the volume of demand, traffic control, and lane geometry. However, it does not account for other local factors that may impact crash frequency.

EL PUEBLO RD ACCESS (DRIVEWAY 2) ANALYSIS

Three alternatives for a driveway on El Pueblo Rd were analyzed to determine the overall operations of the study area for the proposed development.

CONFIGURATION 1

This configuration analyzes the study area intersections assuming there is no Driveway 2 on El Pueblo Rd. Therefore, all traffic must enter and exit the site using Driveway 1 on Las Lomitas Dr. This configuration is identified as "No Driveway 2" in this report.

The capacity analysis for this configuration shows that, under the full build 2022 conditions, during the PM peak, the northbound left-turn movement of El Pueblo Rd and Las Lomitas Dr will operate below acceptable delay and level of service. This is due to the intersection carrying all EB/WB and NB site traffic entering and exiting the site through Driveway 1. It is noted that the v/c ratios for these movements do not indicate that the movements exceed capacity.

Constructability:

Regardless of the driveway configuration and levels of service, it is recommended that the inner westbound through/left approach lane on El Pueblo Rd at Las Lomitas Dr be converted to a dedicated left-turn lane via re-striping the lane.

CONFIGURATION 2

This configuration analyzes the study area intersections assuming there is a restricted partial access Driveway 2 on El Pueblo Rd. Therefore, traffic is allowed to make a right turn in and a right turn out of Driveway 2. All traffic going west and north toward Edith Blvd will be required to exit at Driveway 1. This configuration is identified as "Driveway 2 Right-In/Right-Out" in this report.

The capacity analysis for this configuration shows that, under the full build 2022 conditions, during the PM peak, the northbound left-turn movement of El Pueblo Rd and Las Lomitas Dr will operate below acceptable delay and level of service. This is due to the intersection carrying the WB and some of the NB site traffic exiting the site through Driveway 1. Although the proposed right-in/right-out driveway will decrease the amount of site traffic using the intersection of El Pueblo Rd and Las Lomitas Dr, the intersection is shown to operate below acceptable levels of service.

Per the NMDOT SAMM, the required spacing for a right-in/right-out driveway (partial access) is 225 feet, and the current available spacing of the proposed driveway is 230 feet. Therefore, this spacing meets NMDOT SAMM recommended spacings. Furthermore, based on SAMM criteria, a dedicated right-turn lane is not required for this configuration.

Constructability:

Regardless of the driveway configuration and levels of service, it is recommended that the inner westbound through/left approach lane on El Pueblo Rd at Las Lomitas Dr be converted to a dedicated left-turn lane via re-striping the lane.

For the existing turn lane for the EBR at Las Lomitas Dr, it is recommended that the turn lane be shortened to approximately 230 feet, including taper between the Driveway 2 and Las Lomitas Dr. This configuration

meets SAMM recommendations using the provisions of Chapter 8 Section K.(a).ii and Chapter 8 Section K.(b).ii.

It is recommended that a physical barrier be provided on El Pueblo Rd to prevent left turns into and out of Driveway 2.

CONFIGURATION 3

This configuration analyzes the study area intersections assuming full access is provided at Driveway 2 on El Pueblo Rd. This configuration allows entering and exiting traffic to make all movements at Driveway 2. This configuration is identified as "Driveway 2 Full Access" in this report.

The capacity analysis for this configuration shows that, under the full build 2022 conditions, all movements and approaches at all intersections will operate at acceptable levels of service and delay.

Per the NMDOT SAMM, the recommended spacing for a full access driveway is 330 feet, and the current available spacing of the proposed driveway is approximately 250 feet. While this spacing does not meet SAMM recommendations, the expected left turns generated by the proposed development at this driveway are 5 left turns during the mid-day peak and 6 left turns during the PM peak. Therefore, the provided spacing and low volumes of this movement are not likely to significantly impact the operations along El Pueblo Rd.

Based on SAMM criteria, turn lanes are not required for this configuration.

Constructability:

Regardless of the driveway configuration and levels of service, it is recommended that the inner westbound through/left approach lane on El Pueblo Rd at Las Lomitas Dr be converted to a dedicated left-turn lane via re-striping the lane.

For the existing turn lane for the EBR at Las Lomitas Dr, it is recommended that the turn lane be shortened to approximately 230 feet, including taper between the Driveway 2 and Las Lomitas Dr. This configuration meets SAMM recommendations using the provisions of Chapter 8 Section K.(a).ii and Chapter 8 Section K.(b).ii.

It is recommended that the second westbound lane at Driveway 2 be converted to a left turn lane via re-striping the lane.

CONCLUSION AND DRIVEWAY CONFIGURATION RECOMMENDATION

Based on the findings of this report, and information presented regarding driveway configuration, it is recommended that site access be provided via either one full access driveway on Las Lomitas Dr and one full access driveway on El Pueblo Rd or a partial access on El Pueblo Rd with full access to Las Lomitas Dr.

ADDITIONAL RECOMMENDATIONS

- Regardless of the driveway configuration and levels of service, it is recommended that the inner westbound through/left approach lane on El Pueblo Rd at Las Lomitas Dr be converted to a dedicated left-turn lane via re-striping the lane.
- It is recommended that intersection sight distance, as detailed in the sight distance section of this report, be provided/maintained.

Appendix A:
Scoping Meeting Notes

8220 SAN PEDRO DR NE
SUITE 150
ALBUQUERQUE, NM 87113
505/338-0988
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LEE ENGINEERING

Agenda for Lone Sun Brewing Traffic Study Scoping Meeting
September 1, 2021
-Meeting Notes in Red-

Attendees:
Margaret Haynes – NMDOT
Nancy Perea – NMDOT
~~Matt Grush – CABQ~~
Mason Karnas – Lone Sun
Chet Karnas – Lone Sun
Brad Julian – NMDOT
David Goering – NMDOT
Jeanne Wolfenbarger – CABQ
Jonathon Kruse – Lee Engineering
David Thompson - TECNM

1. Introductions
2. Review of Site Plan
    a. El Pueblo Access Driveway
        i. Required by Fire Marshal
        ii. SAMM Requirements:

	Criteria	Required	Provided
Driveway Spacing (Between Las Lomitas and Site Driveway)	Urban Collector 35 MPH Partial Access	225 FT (Center to Center)	230 FT
Las Lomitas Deceleration Lane	Urban Environment Slow to 15 MPH 18.K.b.i	230 FT (Greater of Taper + Storage vs Deceleration Distance)	TBD

310 FT to Driveway on the West

3. Discussion of Scope for TIS
    a. Study Intersections
        i. El Pueblo & Las Lomitas
        ii. El Pueblo Site Driveway
        iii. Las Lomitas Site Driveway
        iv. El Pueblo & Edith
        v. El Pueblo & Jacs Ln
    b. Trips

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Option 1

Use	Units		TRIP GENERATION	PEAK HOUR TRIPS			
			Weekday	AM Peak		PM Peak	
			Trips	In	Out	In	Out
ITE 150 - Warehousing	11.875	ksf	64	20	11	6	18
ITE 925 - Drinking Place	5.334	ksf	-	-	-	56	27
Total	**17.209**	**ksf**	**64**	**20**	**11**	**62**	**45**

Option 2

Use	Units		TRIP GENERATION	PEAK HOUR TRIPS			
			Weekday	AM Peak		PM Peak	
			Trips	In	Out	In	Out
ITE 150 - Warehousing	11.875	ksf	64	20	11	6	18
ITE 932 - High-Turnover (Sit-Down) Restaurant	5.334	ksf	598	43	32	48	45
Total	**17.209**	**ksf**	**662**	**63**	**43**	**54**	**63**

Option 3

Survey Existing Brewery in Area

Reach out to Julie Luna for Steel Bender Study. Allow CABQ to provide input before finalizing trip generation method. NMDOT: Use Steel Bender Survey if no comment/involvement from CABQ.

c. Data Collection Discussion
    i. Data Sources
    ii. No Data. Perform new counts.
d. Known Developments or Pending Improvements in Area:
    i. None.
e. Build-out Year and Growth Rate
    i. Build-Out Year (2022)
    ii. MRCOG Growth Rates
f. Analysis scenarios
    i. Existing Conditions (2021)
    ii. Opening Year Background (No Build)
    iii. Opening Year Buildout (Full Build)
        1. 2x Analyses: one with access one without
    iv. Opening Year Buildout Optimized (if required)
        1. All scenarios with existing signal timings except opening year buildout optimized.
g. Required Analysis & Methodology
    i. LOS Capacity analysis based on HCM 6th Edition
        1. HCS Software

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ii. 95th Percentile Queue demands
    1. Capacity & Queueing for network peak rather than individual intersection peaks
iii. Auxiliary Lane Analysis
iv. Site Driveway Analysis Comparison
    1. With El Pueblo Access and Without
v. Sight Distance Analysis at Driveways
vi. Crash Summary 5-years
    1. IHSDM Comparison with El Pueblo Access and Without

4. Agency Input (Comments & Issues)
5. Meeting Notes (distributed by Lee Engineering)

Appendix B:

Turning Movement Count Sheets

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States 87113
5053380988 jkruse@lee-eng.com

Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021

Turning Movement Data

Start Time	Westbound St. Westbound					Northbound St. Northbound						Eastbound St. Eastbound						
	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	U-Turn	Peds	App. Total	Int. Total
6:00 AM	3	3	0	0	6	0	0	0	0	0	0	0	0	10	0	0	10	16
6:15 AM	23	5	0	0	28	2	0	0	0	0	2	0	0	16	0	0	16	46
6:30 AM	14	4	0	0	18	4	0	1	0	2	5	3	0	28	0	0	31	54
6:45 AM	21	4	0	0	25	2	0	0	0	0	2	3	0	48	0	0	51	78
Hourly Total	61	16	0	0	77	8	0	1	0	2	9	6	0	102	0	0	108	194
7:00 AM	15	8	0	0	23	0	0	1	0	1	1	2	1	71	0	0	74	98
7:15 AM	33	4	0	0	37	0	0	0	0	0	0	3	1	81	0	0	85	122
7:30 AM	48	7	0	0	55	0	2	1	0	0	3	3	0	75	0	0	78	136
7:45 AM	25	12	1	0	38	1	1	2	0	0	4	3	1	84	0	0	88	130
Hourly Total	121	31	1	0	153	1	3	4	0	1	8	11	3	311	0	0	325	486
8:00 AM	38	1	0	0	39	0	1	2	0	0	3	6	0	61	0	0	67	109
8:15 AM	30	2	0	0	32	4	4	0	0	0	8	5	0	41	0	0	46	86
8:30 AM	31	1	0	0	32	6	2	4	0	0	12	4	0	38	0	0	42	86
8:45 AM	26	8	0	0	34	2	2	3	0	0	7	3	0	54	0	0	57	98
Hourly Total	125	12	0	0	137	12	9	9	0	0	30	18	0	194	0	0	212	379
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	22	2	0	0	24	0	2	2	0	1	4	0	0	37	0	0	37	65
11:15 AM	36	4	0	0	40	0	0	5	0	0	5	1	0	17	0	0	18	63
11:30 AM	35	2	0	0	37	2	1	0	0	0	3	2	0	17	0	0	19	59
11:45 AM	33	1	0	0	34	2	1	1	0	1	4	1	0	35	0	0	36	74
Hourly Total	126	9	0	0	135	4	4	8	0	2	16	4	0	106	0	0	110	261
12:00 PM	30	3	0	0	33	3	1	6	0	0	10	1	0	36	0	0	37	80
12:15 PM	45	0	0	0	45	4	2	0	0	0	6	2	0	31	0	0	33	84
12:30 PM	36	6	0	0	42	4	1	0	0	0	5	1	0	30	0	0	31	78
12:45 PM	44	7	0	0	51	3	2	0	0	1	5	0	0	53	1	0	54	110
Hourly Total	155	16	0	0	171	14	6	6	0	1	26	4	0	150	1	0	155	352
1:00 PM	34	3	0	0	37	3	2	1	0	0	6	1	0	38	0	0	39	82
1:15 PM	29	9	0	0	38	1	1	2	0	0	4	1	0	28	0	0	29	71
1:30 PM	35	4	0	0	39	1	5	0	0	0	6	2	0	31	0	0	33	78
1:45 PM	18	1	0	0	19	1	2	0	0	0	3	2	0	34	0	0	36	58
Hourly Total	116	17	0	0	133	6	10	3	0	0	19	6	0	131	0	0	137	289
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:30 PM	71	2	0	0	73	3	4	4	0	0	11	1	1	43	0	0	45	129
3:45 PM	58	3	0	0	61	2	0	7	0	0	9	2	0	32	0	0	34	104
Hourly Total	129	5	0	0	134	5	4	11	0	0	20	3	1	75	0	0	79	233

4:00 PM	81	4	0	0	85	3	1	5	0	0	9	0	0	27	0	0	27	121
4:15 PM	52	6	0	0	58	2	3	6	0	0	11	3	0	42	0	0	45	114
4:30 PM	88	0	0	0	88	2	7	3	1	0	13	2	0	32	0	0	34	135
4:45 PM	85	4	0	0	89	2	2	2	0	0	6	2	0	33	0	0	35	130
Hourly Total	306	14	0	0	320	9	13	16	1	0	39	7	0	134	0	0	141	500
5:00 PM	90	4	0	0	94	0	3	7	0	0	10	0	0	35	0	0	35	139
5:15 PM	111	4	0	0	115	0	4	2	0	0	6	1	0	41	0	0	42	163
5:30 PM	83	3	0	0	86	1	0	0	0	0	1	0	0	51	0	0	51	138
5:45 PM	65	2	0	0	67	3	0	2	0	0	5	1	0	29	0	0	30	102
Hourly Total	349	13	0	0	362	4	7	11	0	0	22	2	0	156	0	0	158	542
6:00 PM	54	2	0	0	56	1	4	0	0	0	5	0	0	25	0	0	25	86
6:15 PM	41	1	0	0	42	3	0	1	0	0	4	2	0	29	0	0	31	77
Grand Total	1583	136	1	0	1720	67	60	70	1	6	198	63	4	1413	1	0	1481	3399
Approach %	92.0	7.9	0.1	-	-	33.8	30.3	35.4	0.5	-	-	4.3	0.3	95.4	0.1	-	-	-
Total %	46.6	4.0	0.0	-	50.6	2.0	1.8	2.1	0.0	-	5.8	1.9	0.1	41.6	0.0	-	43.6	-
Lights	1529	122	1	-	1652	51	57	64	1	-	173	57	3	1357	1	-	1418	3243
% Lights	96.6	89.7	100.0	-	96.0	76.1	95.0	91.4	100.0	-	87.4	90.5	75.0	96.0	100.0	-	95.7	95.4
Mediums	34	11	0	-	45	12	3	6	0	-	21	6	1	38	0	-	45	111
% Mediums	2.1	8.1	0.0	-	2.6	17.9	5.0	8.6	0.0	-	10.6	9.5	25.0	2.7	0.0	-	3.0	3.3
Articulated Trucks	18	2	0	-	20	3	0	0	0	-	3	0	0	18	0	-	18	41
% Articulated Trucks	1.1	1.5	0.0	-	1.2	4.5	0.0	0.0	0.0	-	1.5	0.0	0.0	1.3	0.0	-	1.2	1.2
Bicycles on Road	2	1	0	-	3	1	0	0	0	-	1	0	0	0	0	-	0	4
% Bicycles on Road	0.1	0.7	0.0	-	0.2	1.5	0.0	0.0	0.0	-	0.5	0.0	0.0	0.0	0.0	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	16.7	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	83.3	-	-	-	-	-	-	-	-

Lee Engineering, LLC
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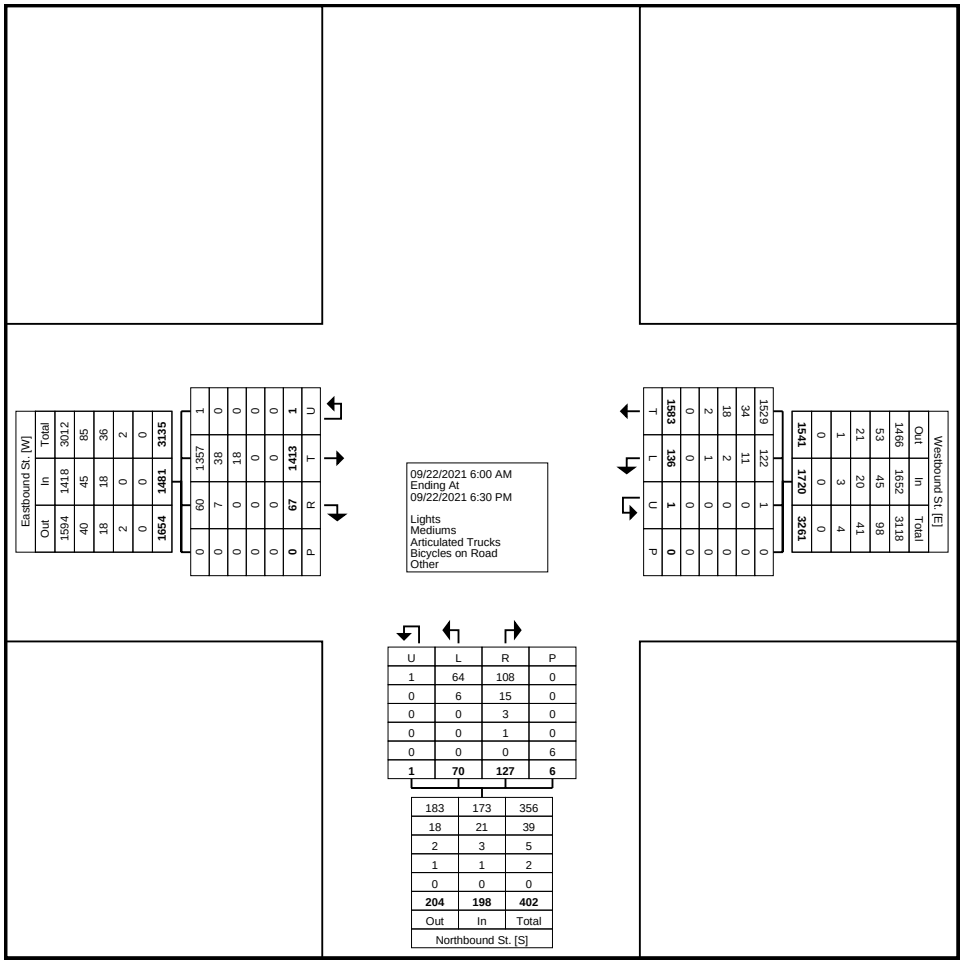
5053380988 jkruse@lee-eng.com

Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021
Page No: 3



Eastbound St. [W]	U	T	R	P
Out	1	1357	69	0
In	0	38	7	0
Total	0	18	0	0
	0	0	0	0
	0	0	0	0
	1	**1413**	**67**	**0**
3135	1	122	1	0
1481	34	11	0	0
1654	18	2	0	0
	2	1	0	0
	0	0	0	0
	1583	**136**	**1**	**0**
	1529	122	1	0

Westbound St. [E]	Out	In	Total
1541	1466	1652	3118
0	53	45	98
1	21	20	41
3	20	45	98
0	4	4	8
1720	**1541**	**1720**	**3261**

U	L	R	P
1	64	108	0
0	6	15	0
0	0	3	0
0	0	1	0
0	0	0	6
1	**70**	**127**	**6**

183	173	356
18	21	39
2	3	5
1	1	2
0	0	0
204	**198**	**402**
Out	In	Total
Northbound St. [S]		

Turning Movement Data Plot

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Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021

Turning Movement Peak Hour Data (7:15 AM)

Start Time	Westbound St. Westbound					Northbound St. Northbound						Eastbound St. Eastbound						
	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	U-Turn	Peds	App. Total	Int. Total
7:15 AM	33	4	0	0	37	0	0	0	0	0	0	3	1	81	0	0	85	122
7:30 AM	48	7	0	0	55	0	2	1	0	0	3	3	0	75	0	0	78	136
7:45 AM	25	12	1	0	38	1	1	2	0	0	4	3	1	84	0	0	88	130
8:00 AM	38	1	0	0	39	0	1	2	0	0	3	6	0	61	0	0	67	109
Total	144	24	1	0	169	1	4	5	0	0	10	15	2	301	0	0	318	497
Approach %	85.2	14.2	0.6	-	-	10.0	40.0	50.0	0.0	-	-	4.7	0.6	94.7	0.0	-	-	-
Total %	29.0	4.8	0.2	-	34.0	0.2	0.8	1.0	0.0	-	2.0	3.0	0.4	60.6	0.0	-	64.0	-
PHF	0.750	0.500	0.250	-	0.768	0.250	0.500	0.625	0.000	-	0.625	0.625	0.500	0.896	0.000	-	0.903	0.914
Lights	135	24	1	-	160	1	4	3	0	-	8	15	2	290	0	-	307	475
% Lights	93.8	100.0	100.0	-	94.7	100.0	100.0	60.0	-	-	80.0	100.0	100.0	96.3	-	-	96.5	95.6
Mediums	5	0	0	-	5	0	0	2	0	-	2	0	0	9	0	-	9	16
% Mediums	3.5	0.0	0.0	-	3.0	0.0	0.0	40.0	-	-	20.0	0.0	0.0	3.0	-	-	2.8	3.2
Articulated Trucks	4	0	0	-	4	0	0	0	0	-	0	0	0	2	0	-	2	6
% Articulated Trucks	2.8	0.0	0.0	-	2.4	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.7	-	-	0.6	1.2
Bicycles on Road	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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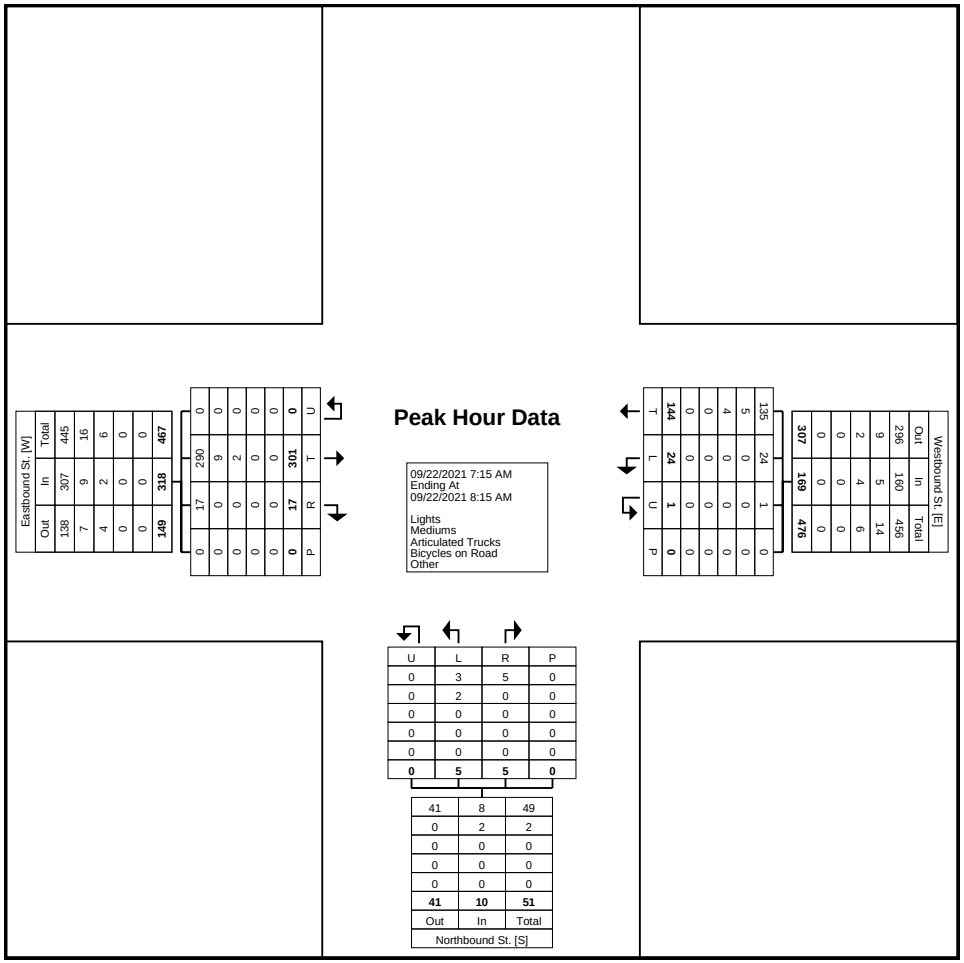

Eastbound St. [W]							
Out	138	7	4	0	0	**149**	
In	307	9	2	0	0	**318**	
Total	445	16	6	0	0	**467**	

0	0	0	0	0	**0**	U	
282	6	2	0	0	**301**	T	
17	0	0	0	0	**17**	R	
0	0	0	0	0	**0**	P	

T	**144**	0	0	4	5	135	
L	**24**	0	0	0	0	24	
U	**1**	0	0	0	0	1	
P	**0**	0	0	0	0	0	

Westbound St. [E]							
Out	296	9	2	0	0	**307**	
In	160	5	4	0	0	**169**	
Total	456	14	6	0	0	**476**	

U	L	R	P
0	3	5	0
0	2	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	**5**	**5**	**0**

41	8	49
0	2	2
0	0	0
0	0	0
0	0	0
41	**10**	**51**
Out	In	Total
Northbound St. [S]		

Turning Movement Peak Hour Data Plot (7:15 AM)

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Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021

Turning Movement Peak Hour Data (11:00 AM)

Start Time	Westbound St. Westbound					Northbound St. Northbound						Eastbound St. Eastbound						
	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	U-Turn	Peds	App. Total	Int. Total
11:00 AM	22	2	0	0	24	0	2	2	0	1	4	0	0	37	0	0	37	65
11:15 AM	36	4	0	0	40	0	0	5	0	0	5	1	0	17	0	0	18	63
11:30 AM	35	2	0	0	37	2	1	0	0	0	3	2	0	17	0	0	19	59
11:45 AM	33	1	0	0	34	2	1	1	0	1	4	1	0	35	0	0	36	74
Total	126	9	0	0	135	4	4	8	0	2	16	4	0	106	0	0	110	261
Approach %	93.3	6.7	0.0	-	-	25.0	25.0	50.0	0.0	-	-	3.6	0.0	96.4	0.0	-	-	-
Total %	48.3	3.4	0.0	-	51.7	1.5	1.5	3.1	0.0	-	6.1	1.5	0.0	40.6	0.0	-	42.1	-
PHF	0.875	0.563	0.000	-	0.844	0.500	0.500	0.400	0.000	-	0.800	0.500	0.000	0.716	0.000	-	0.743	0.882
Lights	121	7	0	-	128	4	4	7	0	-	15	4	0	101	0	-	105	248
% Lights	96.0	77.8	-	-	94.8	100.0	100.0	87.5	-	-	93.8	100.0	-	95.3	-	-	95.5	95.0
Mediums	3	2	0	-	5	0	0	1	0	-	1	0	0	1	0	-	1	7
% Mediums	2.4	22.2	-	-	3.7	0.0	0.0	12.5	-	-	6.3	0.0	-	0.9	-	-	0.9	2.7
Articulated Trucks	2	0	0	-	2	0	0	0	0	-	0	0	0	4	0	-	4	6
% Articulated Trucks	1.6	0.0	-	-	1.5	0.0	0.0	0.0	-	-	0.0	0.0	-	3.8	-	-	3.6	2.3
Bicycles on Road	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

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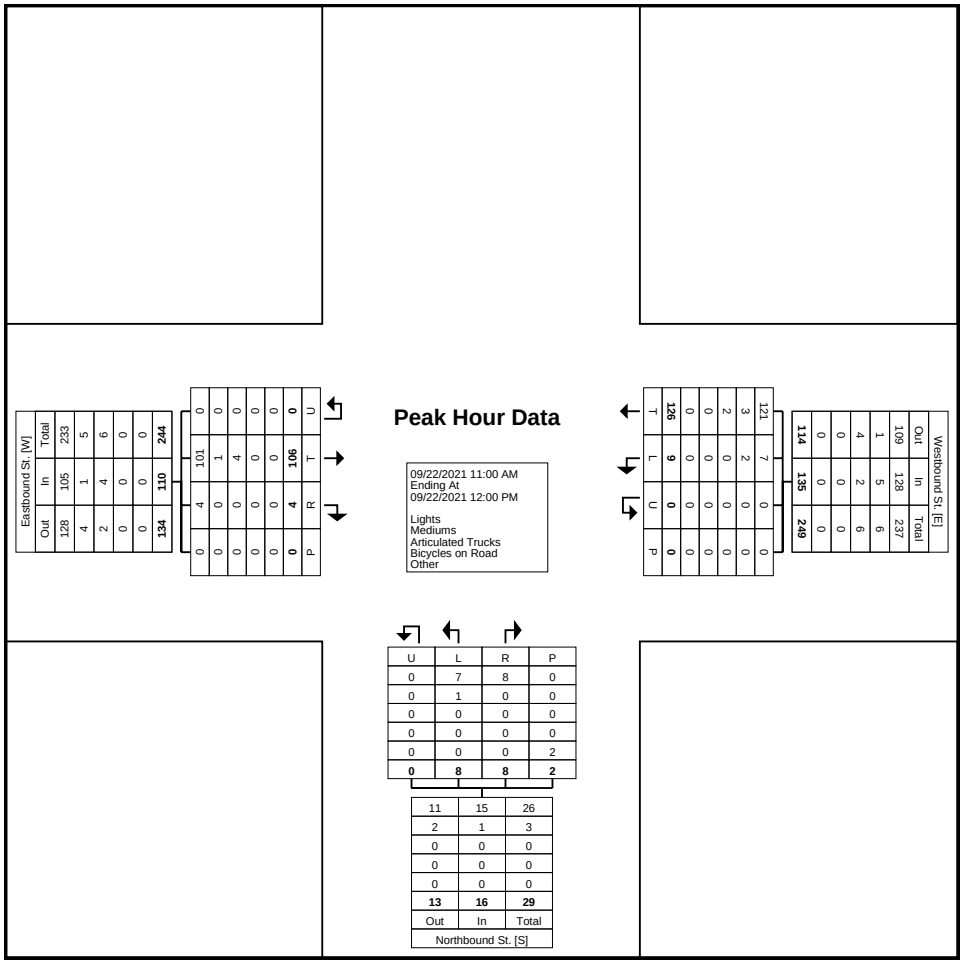

Eastbound St. [W]	U	T	R	P	Total
In	0	101	4	0	105
	0	1	0	0	1
	0	4	0	0	4
	0	0	0	0	0
	0	0	0	0	0
	0	**106**	**4**	**0**	**110**
Out	0	101	4	0	105
	0	1	0	0	1
	0	4	0	0	4
	0	0	0	0	0
	0	0	0	0	0
	0	**106**	**4**	**0**	**110**
Total	0	202	8	0	210
	0	2	0	0	2
	0	8	0	0	8
	0	0	0	0	0
	0	0	0	0	0
	0	**212**	**8**	**0**	**220**

Westbound St. [E]	T	L	U	P	Total
Out	121	7	0	0	128
	3	2	0	0	5
	2	0	0	0	2
	0	0	0	0	0
	0	0	0	0	0
	126	**9**	**0**	**0**	**135**
In	109	19	0	0	128
	1	4	0	0	5
	4	2	0	0	6
	0	0	0	0	0
	0	0	0	0	0
	114	**25**	**0**	**0**	**139**
Total	230	26	0	0	256
	4	6	0	0	10
	6	2	0	0	8
	0	0	0	0	0
	0	0	0	0	0
	240	**34**	**0**	**0**	**274**

U	L	R	P
0	7	8	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	2
0	**8**	**8**	**2**

11	15	26
2	1	3
0	0	0
0	0	0
0	0	0
13	**16**	**29**
Out	In	Total
Northbound St. [S]		

Turning Movement Peak Hour Data Plot (11:00 AM)

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5053380988 jkruse@lee-eng.com

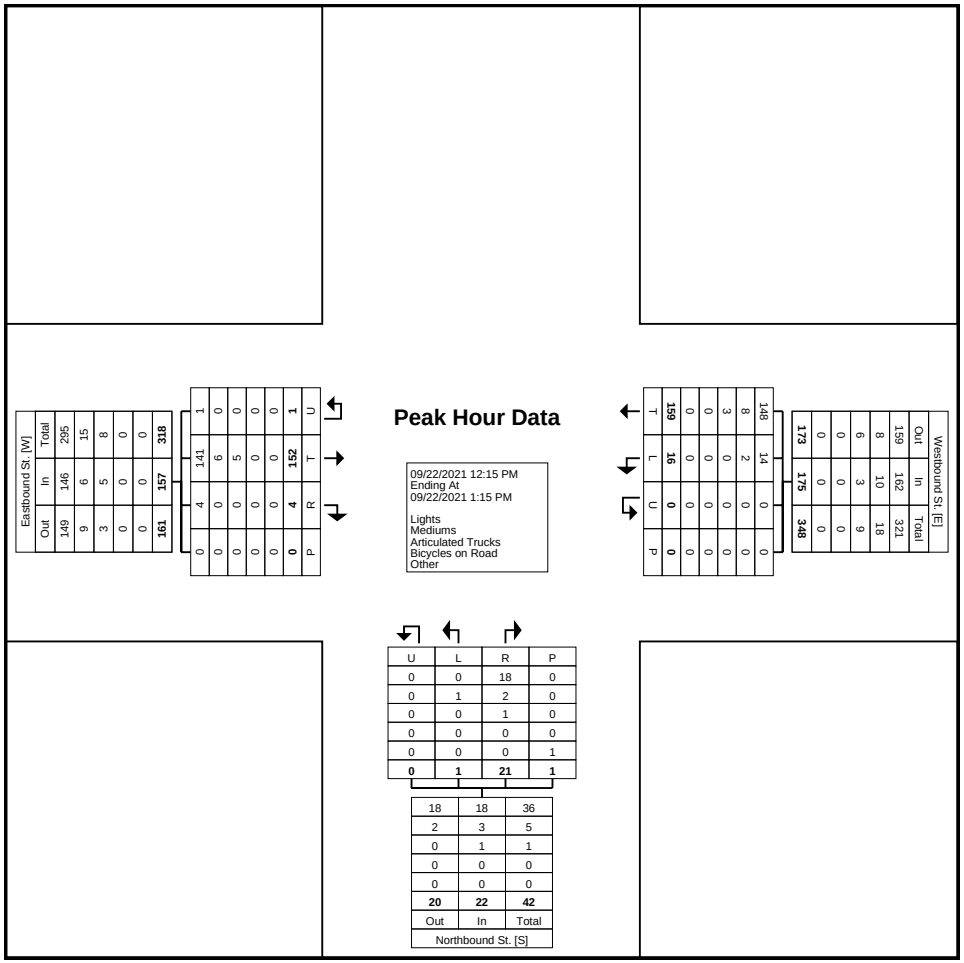
Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021

Turning Movement Peak Hour Data (12:15 PM)

Start Time	Westbound St. Westbound					Northbound St. Northbound						Eastbound St. Eastbound						
	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	U-Turn	Peds	App. Total	Int. Total
12:15 PM	45	0	0	0	45	4	2	0	0	0	6	2	0	31	0	0	33	84
12:30 PM	36	6	0	0	42	4	1	0	0	0	5	1	0	30	0	0	31	78
12:45 PM	44	7	0	0	51	3	2	0	0	1	5	0	0	53	1	0	54	110
1:00 PM	34	3	0	0	37	3	2	1	0	0	6	1	0	38	0	0	39	82
Total	159	16	0	0	175	14	7	1	0	1	22	4	0	152	1	0	157	354
Approach %	90.9	9.1	0.0	-	-	63.6	31.8	4.5	0.0	-	-	2.5	0.0	96.8	0.6	-	-	-
Total %	44.9	4.5	0.0	-	49.4	4.0	2.0	0.3	0.0	-	6.2	1.1	0.0	42.9	0.3	-	44.4	-
PHF	0.883	0.571	0.000	-	0.858	0.875	0.875	0.250	0.000	-	0.917	0.500	0.000	0.717	0.250	-	0.727	0.805
Lights	148	14	0	-	162	12	6	0	0	-	18	4	0	141	1	-	146	326
% Lights	93.1	87.5	-	-	92.6	85.7	85.7	0.0	-	-	81.8	100.0	-	92.8	100.0	-	93.0	92.1
Mediums	8	2	0	-	10	1	1	1	0	-	3	0	0	6	0	-	6	19
% Mediums	5.0	12.5	-	-	5.7	7.1	14.3	100.0	-	-	13.6	0.0	-	3.9	0.0	-	3.8	5.4
Articulated Trucks	3	0	0	-	3	1	0	0	0	-	1	0	0	5	0	-	5	9
% Articulated Trucks	1.9	0.0	-	-	1.7	7.1	0.0	0.0	-	-	4.5	0.0	-	3.3	0.0	-	3.2	2.5
Bicycles on Road	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States 87113
5053380988 jkruse@lee-eng.com

Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021



Eastbound St. [W]	U	T	R	P	Total
In	1	141	4	0	146
Out	0	6	0	0	6
	0	5	0	0	5
	0	0	0	0	0
	0	0	0	0	0
	1	**152**	**4**	**0**	**157**
	0	9	3	0	12
	0	3	5	0	8
	0	0	0	0	0
	0	0	0	0	0
	1	**12**	**8**	**0**	**21**
Total	2	153	12	0	167
	0	6	0	0	6
	0	8	0	0	8
	0	0	0	0	0
	0	0	0	0	0
	2	**167**	**12**	**0**	**181**
	0	15	8	0	23
	0	8	5	0	13
	0	0	0	0	0
	0	0	0	0	0
	2	**175**	**20**	**0**	**197**
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	**0**	**0**	**0**	**0**
	3	**342**	**32**	**0**	**378**

Westbound St. [E]	T	L	U	P	Total
Out	148	14	0	0	162
In	8	2	0	0	10
	3	0	0	0	3
	0	0	0	0	0
	0	0	0	0	0
	159	**16**	**0**	**0**	**175**
	6	0	0	0	6
	8	0	0	0	8
	0	0	0	0	0
	0	0	0	0	0
	173	**16**	**0**	**0**	**189**
	159	18	0	0	177
	8	10	0	0	18
	6	3	0	0	9
	0	0	0	0	0
	0	0	0	0	0
	173	**175**	**348**		

U	L	R	P
0	0	18	0
0	1	2	0
0	0	1	0
0	0	0	0
0	0	0	1
0	**1**	**21**	**1**

18	18	36
2	3	5
0	1	1
0	0	0
0	0	0
20	**22**	**42**
Out	In	Total
Northbound St. [S]		

Turning Movement Peak Hour Data Plot (12:15 PM)

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States 87113
5053380988 jkruse@lee-eng.com

Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021

Turning Movement Peak Hour Data (4:45 PM)

Start Time	Westbound St. Westbound					Northbound St. Northbound						Eastbound St. Eastbound						
	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	U-Turn	Peds	App. Total	Int. Total
4:45 PM	85	4	0	0	89	2	2	2	0	0	6	2	0	33	0	0	35	130
5:00 PM	90	4	0	0	94	0	3	7	0	0	10	0	0	35	0	0	35	139
5:15 PM	111	4	0	0	115	0	4	2	0	0	6	1	0	41	0	0	42	163
5:30 PM	83	3	0	0	86	1	0	0	0	0	1	0	0	51	0	0	51	138
Total	369	15	0	0	384	3	9	11	0	0	23	3	0	160	0	0	163	570
Approach %	96.1	3.9	0.0	-	-	13.0	39.1	47.8	0.0	-	-	1.8	0.0	98.2	0.0	-	-	-
Total %	64.7	2.6	0.0	-	67.4	0.5	1.6	1.9	0.0	-	4.0	0.5	0.0	28.1	0.0	-	28.6	-
PHF	0.831	0.938	0.000	-	0.835	0.375	0.563	0.393	0.000	-	0.575	0.375	0.000	0.784	0.000	-	0.799	0.874
Lights	364	11	0	-	375	1	9	11	0	-	21	1	0	154	0	-	155	551
% Lights	98.6	73.3	-	-	97.7	33.3	100.0	100.0	-	-	91.3	33.3	-	96.3	-	-	95.1	96.7
Mediums	3	2	0	-	5	2	0	0	0	-	2	2	0	5	0	-	7	14
% Mediums	0.8	13.3	-	-	1.3	66.7	0.0	0.0	-	-	8.7	66.7	-	3.1	-	-	4.3	2.5
Articulated Trucks	2	2	0	-	4	0	0	0	0	-	0	0	0	1	0	-	1	5
% Articulated Trucks	0.5	13.3	-	-	1.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.6	-	-	0.6	0.9
Bicycles on Road	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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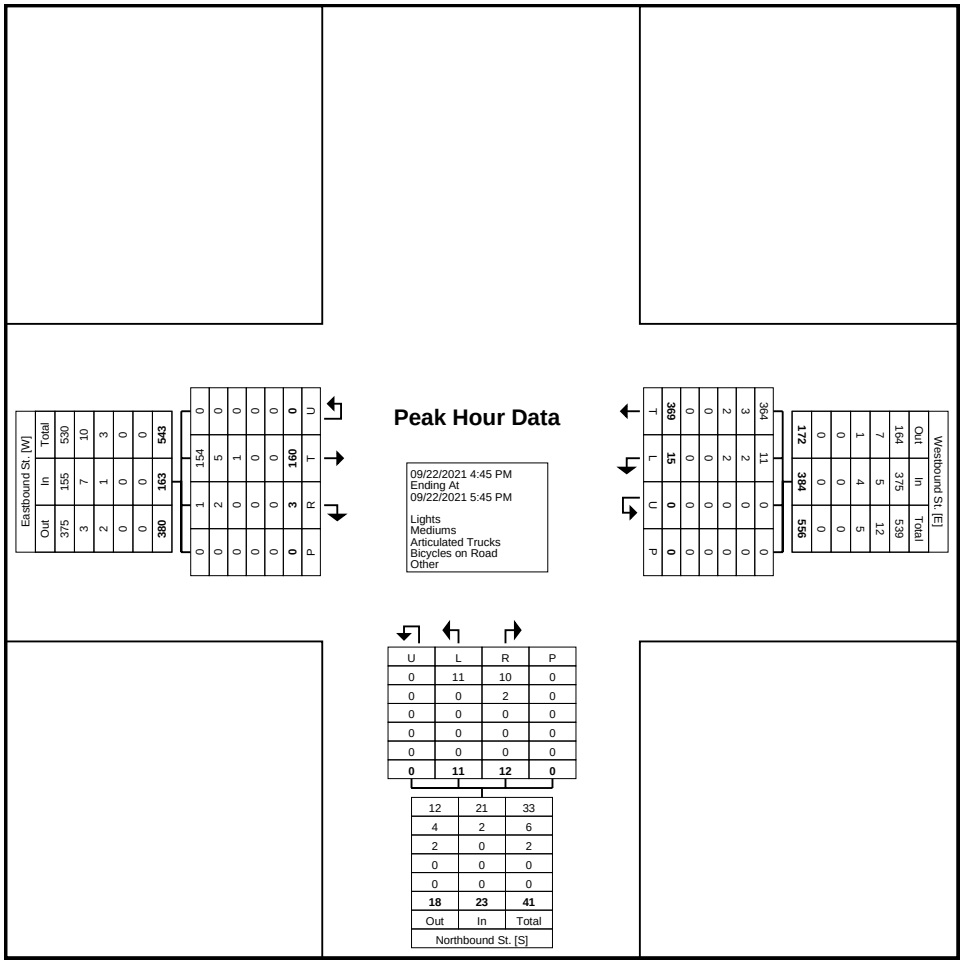
Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021



Eastbound St. [W]	U	T	R	P	Total
In	0	154	1	0	155
Out	0	5	2	0	7
	0	1	0	0	1
	0	0	0	0	0
	0	0	0	0	0
Total	0	160	3	0	163

Westbound St. [E]	T	L	U	P	Total
Out	369	15	0	0	384
In	0	0	0	0	0
	0	0	0	0	0
	2	2	0	0	4
	3	2	0	0	5
Total	364	11	0	0	375

Northbound St. [S]	U	L	R	P	Total
Out	0	11	10	0	21
In	0	0	2	0	2
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
Total	0	11	12	0	23

Southbound St. [N]	T	L	U	P	Total
In	172	0	0	0	172
Out	0	0	0	0	0
	1	0	0	0	1
	4	0	0	0	4
	5	0	0	0	5
Total	12	0	0	0	12

Turning Movement Peak Hour Data Plot (4:45 PM)

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Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States 87113
5053380988 jkruse@lee-eng.com

Count Name: NM312.01
Site Code:
Start Date: 08/25/2021

Turning Movement Data

Start Time	El Pueblo Rd Ne Westbound					Las Lomitas Dr Ne Northbound					El Pueblo Rd Ne Eastbound					Int. Total
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	
6:30 AM	7	4	0	0	11	13	10	0	0	23	9	23	0	0	32	66
6:45 AM	10	6	0	0	16	13	11	0	0	24	6	31	0	0	37	77
Hourly Total	17	10	0	0	27	26	21	0	0	47	15	54	0	0	69	143
7:00 AM	14	5	0	1	19	30	16	0	0	46	10	48	0	1	58	123
7:15 AM	24	7	0	0	31	35	19	0	0	54	6	32	0	0	38	123
7:30 AM	23	10	0	0	33	22	23	0	0	45	15	45	0	0	60	138
7:45 AM	21	15	0	0	36	33	16	0	0	49	15	47	0	0	62	147
Hourly Total	82	37	0	1	119	120	74	0	0	194	46	172	0	1	218	531
8:00 AM	17	14	1	0	32	13	20	0	0	33	18	54	0	0	72	137
8:15 AM	15	10	0	0	25	21	9	0	0	30	17	42	0	0	59	114
8:30 AM	16	9	0	0	25	9	11	0	0	20	6	29	0	2	35	80
8:45 AM	12	8	0	0	20	15	8	0	0	23	9	25	0	0	34	77
Hourly Total	60	41	1	0	102	58	48	0	0	106	50	150	0	2	200	408
9:00 AM	14	10	0	0	24	7	11	0	0	18	10	27	0	2	37	79
9:15 AM	26	5	0	0	31	9	12	0	0	21	8	18	0	1	26	78
9:30 AM	17	11	0	0	28	6	13	0	0	19	5	29	0	1	34	81
9:45 AM	17	18	0	0	35	15	15	0	0	30	12	21	0	0	33	98
Hourly Total	74	44	0	0	118	37	51	0	0	88	35	95	0	4	130	336
10:00 AM	13	8	0	0	21	12	11	0	0	23	8	20	0	0	28	72
10:15 AM	12	9	0	0	21	8	7	0	0	15	13	20	0	0	33	69
10:30 AM	20	9	0	0	29	8	8	0	0	16	5	25	0	0	30	75
10:45 AM	24	16	0	0	40	24	15	0	0	39	11	20	0	0	31	110
Hourly Total	69	42	0	0	111	52	41	0	0	93	37	85	0	0	122	326
11:00 AM	30	13	1	0	44	8	13	0	0	21	5	17	0	0	22	87
11:15 AM	18	13	0	0	31	13	21	0	0	34	7	18	0	0	25	90
11:30 AM	11	9	0	0	20	9	16	0	0	25	9	16	0	0	25	70
11:45 AM	21	14	0	0	35	12	9	0	0	21	7	19	0	0	26	82
Hourly Total	80	49	1	0	130	42	59	0	0	101	28	70	0	0	98	329
12:00 PM	19	13	0	0	32	10	12	0	0	22	20	20	0	0	40	94
12:15 PM	19	16	0	0	35	8	11	0	0	19	10	15	0	0	25	79
12:30 PM	22	19	0	0	41	12	12	0	0	24	9	22	0	0	31	96
12:45 PM	18	10	0	0	28	16	9	0	0	25	13	22	0	0	35	88
Hourly Total	78	58	0	0	136	46	44	0	0	90	52	79	0	0	131	357
1:00 PM	29	11	0	0	40	8	14	0	0	22	10	22	0	0	32	94
1:15 PM	21	18	0	0	39	14	17	0	0	31	19	14	0	1	33	103
1:30 PM	25	11	0	0	36	12	12	0	0	24	19	20	0	0	39	99

1:45 PM	21	16	0	0	37	19	9	0	0	28	13	19	0	0	32	97
Hourly Total	96	56	0	0	152	53	52	0	0	105	61	75	0	1	136	393
2:00 PM	28	14	0	0	42	5	10	0	0	15	9	24	0	0	33	90
2:15 PM	17	19	0	0	36	11	7	0	0	18	14	25	0	0	39	93
2:30 PM	28	14	0	0	42	25	9	0	0	34	10	26	0	0	36	112
2:45 PM	40	28	0	0	68	20	16	0	0	36	14	16	0	0	30	134
Hourly Total	113	75	0	0	188	61	42	0	0	103	47	91	0	0	138	429
3:00 PM	50	23	0	0	73	15	8	0	0	23	9	28	0	0	37	133
3:15 PM	35	23	0	0	58	16	17	0	0	33	22	32	0	0	54	145
3:30 PM	38	22	0	0	60	9	15	0	0	24	15	15	0	0	30	114
3:45 PM	36	30	0	0	66	12	19	0	0	31	18	19	0	0	37	134
Hourly Total	159	98	0	0	257	52	59	0	0	111	64	94	0	0	158	526
4:00 PM	47	20	0	0	67	13	23	0	0	36	18	13	0	0	31	134
4:15 PM	40	25	0	0	65	12	16	0	0	28	15	22	0	0	37	130
4:30 PM	60	23	0	0	83	11	25	0	0	36	20	19	0	0	39	158
4:45 PM	56	28	0	1	84	16	31	0	0	47	27	20	0	1	47	178
Hourly Total	203	96	0	1	299	52	95	0	0	147	80	74	0	1	154	600
5:00 PM	71	19	0	0	90	15	37	0	0	52	15	17	0	0	32	174
5:15 PM	67	33	0	0	100	25	31	0	0	56	24	14	0	0	38	194
5:30 PM	67	35	0	0	102	14	33	0	0	47	29	17	0	0	46	195
5:45 PM	37	26	0	0	63	17	26	0	0	43	17	12	0	0	29	135
Hourly Total	242	113	0	0	355	71	127	0	0	198	85	60	0	0	145	698
6:00 PM	31	25	0	0	56	18	16	0	0	34	9	12	0	1	21	111
6:15 PM	12	21	0	0	33	8	9	0	0	17	16	16	0	1	32	82
Grand Total	1316	765	2	2	2083	696	738	0	0	1434	625	1127	0	11	1752	5269
Approach %	63.2	36.7	0.1	-	-	48.5	51.5	0.0	-	-	35.7	64.3	0.0	-	-	-
Total %	25.0	14.5	0.0	-	39.5	13.2	14.0	0.0	-	27.2	11.9	21.4	0.0	-	33.3	-
Lights	1256	749	2	-	2007	683	723	0	-	1406	607	1067	0	-	1674	5087
% Lights	95.4	97.9	100.0	-	96.4	98.1	98.0	-	-	98.0	97.1	94.7	-	-	95.5	96.5
Mediums	37	14	0	-	51	10	9	0	-	19	13	45	0	-	58	128
% Mediums	2.8	1.8	0.0	-	2.4	1.4	1.2	-	-	1.3	2.1	4.0	-	-	3.3	2.4
Articulated Trucks	22	2	0	-	24	2	5	0	-	7	3	13	0	-	16	47
% Articulated Trucks	1.7	0.3	0.0	-	1.2	0.3	0.7	-	-	0.5	0.5	1.2	-	-	0.9	0.9
Bicycles on Road	1	0	0	-	1	1	1	0	-	2	2	2	0	-	4	7
% Bicycles on Road	0.1	0.0	0.0	-	0.0	0.1	0.1	-	-	0.1	0.3	0.2	-	-	0.2	0.1
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	0	-	-	-	-	3	-	-
% Bicycles on Crosswalk	-	-	-	50.0	-	-	-	-	-	-	-	-	-	27.3	-	-
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	8	-	-
% Pedestrians	-	-	-	50.0	-	-	-	-	-	-	-	-	-	72.7	-	-

Lee Engineering, LLC
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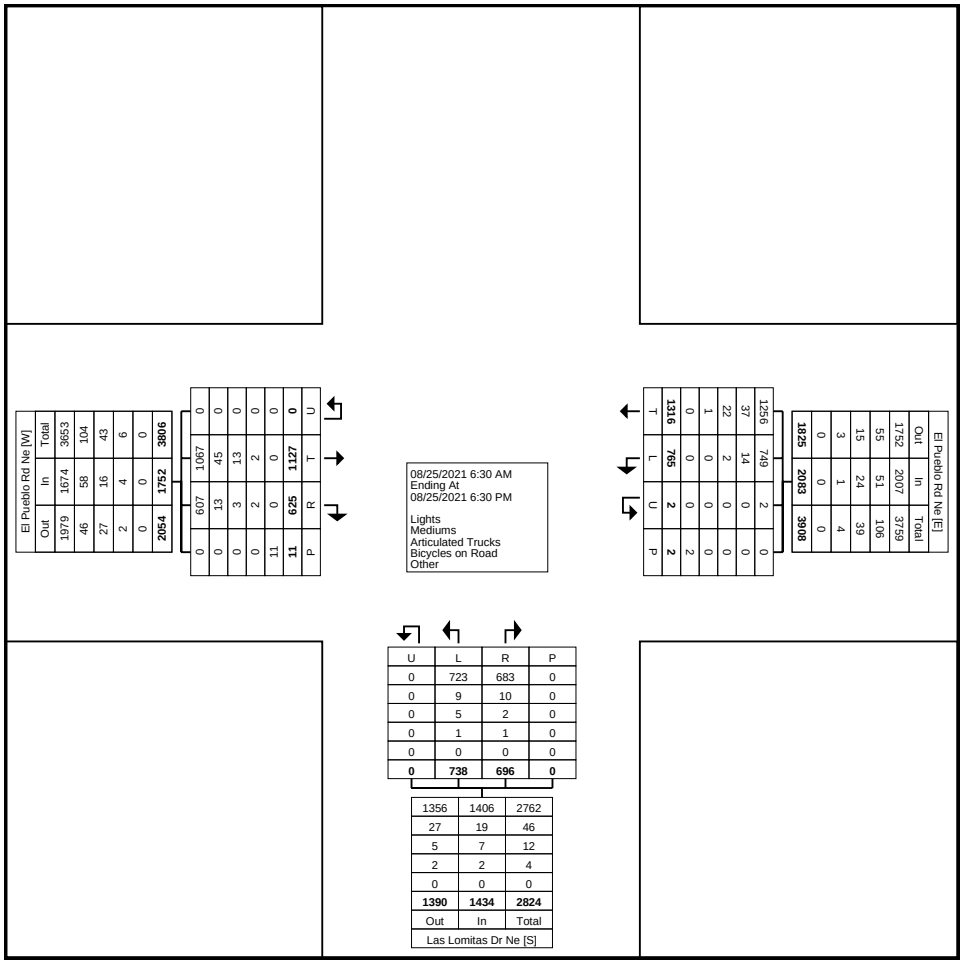
Count Name: NM312.01
Site Code:
Start Date: 08/25/2021
Page No: 3



Turning Movement Data Plot

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Phoenix, Arizona - Dallas, Texas
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Albuquerque, New Mexico, United States 87113
5053380988 jkruse@lee-eng.com

Count Name: NM312.01
Site Code:
Start Date: 08/25/2021

Turning Movement Peak Hour Data (7:15 AM)

Start Time	El Pueblo Rd Ne Westbound					Las Lomitas Dr Ne Northbound					El Pueblo Rd Ne Eastbound					
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
7:15 AM	24	7	0	0	31	35	19	0	0	54	6	32	0	0	38	123
7:30 AM	23	10	0	0	33	22	23	0	0	45	15	45	0	0	60	138
7:45 AM	21	15	0	0	36	33	16	0	0	49	15	47	0	0	62	147
8:00 AM	17	14	1	0	32	13	20	0	0	33	18	54	0	0	72	137
Total	85	46	1	0	132	103	78	0	0	181	54	178	0	0	232	545
Approach %	64.4	34.8	0.8	-	-	56.9	43.1	0.0	-	-	23.3	76.7	0.0	-	-	-
Total %	15.6	8.4	0.2	-	24.2	18.9	14.3	0.0	-	33.2	9.9	32.7	0.0	-	42.6	-
PHF	0.885	0.767	0.250	-	0.917	0.736	0.848	0.000	-	0.838	0.750	0.824	0.000	-	0.806	0.927
Lights	82	46	1	-	129	101	75	0	-	176	52	172	0	-	224	529
% Lights	96.5	100.0	100.0	-	97.7	98.1	96.2	-	-	97.2	96.3	96.6	-	-	96.6	97.1
Mediums	3	0	0	-	3	1	2	0	-	3	2	6	0	-	8	14
% Mediums	3.5	0.0	0.0	-	2.3	1.0	2.6	-	-	1.7	3.7	3.4	-	-	3.4	2.6
Articulated Trucks	0	0	0	-	0	0	1	0	-	1	0	0	0	-	0	1
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.0	1.3	-	-	0.6	0.0	0.0	-	-	0.0	0.2
Bicycles on Road	0	0	0	-	0	1	0	0	-	1	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	0.0	-	0.0	1.0	0.0	-	-	0.6	0.0	0.0	-	-	0.0	0.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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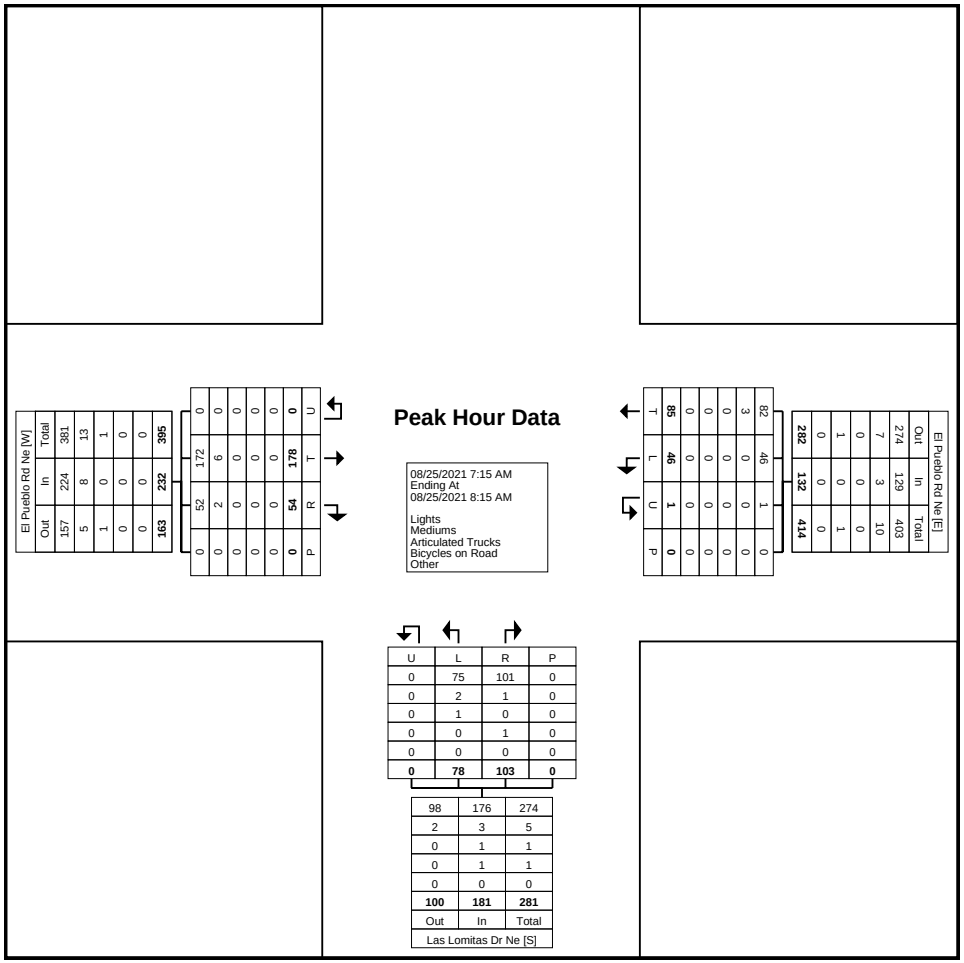
Count Name: NM312.01
Site Code:
Start Date: 08/25/2021



Turning Movement Peak Hour Data Plot (7:15 AM)

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Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States 87113
5053380988 jkruse@lee-eng.com

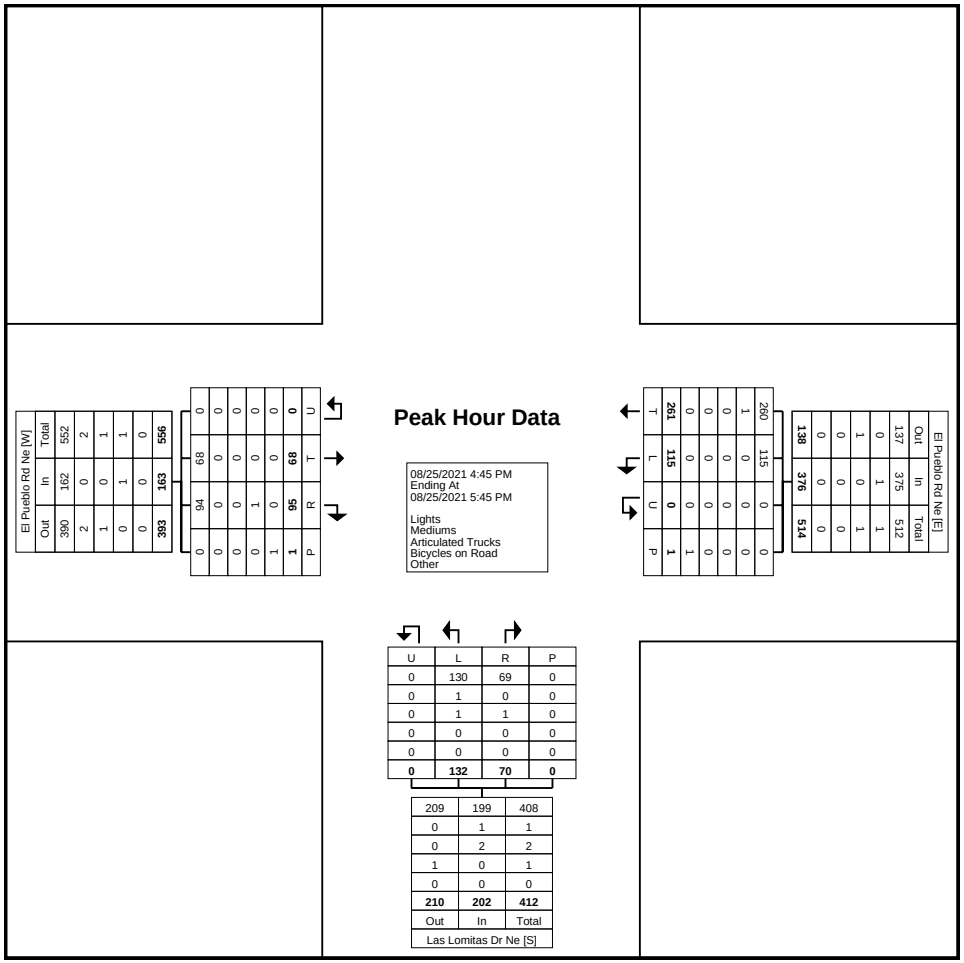
Count Name: NM312.01
Site Code:
Start Date: 08/25/2021

Turning Movement Peak Hour Data (4:45 PM)

Start Time	El Pueblo Rd Ne Westbound					Las Lomitas Dr Ne Northbound					El Pueblo Rd Ne Eastbound					
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
4:45 PM	56	28	0	1	84	16	31	0	0	47	27	20	0	1	47	178
5:00 PM	71	19	0	0	90	15	37	0	0	52	15	17	0	0	32	174
5:15 PM	67	33	0	0	100	25	31	0	0	56	24	14	0	0	38	194
5:30 PM	67	35	0	0	102	14	33	0	0	47	29	17	0	0	46	195
Total	261	115	0	1	376	70	132	0	0	202	95	68	0	1	163	741
Approach %	69.4	30.6	0.0	-	-	34.7	65.3	0.0	-	-	58.3	41.7	0.0	-	-	-
Total %	35.2	15.5	0.0	-	50.7	9.4	17.8	0.0	-	27.3	12.8	9.2	0.0	-	22.0	-
PHF	0.919	0.821	0.000	-	0.922	0.700	0.892	0.000	-	0.902	0.819	0.850	0.000	-	0.867	0.950
Lights	260	115	0	-	375	69	130	0	-	199	94	68	0	-	162	736
% Lights	99.6	100.0	-	-	99.7	98.6	98.5	-	-	98.5	98.9	100.0	-	-	99.4	99.3
Mediums	1	0	0	-	1	0	1	0	-	1	0	0	0	-	0	2
% Mediums	0.4	0.0	-	-	0.3	0.0	0.8	-	-	0.5	0.0	0.0	-	-	0.0	0.3
Articulated Trucks	0	0	0	-	0	1	1	0	-	2	0	0	0	-	0	2
% Articulated Trucks	0.0	0.0	-	-	0.0	1.4	0.8	-	-	1.0	0.0	0.0	-	-	0.0	0.3
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	1	0	0	-	1	1
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	1.1	0.0	-	-	0.6	0.1
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	0	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.0	-	-

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States 87113
5053380988 jkruse@lee-eng.com

Count Name: NM312.01
Site Code:
Start Date: 08/25/2021



Turning Movement Peak Hour Data Plot (4:45 PM)

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States 87113
5053380988 jkruse@lee-eng.com

Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021

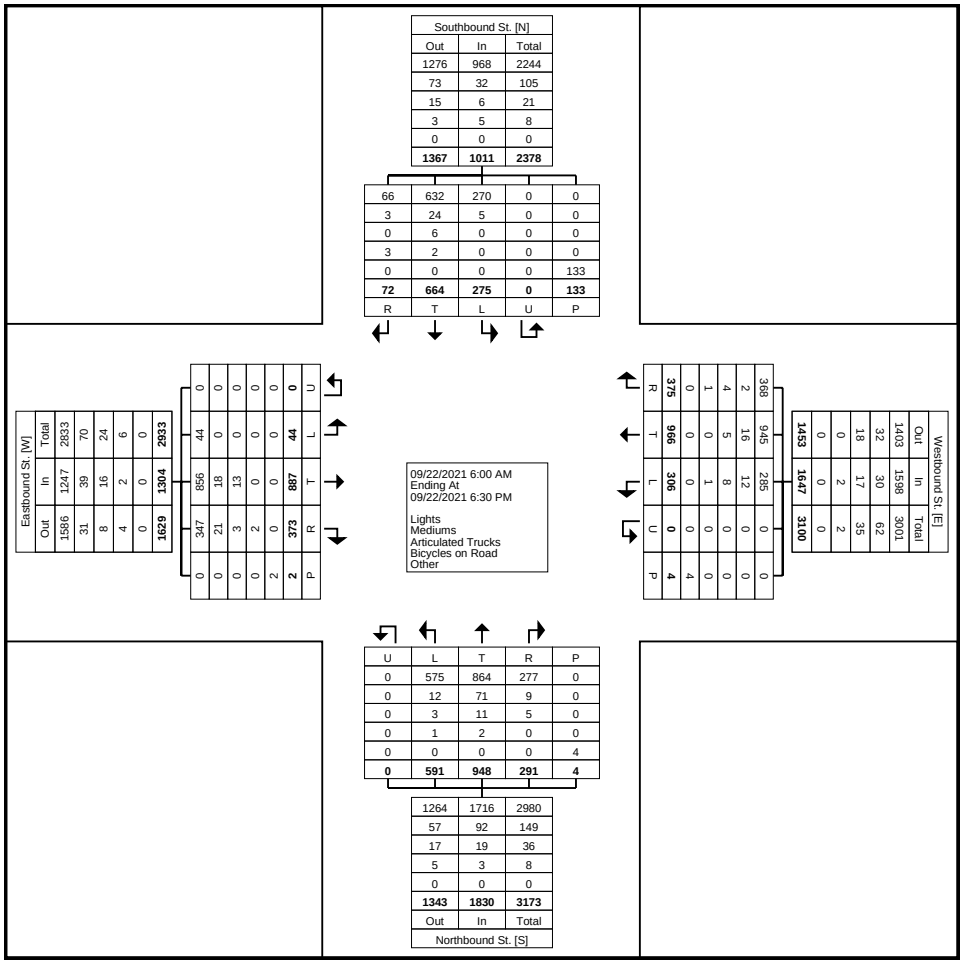
Turning Movement Data

Start Time	Southbound St. Southbound							Westbound St. Westbound							Northbound St. Northbound							Eastbound St. Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
6:00 AM	1	0	8	6	0	2	15	0	2	2	2	0	0	6	0	0	11	5	0	0	16	6	5	6	1	0	0	18	55
6:15 AM	1	0	9	4	0	2	14	3	1	16	9	0	0	29	0	0	8	13	0	0	21	6	8	11	0	0	0	25	89
6:30 AM	0	0	14	10	0	4	24	6	3	10	4	0	0	23	2	2	20	7	0	1	31	6	4	22	1	0	0	33	111
6:45 AM	0	0	23	10	0	5	33	7	3	10	6	0	2	26	5	2	18	8	0	0	33	8	7	27	1	0	0	43	135
Hourly Total	2	0	54	30	0	13	86	16	9	38	21	0	2	84	7	4	57	33	0	1	101	26	24	66	3	0	0	119	390
7:00 AM	2	2	20	13	0	3	37	4	6	16	4	0	0	30	8	4	16	4	0	2	32	9	6	43	0	0	0	58	157
7:15 AM	1	0	30	17	0	6	48	5	4	28	2	0	0	39	4	1	17	12	0	0	34	3	4	31	1	0	0	39	160
7:30 AM	2	2	34	15	0	3	53	11	7	29	14	0	0	61	10	4	24	12	0	0	50	20	4	37	1	0	0	62	226
7:45 AM	1	0	28	16	0	0	45	2	1	18	9	0	0	30	15	1	24	17	0	0	57	10	9	58	1	0	0	78	210
Hourly Total	6	4	112	61	0	12	183	22	18	91	29	0	0	160	37	10	81	45	0	2	173	42	23	169	3	0	0	237	753
8:00 AM	2	0	28	8	0	2	38	6	6	20	7	0	0	39	10	1	31	12	0	0	54	16	2	39	3	0	0	60	191
8:15 AM	1	0	20	9	0	4	30	5	1	12	8	0	0	26	9	0	12	13	0	0	34	10	2	25	2	0	0	39	129
8:30 AM	3	1	11	10	0	3	25	3	3	21	6	0	0	33	9	0	21	16	0	0	46	4	5	24	0	0	0	33	137
8:45 AM	1	1	23	10	0	4	35	6	0	16	8	0	0	30	7	2	17	17	0	0	43	10	4	26	1	0	0	41	149
Hourly Total	7	2	82	37	0	13	128	20	10	69	29	0	0	128	35	3	81	58	0	0	177	40	13	114	6	0	0	173	606
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	0	11	4	0	1	15	2	4	19	5	0	0	30	6	0	18	9	0	0	33	5	2	16	0	0	0	23	101
11:15 AM	1	0	12	5	0	4	18	12	2	22	11	0	0	47	3	0	19	8	0	1	30	5	4	11	0	0	0	20	115
11:30 AM	1	1	16	4	0	5	22	7	3	15	7	0	0	32	6	1	19	8	0	0	34	5	1	15	1	0	0	22	110
11:45 AM	1	1	9	5	0	1	16	7	2	15	9	0	0	33	13	1	23	11	0	0	48	6	1	19	0	0	0	26	123
Hourly Total	3	2	48	18	0	11	71	28	11	71	32	0	0	142	28	2	79	36	0	1	145	21	8	61	1	0	0	91	449
12:00 PM	0	0	24	3	0	2	27	3	1	20	9	0	0	33	7	2	18	8	0	0	35	5	4	17	2	0	0	28	123
12:15 PM	1	0	13	3	0	7	17	6	3	19	6	0	0	34	9	1	21	12	0	0	43	4	4	16	1	0	0	25	119
12:30 PM	4	0	19	9	0	3	32	7	3	15	10	0	0	35	5	3	23	13	0	0	44	2	5	19	0	0	0	26	137
12:45 PM	0	0	16	4	0	1	20	4	2	20	10	0	0	36	10	3	21	5	0	0	39	6	3	25	1	0	0	35	130
Hourly Total	5	0	72	19	0	13	96	20	9	74	35	0	0	138	31	9	83	38	0	0	161	17	16	77	4	0	0	114	509
1:00 PM	0	0	14	2	0	4	16	8	0	15	4	0	0	27	8	1	20	15	0	0	44	6	1	17	1	0	0	25	112
1:15 PM	3	1	22	5	0	5	31	1	5	16	7	0	0	29	12	1	28	10	0	0	51	9	4	25	1	0	1	39	150
1:30 PM	3	0	14	6	0	0	23	4	2	21	4	0	0	31	8	0	23	20	0	0	51	9	1	21	3	0	0	34	139
1:45 PM	1	1	22	3	0	1	27	7	1	15	9	0	0	32	4	0	20	15	0	0	39	5	1	22	3	0	0	31	129
Hourly Total	7	2	72	16	0	10	97	20	8	67	24	0	0	119	32	2	91	60	0	0	185	29	7	85	8	0	1	129	530
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:30 PM	3	1	22	12	0	0	38	13	2	41	12	0	0	68	10	2	50	23	0	0	85	10	2	29	0	0	0	41	232
3:45 PM	2	1	24	6	0	1	33	8	6	34	16	0	0	64	7	1	38	19	0	0	65	7	1	32	1	0	0	41	203
Hourly Total	5	2	46	18	0	1	71	21	8	75	28	0	0	132	17	3	88	42	0	0	150	17	3	61	1	0	0	82	435

4:00 PM	2	0	20	4	0	0	26	12	3	47	18	0	0	80	9	5	48	33	0	0	95	2	4	19	1	0	0	26	227
4:15 PM	5	0	15	14	0	4	34	7	2	38	11	0	0	58	10	1	36	25	0	0	72	9	0	28	4	0	0	41	205
4:30 PM	2	1	18	8	0	1	29	24	2	55	14	0	0	95	4	2	42	37	0	0	85	7	3	26	2	0	0	38	247
4:45 PM	1	0	20	6	0	5	27	18	2	52	10	0	2	82	3	4	52	30	0	0	89	7	1	27	2	0	0	37	235
Hourly Total	10	1	73	32	0	10	116	61	9	192	53	0	2	315	26	12	178	125	0	0	341	25	8	100	9	0	0	142	914
5:00 PM	2	2	30	10	0	10	44	23	2	56	14	0	0	95	7	1	56	46	0	0	110	7	4	17	2	0	0	30	279
5:15 PM	1	1	17	3	0	11	22	20	1	71	15	0	0	107	6	0	43	30	0	0	79	5	1	31	0	0	0	37	245
5:30 PM	3	0	18	7	0	7	28	13	2	53	11	0	0	79	7	2	47	27	0	0	83	5	5	39	3	0	0	52	242
5:45 PM	2	1	15	12	0	6	30	6	4	51	4	0	0	65	1	3	33	23	0	0	60	4	5	14	1	0	1	24	179
Hourly Total	8	4	80	32	0	34	124	62	9	231	44	0	0	346	21	6	179	126	0	0	332	21	15	101	6	0	1	143	945
6:00 PM	1	1	15	7	0	6	24	3	0	39	9	0	0	51	3	0	20	20	0	0	43	4	3	19	3	0	0	29	147
6:15 PM	0	0	10	5	0	10	15	7	4	19	2	0	0	32	2	1	11	8	0	0	22	10	1	34	0	0	0	45	114
Grand Total	54	18	664	275	0	133	1011	280	95	966	306	0	4	1647	239	52	948	591	0	4	1830	252	121	887	44	0	2	1304	5792
Approach %	5.3	1.8	65.7	27.2	0.0	-	-	17.0	5.8	58.7	18.6	0.0	-	-	13.1	2.8	51.8	32.3	0.0	-	-	19.3	9.3	68.0	3.4	0.0	-	-	-
Total %	0.9	0.3	11.5	4.7	0.0	-	17.5	4.8	1.6	16.7	5.3	0.0	-	28.4	4.1	0.9	16.4	10.2	0.0	-	31.6	4.4	2.1	15.3	0.8	0.0	-	22.5	-
Lights	50	16	632	270	0	-	968	274	94	945	285	0	-	1598	227	50	864	575	0	-	1716	232	115	856	44	0	-	1247	5529
% Lights	92.6	88.9	95.2	98.2	-	-	95.7	97.9	98.9	97.8	93.1	-	-	97.0	95.0	96.2	91.1	97.3	-	-	93.8	92.1	95.0	96.5	100.0	-	-	95.6	95.5
Mediums	3	0	24	5	0	-	32	2	0	16	12	0	-	30	8	1	71	12	0	-	92	16	5	18	0	0	-	39	193
% Mediums	5.6	0.0	3.6	1.8	-	-	3.2	0.7	0.0	1.7	3.9	-	-	1.8	3.3	1.9	7.5	2.0	-	-	5.0	6.3	4.1	2.0	0.0	-	-	3.0	3.3
Articulated Trucks	0	0	6	0	0	-	6	4	0	5	8	0	-	17	4	1	11	3	0	-	19	3	0	13	0	0	-	16	58
% Articulated Trucks	0.0	0.0	0.9	0.0	-	-	0.6	1.4	0.0	0.5	2.6	-	-	1.0	1.7	1.9	1.2	0.5	-	-	1.0	1.2	0.0	1.5	0.0	-	-	1.2	1.0
Bicycles on Road	1	2	2	0	0	-	5	0	1	0	1	0	-	2	0	0	2	1	0	-	3	1	1	0	0	0	-	2	12
% Bicycles on Road	1.9	11.1	0.3	0.0	-	-	0.5	0.0	1.1	0.0	0.3	-	-	0.1	0.0	0.0	0.2	0.2	-	-	0.2	0.4	0.8	0.0	0.0	-	-	0.2	0.2
Bicycles on Crosswalk	-	-	-	-	-	129	-	-	-	-	-	-	2	-	-	-	-	-	-	0	-	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	-	97.0	-	-	-	-	-	-	50.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	100.0	-	-
Pedestrians	-	-	-	-	-	4	-	-	-	-	-	-	2	-	-	-	-	-	-	4	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	3.0	-	-	-	-	-	-	50.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	0.0	-	-

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States 87113
5053380988 jkruse@lee-eng.com

Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021



Turning Movement Data Plot

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States 87113
5053380988 jkruse@lee-eng.com

Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021

Turning Movement Peak Hour Data (7:15 AM)

Start Time	Southbound St. Southbound							Westbound St. Westbound							Northbound St. Northbound							Eastbound St. Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:15 AM	1	0	30	17	0	6	48	5	4	28	2	0	0	39	4	1	17	12	0	0	34	3	4	31	1	0	0	39	160
7:30 AM	2	2	34	15	0	3	53	11	7	29	14	0	0	61	10	4	24	12	0	0	50	20	4	37	1	0	0	62	226
7:45 AM	1	0	28	16	0	0	45	2	1	18	9	0	0	30	15	1	24	17	0	0	57	10	9	58	1	0	0	78	210
8:00 AM	2	0	28	8	0	2	38	6	6	20	7	0	0	39	10	1	31	12	0	0	54	16	2	39	3	0	0	60	191
Total	6	2	120	56	0	11	184	24	18	95	32	0	0	169	39	7	96	53	0	0	195	49	19	165	6	0	0	239	787
Approach %	3.3	1.1	65.2	30.4	0.0	-	-	14.2	10.7	56.2	18.9	0.0	-	-	20.0	3.6	49.2	27.2	0.0	-	-	20.5	7.9	69.0	2.5	0.0	-	-	-
Total %	0.8	0.3	15.2	7.1	0.0	-	23.4	3.0	2.3	12.1	4.1	0.0	-	21.5	5.0	0.9	12.2	6.7	0.0	-	24.8	6.2	2.4	21.0	0.8	0.0	-	30.4	-
PHF	0.750	0.250	0.882	0.824	0.000	-	0.868	0.545	0.643	0.819	0.571	0.000	-	0.693	0.650	0.438	0.774	0.779	0.000	-	0.855	0.613	0.528	0.711	0.500	0.000	-	0.766	0.871
Lights	5	2	116	55	0	-	178	22	18	89	28	0	-	157	37	7	84	52	0	-	180	45	19	162	6	0	-	232	747
% Lights	83.3	100.0	96.7	98.2	-	-	96.7	91.7	100.0	93.7	87.5	-	-	92.9	94.9	100.0	87.5	98.1	-	-	92.3	91.8	100.0	98.2	100.0	-	-	97.1	94.9
Mediums	1	0	3	1	0	-	5	0	0	4	3	0	-	7	0	0	9	1	0	-	10	4	0	3	0	0	-	7	29
% Mediums	16.7	0.0	2.5	1.8	-	-	2.7	0.0	0.0	4.2	9.4	-	-	4.1	0.0	0.0	9.4	1.9	-	-	5.1	8.2	0.0	1.8	0.0	-	-	2.9	3.7
Articulated Trucks	0	0	0	0	0	-	0	2	0	2	1	0	-	5	2	0	3	0	0	-	5	0	0	0	0	0	-	0	10
% Articulated Trucks	0.0	0.0	0.0	0.0	-	-	0.0	8.3	0.0	2.1	3.1	-	-	3.0	5.1	0.0	3.1	0.0	-	-	2.6	0.0	0.0	0.0	0.0	-	-	0.0	1.3
Bicycles on Road	0	0	1	0	0	-	1	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	0.8	0.0	-	-	0.5	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	-	11	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Lee Engineering, LLC
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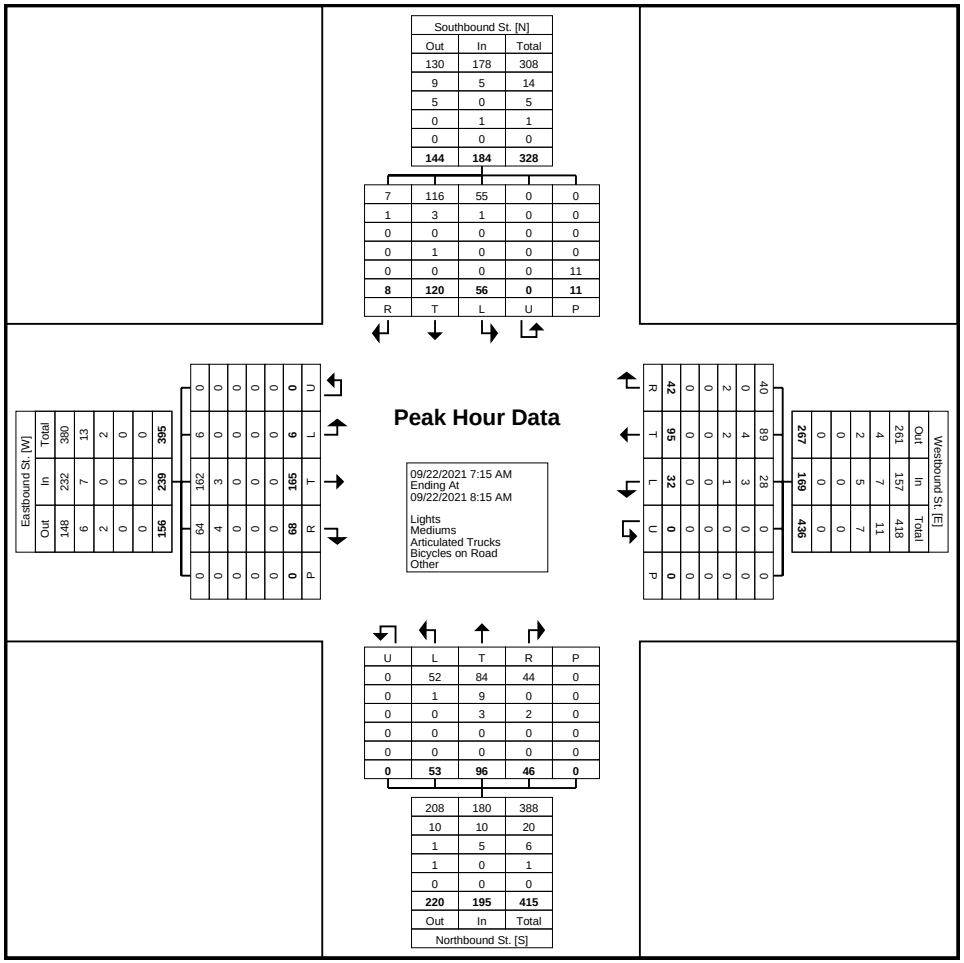
5053380988 jkruse@lee-eng.com

Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021



Turning Movement Peak Hour Data Plot (7:15 AM)

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States 87113
5053380988 jkruse@lee-eng.com

Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021

Turning Movement Peak Hour Data (11:00 AM)

Start Time	Southbound St. Southbound							Westbound St. Westbound							Northbound St. Northbound							Eastbound St. Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	0	0	11	4	0	1	15	2	4	19	5	0	0	30	6	0	18	9	0	0	33	5	2	16	0	0	0	23	101
11:15 AM	1	0	12	5	0	4	18	12	2	22	11	0	0	47	3	0	19	8	0	1	30	5	4	11	0	0	0	20	115
11:30 AM	1	1	16	4	0	5	22	7	3	15	7	0	0	32	6	1	19	8	0	0	34	5	1	15	1	0	0	22	110
11:45 AM	1	1	9	5	0	1	16	7	2	15	9	0	0	33	13	1	23	11	0	0	48	6	1	19	0	0	0	26	123
Total	3	2	48	18	0	11	71	28	11	71	32	0	0	142	28	2	79	36	0	1	145	21	8	61	1	0	0	91	449
Approach %	4.2	2.8	67.6	25.4	0.0	-	-	19.7	7.7	50.0	22.5	0.0	-	-	19.3	1.4	54.5	24.8	0.0	-	-	23.1	8.8	67.0	1.1	0.0	-	-	-
Total %	0.7	0.4	10.7	4.0	0.0	-	15.8	6.2	2.4	15.8	7.1	0.0	-	31.6	6.2	0.4	17.6	8.0	0.0	-	32.3	4.7	1.8	13.6	0.2	0.0	-	20.3	-
PHF	0.750	0.500	0.750	0.900	0.000	-	0.807	0.583	0.688	0.807	0.727	0.000	-	0.755	0.538	0.500	0.859	0.818	0.000	-	0.755	0.875	0.500	0.803	0.250	0.000	-	0.875	0.913
Lights	3	2	45	18	0	-	68	28	11	70	29	0	-	138	24	2	69	34	0	-	129	18	7	61	1	0	-	87	422
% Lights	100.0	100.0	93.8	100.0	-	-	95.8	100.0	100.0	98.6	90.6	-	-	97.2	85.7	100.0	87.3	94.4	-	-	89.0	85.7	87.5	100.0	100.0	-	-	95.6	94.0
Mediums	0	0	3	0	0	-	3	0	0	1	1	0	-	2	2	0	9	1	0	-	12	2	1	0	0	0	-	3	20
% Mediums	0.0	0.0	6.3	0.0	-	-	4.2	0.0	0.0	1.4	3.1	-	-	1.4	7.1	0.0	11.4	2.8	-	-	8.3	9.5	12.5	0.0	0.0	-	-	3.3	4.5
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	1	0	-	1	2	0	1	1	0	-	4	0	0	0	0	0	-	0	5
% Articulated Trucks	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	3.1	-	-	0.7	7.1	0.0	1.3	2.8	-	-	2.8	0.0	0.0	0.0	0.0	-	-	0.0	1.1
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	1	0	-	1	0	0	0	0	0	-	0	1	0	0	0	0	-	1	2
% Bicycles on Road	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	3.1	-	-	0.7	0.0	0.0	0.0	0.0	-	-	0.0	4.8	0.0	0.0	0.0	-	-	1.1	0.4
Bicycles on Crosswalk	-	-	-	-	-	11	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-

Lee Engineering, LLC
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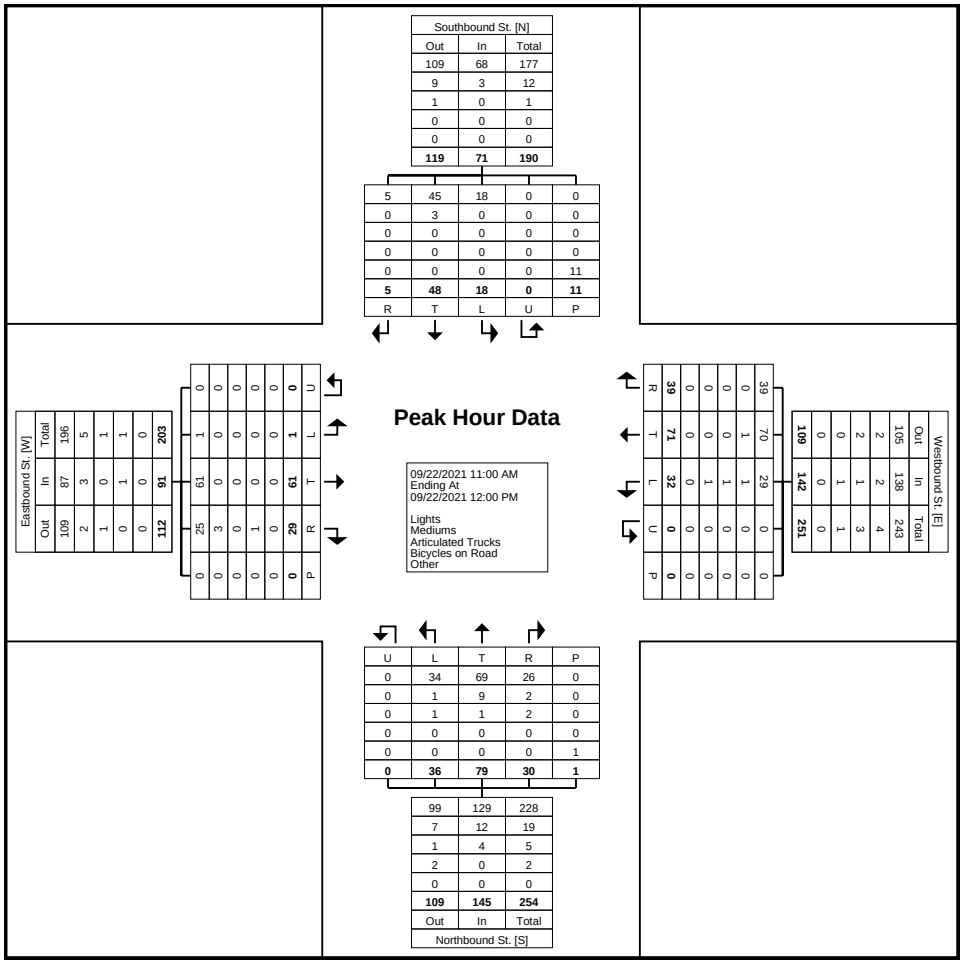
5053380988 jkruse@lee-eng.com

Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021



Turning Movement Peak Hour Data Plot (11:00 AM)

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5053380988 jkruse@lee-eng.com

Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021

Turning Movement Peak Hour Data (12:45 PM)

Start Time	Southbound St. Southbound							Westbound St. Westbound							Northbound St. Northbound							Eastbound St. Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:45 PM	0	0	16	4	0	1	20	4	2	20	10	0	0	36	10	3	21	5	0	0	39	6	3	25	1	0	0	35	130
1:00 PM	0	0	14	2	0	4	16	8	0	15	4	0	0	27	8	1	20	15	0	0	44	6	1	17	1	0	0	25	112
1:15 PM	3	1	22	5	0	5	31	1	5	16	7	0	0	29	12	1	28	10	0	0	51	9	4	25	1	0	1	39	150
1:30 PM	3	0	14	6	0	0	23	4	2	21	4	0	0	31	8	0	23	20	0	0	51	9	1	21	3	0	0	34	139
Total	6	1	66	17	0	10	90	17	9	72	25	0	0	123	38	5	92	50	0	0	185	30	9	88	6	0	1	133	531
Approach %	6.7	1.1	73.3	18.9	0.0	-	-	13.8	7.3	58.5	20.3	0.0	-	-	20.5	2.7	49.7	27.0	0.0	-	-	22.6	6.8	66.2	4.5	0.0	-	-	-
Total %	1.1	0.2	12.4	3.2	0.0	-	16.9	3.2	1.7	13.6	4.7	0.0	-	23.2	7.2	0.9	17.3	9.4	0.0	-	34.8	5.6	1.7	16.6	1.1	0.0	-	25.0	-
PHF	0.500	0.250	0.750	0.708	0.000	-	0.726	0.531	0.450	0.857	0.625	0.000	-	0.854	0.792	0.417	0.821	0.625	0.000	-	0.907	0.833	0.563	0.880	0.500	0.000	-	0.853	0.885
Lights	6	1	58	17	0	-	82	17	8	69	22	0	-	116	36	4	81	46	0	-	167	27	8	82	6	0	-	123	488
% Lights	100.0	100.0	87.9	100.0	-	-	91.1	100.0	88.9	95.8	88.0	-	-	94.3	94.7	80.0	88.0	92.0	-	-	90.3	90.0	88.9	93.2	100.0	-	-	92.5	91.9
Mediums	0	0	6	0	0	-	6	0	0	2	1	0	-	3	2	1	9	2	0	-	14	2	1	2	0	0	-	5	28
% Mediums	0.0	0.0	9.1	0.0	-	-	6.7	0.0	0.0	2.8	4.0	-	-	2.4	5.3	20.0	9.8	4.0	-	-	7.6	6.7	11.1	2.3	0.0	-	-	3.8	5.3
Articulated Trucks	0	0	1	0	0	-	1	0	0	1	2	0	-	3	0	0	2	1	0	-	3	1	0	4	0	0	-	5	12
% Articulated Trucks	0.0	0.0	1.5	0.0	-	-	1.1	0.0	0.0	1.4	8.0	-	-	2.4	0.0	0.0	2.2	2.0	-	-	1.6	3.3	0.0	4.5	0.0	-	-	3.8	2.3
Bicycles on Road	0	0	1	0	0	-	1	0	1	0	0	0	-	1	0	0	0	1	0	-	1	0	0	0	0	0	-	0	3
% Bicycles on Road	0.0	0.0	1.5	0.0	-	-	1.1	0.0	11.1	0.0	0.0	-	-	0.8	0.0	0.0	0.0	2.0	-	-	0.5	0.0	0.0	0.0	0.0	-	-	0.0	0.6
Bicycles on Crosswalk	-	-	-	-	-	9	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	-	90.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-

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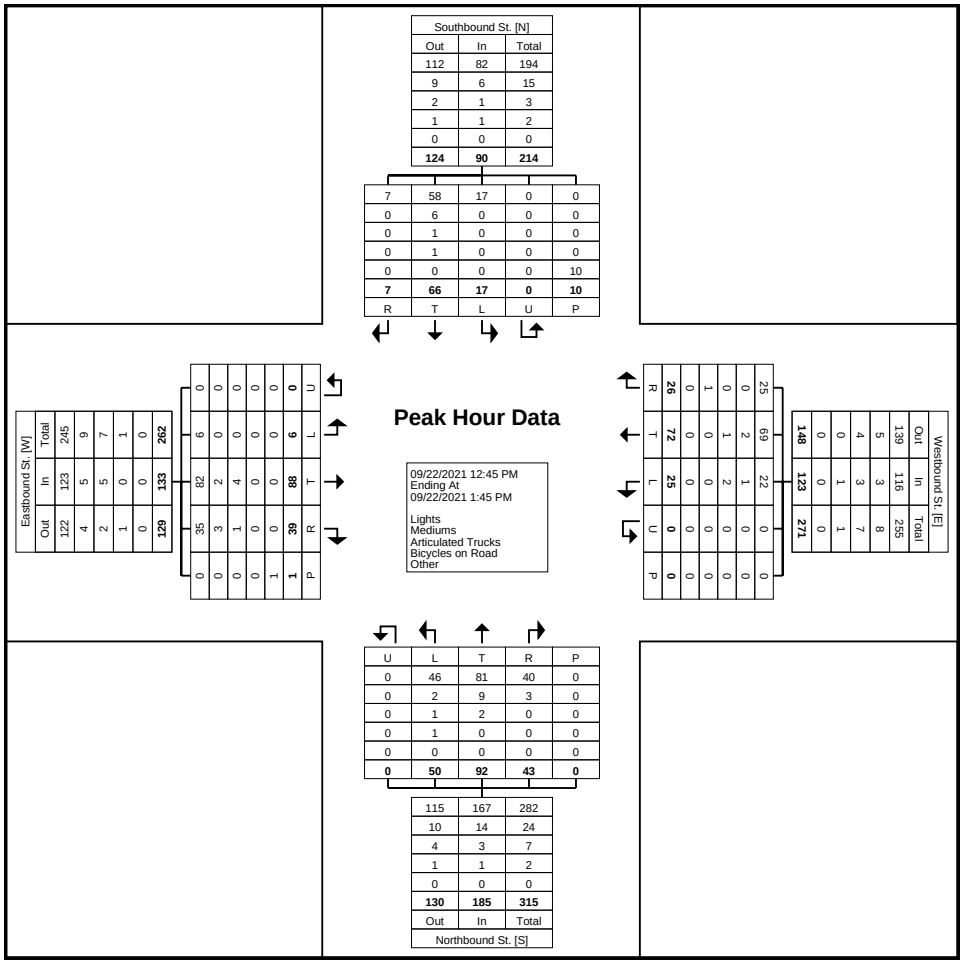

Turning Movement Peak Hour Data Plot (12:45 PM)

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Albuquerque, New Mexico, United States 87113
5053380988 jkruse@lee-eng.com

Count Name: NM 312.02
Site Code:
Start Date: 09/22/2021

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Southbound St. Southbound							Westbound St. Westbound							Northbound St. Northbound							Eastbound St. Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:30 PM	2	1	18	8	0	1	29	24	2	55	14	0	0	95	4	2	42	37	0	0	85	7	3	26	2	0	0	38	247
4:45 PM	1	0	20	6	0	5	27	18	2	52	10	0	2	82	3	4	52	30	0	0	89	7	1	27	2	0	0	37	235
5:00 PM	2	2	30	10	0	10	44	23	2	56	14	0	0	95	7	1	56	46	0	0	110	7	4	17	2	0	0	30	279
5:15 PM	1	1	17	3	0	11	22	20	1	71	15	0	0	107	6	0	43	30	0	0	79	5	1	31	0	0	0	37	245
Total	6	4	85	27	0	27	122	85	7	234	53	0	2	379	20	7	193	143	0	0	363	26	9	101	6	0	0	142	1006
Approach %	4.9	3.3	69.7	22.1	0.0	-	-	22.4	1.8	61.7	14.0	0.0	-	-	5.5	1.9	53.2	39.4	0.0	-	-	18.3	6.3	71.1	4.2	0.0	-	-	-
Total %	0.6	0.4	8.4	2.7	0.0	-	12.1	8.4	0.7	23.3	5.3	0.0	-	37.7	2.0	0.7	19.2	14.2	0.0	-	36.1	2.6	0.9	10.0	0.6	0.0	-	14.1	-
PHF	0.750	0.500	0.708	0.675	0.000	-	0.693	0.885	0.875	0.824	0.883	0.000	-	0.886	0.714	0.438	0.862	0.777	0.000	-	0.825	0.929	0.563	0.815	0.750	0.000	-	0.934	0.901
Lights	5	3	84	27	0	-	119	85	7	233	51	0	-	376	18	7	191	142	0	-	358	25	9	94	6	0	-	134	987
% Lights	83.3	75.0	98.8	100.0	-	-	97.5	100.0	100.0	99.6	96.2	-	-	99.2	90.0	100.0	99.0	99.3	-	-	98.6	96.2	100.0	93.1	100.0	-	-	94.4	98.1
Mediums	1	0	0	0	0	-	1	0	0	1	2	0	-	3	2	0	2	1	0	-	5	1	0	5	0	0	-	6	15
% Mediums	16.7	0.0	0.0	0.0	-	-	0.8	0.0	0.0	0.4	3.8	-	-	0.8	10.0	0.0	1.0	0.7	-	-	1.4	3.8	0.0	5.0	0.0	-	-	4.2	1.5
Articulated Trucks	0	0	1	0	0	-	1	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	2	0	0	-	2	3
% Articulated Trucks	0.0	0.0	1.2	0.0	-	-	0.8	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	2.0	0.0	-	-	1.4	0.3
Bicycles on Road	0	1	0	0	0	-	1	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	1
% Bicycles on Road	0.0	25.0	0.0	0.0	-	-	0.8	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	-	27	-	-	-	-	-	-	2	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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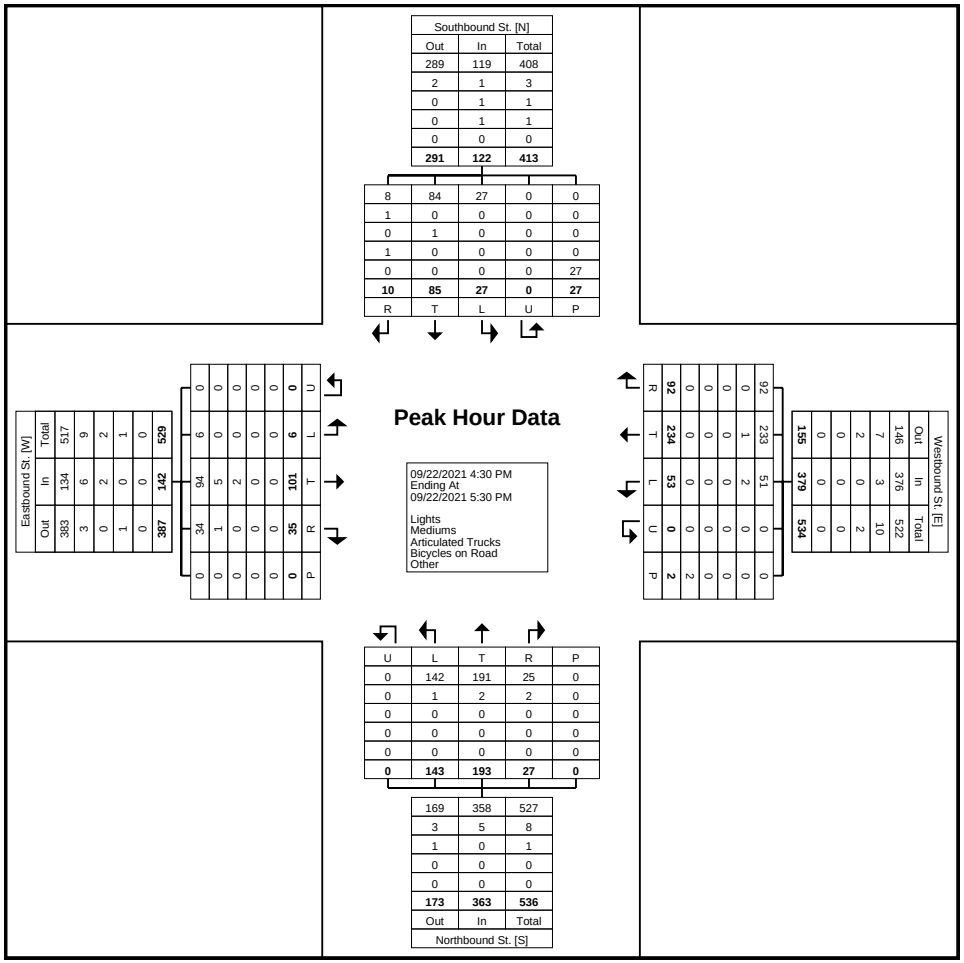


Turning Movement Peak Hour Data Plot (4:30 PM)

Appendix C:

Trip Generation Manual Excerpts

Warehousing
(150)

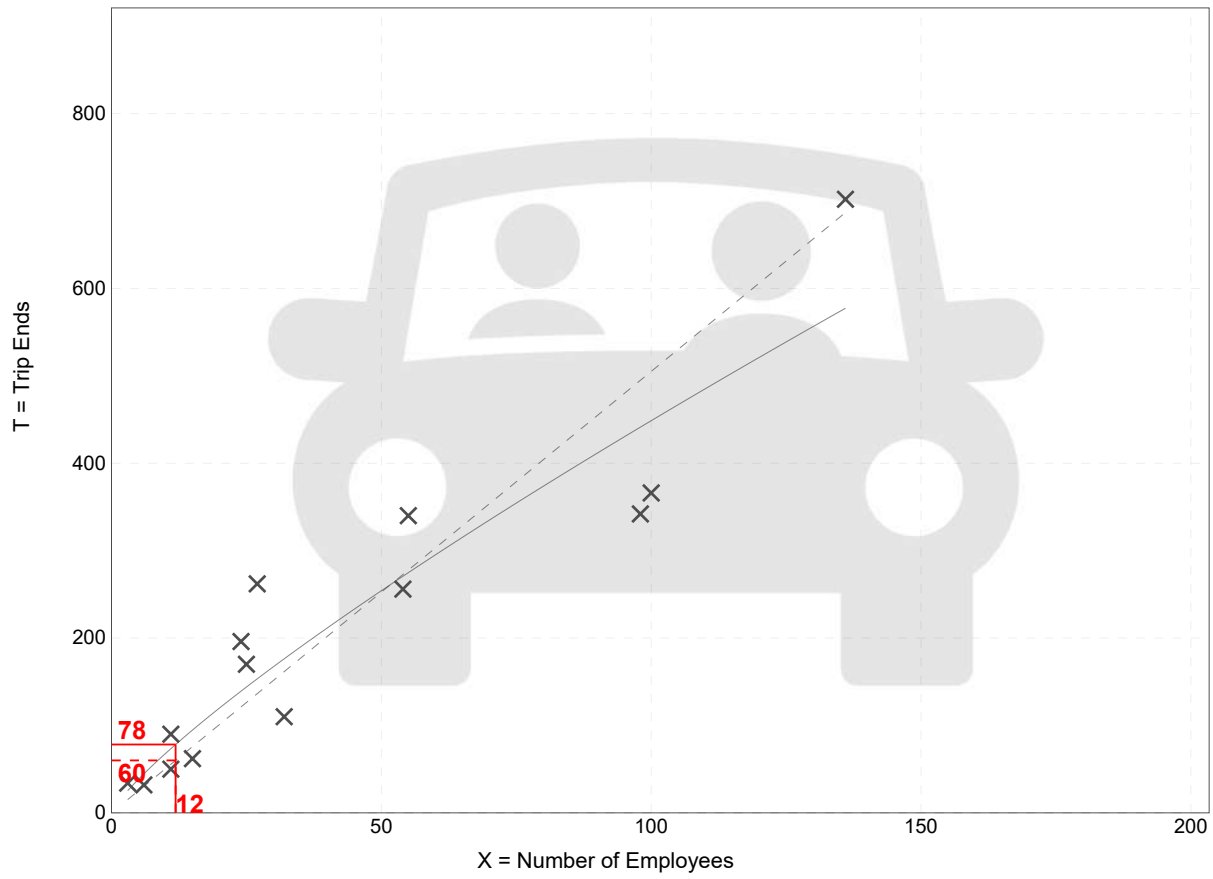
Vehicle Trip Ends vs: **Employees**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 14
Avg. Num. of Employees: 43
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
5.05	3.44 - 11.33	1.77

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.82 Ln(X) + 2.33

R^2= 0.88

Warehousing
(150)

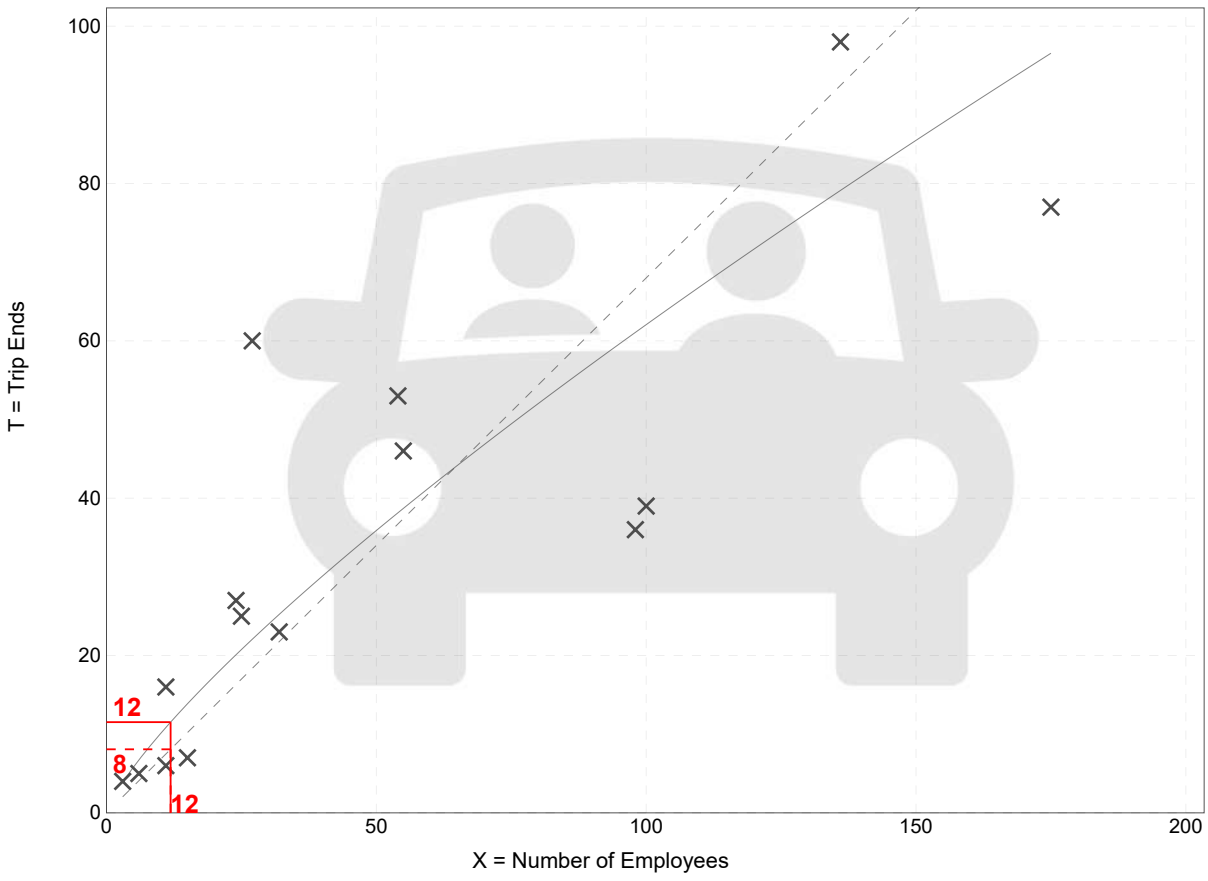
Vehicle Trip Ends vs: **Employees**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 15
Avg. Num. of Employees: 51
Directional Distribution: 28% entering, 72% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.68	0.37 - 2.22	0.40

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.79 Ln(X) + 0.49

R^2= 0.80

Land Use	110 General Light Industrial		140 Manufacturing		150 Warehousing		151 Mini-Warehouse				
Setting	General Urban/ Suburban		General Urban/ Suburban		General Urban/ Suburban		General Urban/Suburban				
Time Period	Weekday		Weekday		Weekday		Weekday		Saturday		
Trip Type	Vehicle		Vehicle		Vehicle		Vehicle		Vehicle		
# Data Sites	30		17		13		10		1		
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
12:00	0.0	9.8	1.3	7.5	0.3	8.6	0.0	8.6	0.0	11.5	
12:15	0.0	8.9	1.0	6.5	0.6	7.9	0.0	9.3	0.0	10.3	
12:30	0.0	8.9	1.1	6.5	0.5	7.4	0.0	10.7	0.0	12.6	
12:45	0.0	7.8	1.0	6.9	0.5	6.8	0.0	11.7	0.0	10.3	
1:00	0.0	7.2	0.9	6.9	0.5	6.6	0.0	12.2	0.0	9.2	
1:15	0.1	6.1	0.4	6.9	0.2	6.4	0.0	12.8	0.0	6.9	
1:30	0.1	5.7	0.2	6.6	0.3	6.7	0.0	10.6	0.0	3.4	
1:45	0.0	6.9	0.5	6.4	0.4	7.4	0.0	10.7	0.0	4.6	
2:00	0.0	8.1	0.7	6.0	0.4	7.0	0.0	12.2	0.0	6.9	
2:15	0.0	8.2	1.0	7.7	0.5	8.3	0.0	8.9	0.0	10.3	
2:30	0.0	9.2	0.9	10.2	0.6	8.4	0.0	9.4	0.0	10.3	
2:45	0.0	9.3	0.7	13.4	0.5	9.2	0.0	7.8	0.0	10.3	
3:00	0.0	8.8	0.6	15.1	0.7	10.0	0.0	5.7	0.0	6.9	
3:15	0.1	9.0	0.5	14.8	0.9	8.8	0.0	7.3	0.0	3.4	
3:30	0.2	7.8	0.6	12.7	1.1	8.6	0.0	7.6	0.0	6.9	
3:45	0.3	7.0	0.7	9.4	1.3	8.1	0.0	7.3	0.0	6.9	
4:00	0.3	7.4	0.8	7.6	1.4	7.8	0.0	8.8	0.0	9.2	
4:15	0.2	9.9	0.8	7.6	1.5	9.0	0.0	11.4	0.0	9.2	
4:30	0.3	10.3	0.9	6.9	1.6	8.8	0.6	10.4	0.0	12.6	
4:45	0.8	9.4	1.1	6.0	2.4	7.8	0.6	10.1	0.0	12.6	
5:00	2.4	7.7	1.6	6.1	3.1	6.6	0.6	9.6	0.0	11.5	
5:15	3.3	4.5	3.6	4.0	3.8	5.0	0.6	5.8	0.0	13.8	
5:30	3.6	3.3	5.2	3.4	4.2	4.1	0.0	6.8	0.0	9.2	
5:45	4.1	2.4	7.8	2.7	4.8	3.1	0.0	7.1	0.0	10.3	
6:00	5.3	1.7	9.7	1.8	6.3	2.7	0.0	5.8	0.0	13.8	
6:15	7.2	0.9	9.8	1.6	6.9	1.7	0.0	4.7	0.0	11.5	
6:30	8.0	0.4	10.6	1.7	7.4	1.2	0.0	2.8	0.0	9.2	
6:45	9.4	0.3	9.5	1.5	7.4	1.2	1.0	0.8	0.0	5.7	
7:00	10.4	0.4	8.5	1.4	7.3	0.9	1.9	0.6	0.0	0.0	
7:15	11.0	0.4	7.5	1.2	7.4	0.7	4.2	1.0	0.0	0.0	
7:30	11.0	0.4	6.1	1.0	7.7	0.8	7.1	1.3	0.0	0.0	
7:45	9.9	0.3	5.2	1.2	7.1	0.6	9.1	1.3	0.0	0.0	
8:00	7.4	0.1	4.2	1.3	6.0	0.6	8.8	1.3	0.0	0.0	
8:15	5.5	0.0	3.6	1.2	5.3	0.7	7.8	0.6	0.0	0.0	
8:30	6.2	0.0	3.2	1.2	4.8	0.6	6.5	0.0	0.0	0.0	
8:45	6.4	0.0	3.2	1.2	6.3	0.7	4.7	0.0	3.4	0.0	
9:00	7.1	0.4	3.2	1.6	6.5	0.7	5.5	0.0	4.6	0.0	
9:15	7.5	0.4	3.4	2.1	7.5	0.7	5.4	0.0	4.6	0.0	
9:30	7.1	0.4	3.3	2.3	7.9	0.5	5.0	0.0	4.6	0.0	
9:45	7.7	0.4	3.2	2.4	7.0	0.7	7.3	0.0	1.1	0.0	
10:00	7.4	0.0	3.0	2.1	6.5	0.8	8.0	0.0	5.7	0.0	
10:15	7.2	0.0	3.3	2.0	6.6	1.1	11.9	0.0	9.2	0.0	
10:30	7.3	0.0	3.8	2.0	6.8	1.2	11.9	0.0	12.6	0.0	
10:45	7.2	0.0	4.3	2.0	6.9	1.0	11.4	0.0	25.3	0.0	
11:00	7.9	0.0	5.5	2.5	7.6	1.0	10.4	0.0	20.7	0.0	
11:15	9.7	0.0	6.7	2.8	8.0	0.6	8.3	0.0	20.7	0.0	
11:30	9.8	0.0	7.1	2.5	8.4	0.6	9.3	0.0	18.4	0.0	
11:45	10.3	0.0	7.6	2.2	8.3	0.5	9.1	0.0	9.2	0.0	

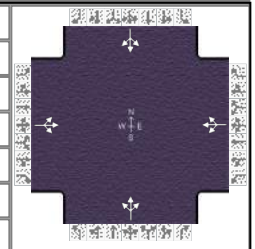
Percent of Daily Traffic During the 60-Minute Period Beginning at Displayed Time

Appendix D:

HCS Software LOS & Capacity Output Sheets

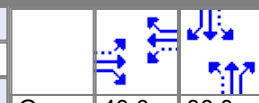
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	0.250
Analyst		Analysis Date	Oct 19, 2021	Area Type	Other
Jurisdiction	CABQ	Time Period	Existing Mid-day	PHF	0.93
Urban Street	Pueblo Rd	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Pueblo Rd & Edith Blvd	File Name	Existing Mid-day.xus		
Project Description					

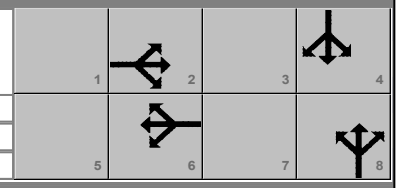


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	4	77	33	35	74	29	38	83	40	19	72	5

Signal Information			
Cycle, s	86.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	40.0	36.0	0.0	0.0	0.0	0.0	
Yellow	4.0	4.0	0.0	0.0	0.0	0.0	
Red	1.0	1.0	0.0	0.0	0.0	0.0	



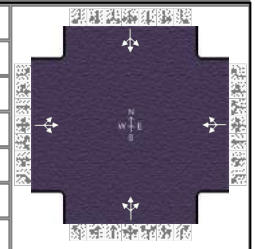
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		45.0		45.0		41.0		41.0
Change Period, ($Y+R_c$), s		5.0		5.0		5.0		5.0
Max Allow Headway (*MAH*), s		3.2		3.2		3.1		3.1
Queue Clearance Time (g_s), s		5.3		6.1		7.3		4.9
Green Extension Time (g_e), s		0.5		0.5		0.5		0.5
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h		123			148			173			103	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1798			1670			1689			1754	
Queue Service Time (g_s), s		0.0			0.0			0.0			0.0	
Cycle Queue Clearance Time (g_c), s		3.3			4.1			5.3			2.9	
Green Ratio (*g/C*)		0.47			0.47			0.42			0.42	
Capacity (*c*), veh/h		880			829			759			785	
Volume-to-Capacity Ratio (*X*)		0.139			0.179			0.228			0.132	
Back of Queue (*Q*), ft/ln (95 th percentile)		60.8			75			99.3			56.3	
Back of Queue (*Q*), veh/ln (95 th percentile)		2.4			3.0			4.0			2.3	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		13.2			13.4			16.1			15.4	
Incremental Delay (d_2), s/veh		0.3			0.5			0.7			0.3	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		13.5			13.9			16.8			15.7	
Level of Service (LOS)		B			B			B			B	
Approach Delay, s/veh / LOS	13.5		B	13.9		B	16.8		B	15.7		B
Intersection Delay, s/veh / LOS	15.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.67	B	1.68	B	1.68	B
Bicycle LOS Score / LOS	0.69	A	0.73	A	0.77	A	0.66	A

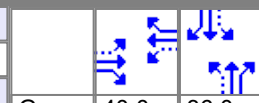
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	0.250
Analyst		Analysis Date	Oct 19, 2021	Area Type	Other
Jurisdiction	CABQ	Time Period	Existing PM	PHF	0.90
Urban Street	Pueblo Rd	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Pueblo Rd & Edith Blvd	File Name	Existing PM.xus		
Project Description					

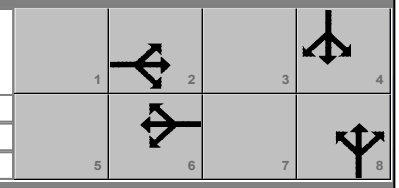


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	7	114	35	50	232	81	133	198	30	26	85	10

Signal Information			
Cycle, s	86.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	40.0	36.0	0.0	0.0	0.0	0.0	
Yellow	4.0	4.0	0.0	0.0	0.0	0.0	
Red	1.0	1.0	0.0	0.0	0.0	0.0	



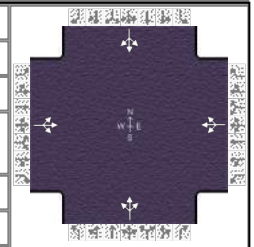
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		45.0		45.0		41.0		41.0
Change Period, ($Y+R_c$), s		5.0		5.0		5.0		5.0
Max Allow Headway (*MAH*), s		3.2		3.2		3.2		3.2
Queue Clearance Time (g_s), s		6.8		15.1		17.9		5.9
Green Extension Time (g_e), s		1.2		1.1		1.0		1.1
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h		173			403			401			134	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1804			1742			1633			1682	
Queue Service Time (g_s), s		0.0			1.3			12.0			0.0	
Cycle Queue Clearance Time (g_c), s		4.8			13.1			15.9			3.9	
Green Ratio (*g/C*)		0.47			0.47			0.42			0.42	
Capacity (*c*), veh/h		883			858			741			755	
Volume-to-Capacity Ratio (*X*)		0.196			0.470			0.541			0.178	
Back of Queue (*Q*), ft/ln (95 th percentile)		88.7			231.5			258.9			75.3	
Back of Queue (*Q*), veh/ln (95 th percentile)		3.5			9.3			10.4			3.0	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		13.6			15.8			19.0			15.7	
Incremental Delay (d_2), s/veh		0.5			1.8			2.8			0.5	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		14.1			17.6			21.8			16.2	
Level of Service (LOS)		B			B			C			B	
Approach Delay, s/veh / LOS	14.1	B		17.6	B		21.8	C		16.2	B	
Intersection Delay, s/veh / LOS	18.4						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.67	B	1.68	B	1.68	B
Bicycle LOS Score / LOS	0.77	A	1.15	A	1.15	A	0.71	A

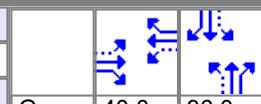
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	0.250
Analyst		Analysis Date	Oct 19, 2021	Area Type	Other
Jurisdiction	CABQ	Time Period	Background Mid-day	PHF	0.93
Urban Street	Pueblo Rd	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Pueblo Rd & Edith Blvd	File Name	Background Mid-day.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	5	78	34	36	75	30	39	84	41	20	73	6

Signal Information			
Cycle, s	86.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	40.0	36.0	0.0	0.0	0.0	0.0	1	2	3	4		
Yellow	4.0	4.0	0.0	0.0	0.0	0.0						
Red	1.0	1.0	0.0	0.0	0.0	0.0	5	6	7	8		

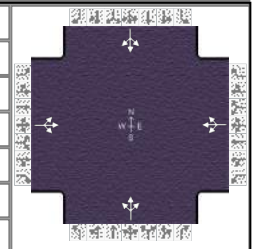
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		45.0		45.0		41.0		41.0
Change Period, ($Y+R_c$), s		5.0		5.0		5.0		5.0
Max Allow Headway (*MAH*), s		3.2		3.2		3.1		3.1
Queue Clearance Time (g_s), s		5.4		6.2		7.4		5.0
Green Extension Time (g_e), s		0.5		0.5		0.5		0.5
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h		126			152			176			106	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1794			1667			1686			1748	
Queue Service Time (g_s), s		0.0			0.0			0.0			0.0	
Cycle Queue Clearance Time (g_c), s		3.4			4.2			5.4			3.0	
Green Ratio (*g/C*)		0.47			0.47			0.42			0.42	
Capacity (*c*), veh/h		878			828			758			782	
Volume-to-Capacity Ratio (*X*)		0.143			0.183			0.233			0.136	
Back of Queue (*Q*), ft/ln (95 th percentile)		62.6			77.1			101.4			58.4	
Back of Queue (*Q*), veh/ln (95 th percentile)		2.5			3.1			4.1			2.3	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		13.2			13.4			16.1			15.4	
Incremental Delay (d_2), s/veh		0.3			0.5			0.7			0.4	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		13.6			13.9			16.8			15.8	
Level of Service (LOS)		B			B			B			B	
Approach Delay, s/veh / LOS	13.6	B		13.9	B		16.8	B		15.8	B	
Intersection Delay, s/veh / LOS	15.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.67	B	1.68	B	1.68	B
Bicycle LOS Score / LOS	0.70	A	0.74	A	0.78	A	0.66	A

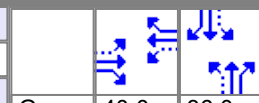
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	0.250
Analyst		Analysis Date	Oct 19, 2021	Area Type	Other
Jurisdiction	CABQ	Time Period	Background PM	PHF	0.90
Urban Street	Pueblo Rd	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Pueblo Rd & Edith Blvd	File Name	Background PM.xus		
Project Description					

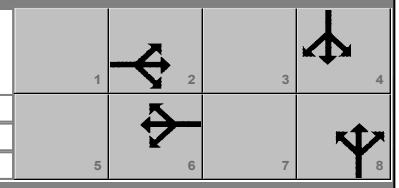


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	8	116	36	51	236	8	135	200	31	27	86	11

Signal Information			
Cycle, s	86.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	40.0	36.0	0.0	0.0	0.0	0.0	
Yellow	4.0	4.0	0.0	0.0	0.0	0.0	
Red	1.0	1.0	0.0	0.0	0.0	0.0	



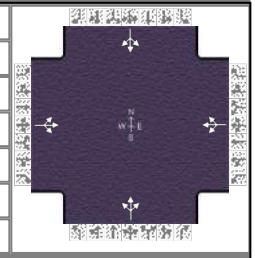
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		45.0		45.0		41.0		41.0
Change Period, ($Y+R_c$), s		5.0		5.0		5.0		5.0
Max Allow Headway (*MAH*), s		3.1		3.1		3.2		3.2
Queue Clearance Time (g_s), s		7.0		11.7		18.2		6.0
Green Extension Time (g_e), s		1.0		1.0		1.0		1.1
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h		178			328			407			138	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1803			1768			1631			1673	
Queue Service Time (g_s), s		0.0			0.3			12.2			0.0	
Cycle Queue Clearance Time (g_c), s		5.0			9.7			16.2			4.0	
Green Ratio (*g/C*)		0.47			0.47			0.42			0.42	
Capacity (*c*), veh/h		883			871			740			751	
Volume-to-Capacity Ratio (*X*)		0.201			0.376			0.550			0.183	
Back of Queue (*Q*), ft/ln (95 th percentile)		91.2			185.6			263.2			77.2	
Back of Queue (*Q*), veh/ln (95 th percentile)		3.6			7.4			10.5			3.1	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		13.6			14.9			19.1			15.7	
Incremental Delay (d_2), s/veh		0.5			1.2			2.9			0.5	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		14.1			16.1			22.0			16.2	
Level of Service (LOS)		B			B			C			B	
Approach Delay, s/veh / LOS	14.1	B		16.1	B		22.0	C		16.2	B	
Intersection Delay, s/veh / LOS	18.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.67	B	1.68	B	1.68	B
Bicycle LOS Score / LOS	0.78	A	1.03	A	1.16	A	0.71	A

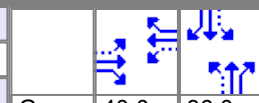
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	0.250
Analyst		Analysis Date	Oct 19, 2021	Area Type	Other
Jurisdiction	CABQ	Time Period	Build-Out Mid-day	PHF	0.93
Urban Street	Pueblo Rd	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Pueblo Rd & Edith Blvd	File Name	Build-Out Mid-day.xus		
Project Description					

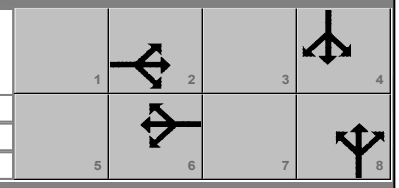


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	5	83	34	39	78	33	39	84	46	24	73	6

Signal Information			
Cycle, s	86.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	40.0	36.0	0.0	0.0	0.0	0.0	
Yellow	4.0	4.0	0.0	0.0	0.0	0.0	
Red	1.0	1.0	0.0	0.0	0.0	0.0	



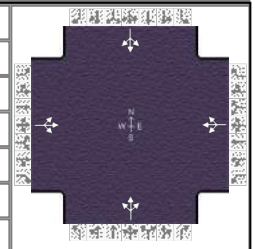
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		45.0		45.0		41.0		41.0
Change Period, ($Y+R_c$), s		5.0		5.0		5.0		5.0
Max Allow Headway (*MAH*), s		3.2		3.2		3.2		3.2
Queue Clearance Time (g_s), s		5.6		6.5		7.6		5.1
Green Extension Time (g_e), s		0.5		0.5		0.5		0.5
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h		131			161			182			111	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1798			1660			1685			1722	
Queue Service Time (g_s), s		0.0			0.0			0.0			0.0	
Cycle Queue Clearance Time (g_c), s		3.6			4.5			5.6			3.1	
Green Ratio (*g/C*)		0.47			0.47			0.42			0.42	
Capacity (*c*), veh/h		880			825			757			772	
Volume-to-Capacity Ratio (*X*)		0.149			0.196			0.240			0.143	
Back of Queue (*Q*), ft/ln (95 th percentile)		65.4			82.5			105			60.9	
Back of Queue (*Q*), veh/ln (95 th percentile)		2.6			3.3			4.2			2.4	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		13.3			13.5			16.2			15.4	
Incremental Delay (d_2), s/veh		0.4			0.5			0.7			0.4	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		13.6			14.0			16.9			15.8	
Level of Service (LOS)		B			B			B			B	
Approach Delay, s/veh / LOS	13.6		B	14.0		B	16.9		B	15.8		B
Intersection Delay, s/veh / LOS	15.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.67	B	1.68	B	1.68	B
Bicycle LOS Score / LOS	0.70	A	0.75	A	0.79	A	0.67	A

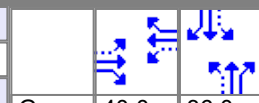
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	0.250
Analyst		Analysis Date	Oct 19, 2021	Area Type	Other
Jurisdiction	CABQ	Time Period	Build-Out PM	PHF	0.90
Urban Street	Pueblo Rd	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Pueblo Rd & Edith Blvd	File Name	Build-Out PM.xus		
Project Description					

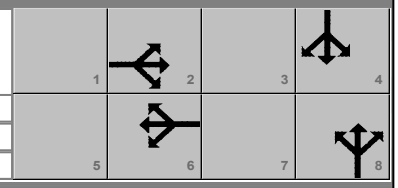


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	8	122	36	59	243	88	135	200	37	32	86	11

Signal Information			
Cycle, s	86.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	40.0	36.0	0.0	0.0	0.0	0.0						
Yellow	4.0	4.0	0.0	0.0	0.0	0.0						
Red	1.0	1.0	0.0	0.0	0.0	0.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		45.0		45.0		41.0		41.0
Change Period, (*Y+R c*), s		5.0		5.0		5.0		5.0
Max Allow Headway (*MAH*), s		3.2		3.2		3.2		3.2
Queue Clearance Time (*g s*), s		7.2		16.7		18.6		6.1
Green Extension Time (*g e*), s		1.3		1.2		1.1		1.1
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h		184			433			413			143	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1802			1728			1631			1624	
Queue Service Time (*g s*), s		0.0			3.9			12.4			0.0	
Cycle Queue Clearance Time (*g c*), s		5.2			14.7			16.6			4.1	
Green Ratio (*g/C*)		0.47			0.47			0.42			0.42	
Capacity (*c*), veh/h		882			852			740			732	
Volume-to-Capacity Ratio (*X*)		0.209			0.509			0.559			0.196	
Back of Queue (*Q*), ft/ln (95 th percentile)		95.2			250.5			268.6			80.9	
Back of Queue (*Q*), veh/ln (95 th percentile)		3.8			10.0			10.7			3.2	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (*d 1*), s/veh		13.7			16.2			19.2			15.7	
Incremental Delay (*d 2*), s/veh		0.5			2.2			3.0			0.6	
Initial Queue Delay (*d 3*), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		14.2			18.3			22.2			16.3	
Level of Service (LOS)		B			B			C			B	
Approach Delay, s/veh / LOS	14.2	B		18.3	B		22.2	C		16.3	B	
Intersection Delay, s/veh / LOS	18.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.67	B	1.68	B	1.68	B
Bicycle LOS Score / LOS	0.79	A	1.20	A	1.17	A	0.72	A

HCS7 Two-Way Stop-Control Report

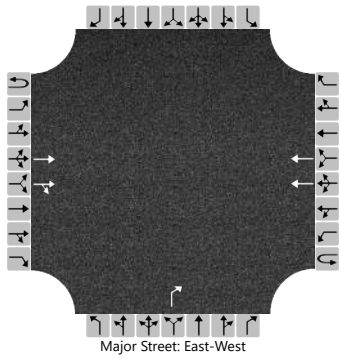
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out Midday - RIRO
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo & Dwy 2
Jurisdiction	CABQ
East/West Street	El Pueblo Rd
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	0	1		0	0	0
Configuration			T	TR			T					R				
Volume (veh/h)			141	9			85					6				
Percent Heavy Vehicles (%)												3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized										No						
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.96				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												7				
Capacity, c (veh/h)												959				
v/c Ratio												0.01				
95% Queue Length, Q_{95} (veh)												0.0				
Control Delay (s/veh)												8.8				
Level of Service (LOS)												A				
Approach Delay (s/veh)										8.8						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

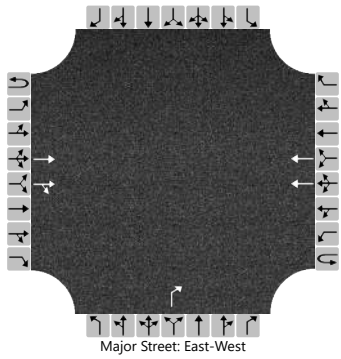
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out Midday - RIRO
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo & Dwy 2
Jurisdiction	CABQ
East/West Street	El Pueblo Rd
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	0	1		0	0	0
Configuration			T	TR			T					R				
Volume (veh/h)			175	13			136					19				
Percent Heavy Vehicles (%)												3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized										No						
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.96				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												21				
Capacity, c (veh/h)												930				
v/c Ratio												0.02				
95% Queue Length, Q_{95} (veh)												0.1				
Control Delay (s/veh)												9.0				
Level of Service (LOS)												A				
Approach Delay (s/veh)										9.0						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

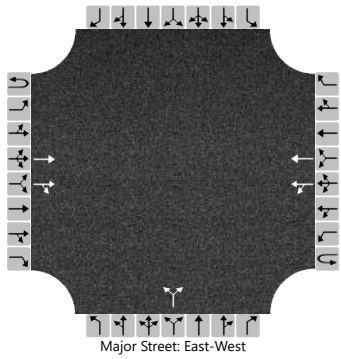
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out Midday - Full A
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo & Dwy 2
Jurisdiction	CABQ
East/West Street	El Pueblo Rd
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	0	0
Configuration			T	TR		LT	T				LR					
Volume (veh/h)			141	9		5	81			5		3				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.16				6.86		6.96				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						5					9					
Capacity, c (veh/h)						1406					817					
v/c Ratio						0.00					0.01					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						7.6					9.5					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)						0.5				9.5						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

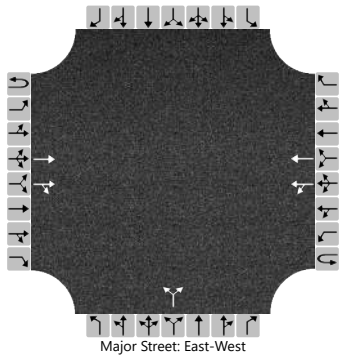
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out PM - Full Acces
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo & Dwy 2
Jurisdiction	CABQ
East/West Street	El Pueblo Rd
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	0	0
Configuration			T	TR		LT	T				LR					
Volume (veh/h)			175	13		6	121			16		8				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.16				6.86		6.96				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						7					26					
Capacity, c (veh/h)						1357					750					
v/c Ratio						0.00					0.03					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.7					10.0					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)						0.4				10.0						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

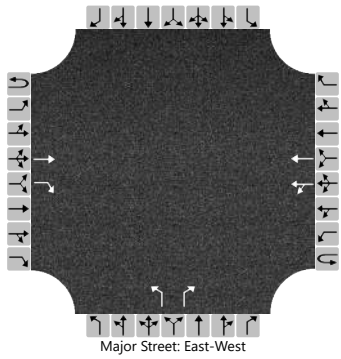
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2021
Time Analyzed	Existing Midday
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo & Las Lomitas
Jurisdiction	CABQ
East/West Street	Las Lomitas Dr
North/South Street	El Pueblo Rd
Peak Hour Factor	0.94
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		1	0	1		0	0	0
Configuration			T	R		LT	T			L		R				
Volume (veh/h)			79	52		58	78			44		46				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.2				
Critical Headway (sec)						4.16				6.86		6.26				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						62				47		49				
Capacity, c (veh/h)						1434				683		971				
v/c Ratio						0.04				0.07		0.05				
95% Queue Length, Q_{95} (veh)						0.1				0.2		0.2				
Control Delay (s/veh)						7.6				10.7		8.9				
Level of Service (LOS)						A				B		A				
Approach Delay (s/veh)						3.3				9.8						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

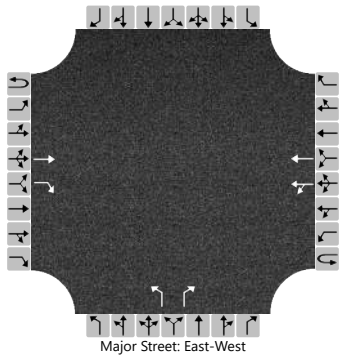
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2021
Time Analyzed	Existing PM
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo & Las Lomitas
Jurisdiction	CABQ
East/West Street	Las Lomitas Dr
North/South Street	El Pueblo Rd
Peak Hour Factor	0.95
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		1	0	1		0	0	0
Configuration			T	R		LT	T			L		R				
Volume (veh/h)			68	95		261	115			132		70				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.2				
Critical Headway (sec)						4.16				6.86		6.26				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						275				139		74				
Capacity, c (veh/h)						1396				301		987				
v/c Ratio						0.20				0.46		0.07				
95% Queue Length, Q_{95} (veh)						0.7				2.5		0.2				
Control Delay (s/veh)						8.2				27.1		8.9				
Level of Service (LOS)						A				D		A				
Approach Delay (s/veh)						5.7				20.8						
Approach LOS										C						

HCS7 Two-Way Stop-Control Report

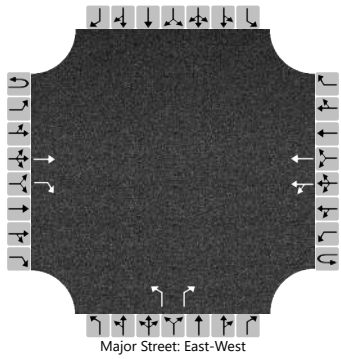
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Background Midday
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo & Las Lomitas
Jurisdiction	CABQ
East/West Street	Las Lomitas Dr
North/South Street	El Pueblo Rd
Peak Hour Factor	0.94
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		1	0	1		0	0	0
Configuration			T	R		LT	T			L		R				
Volume (veh/h)			80	53		59	79			45		47				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.2				
Critical Headway (sec)						4.16				6.86		6.26				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						63				48		50				
Capacity, c (veh/h)						1432				679		970				
v/c Ratio						0.04				0.07		0.05				
95% Queue Length, Q_{95} (veh)						0.1				0.2		0.2				
Control Delay (s/veh)						7.6				10.7		8.9				
Level of Service (LOS)						A				B		A				
Approach Delay (s/veh)						3.3				9.8						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

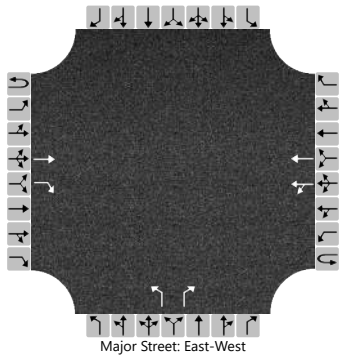
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Background PM
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo & Las Lomitas
Jurisdiction	CABQ
East/West Street	Las Lomitas Dr
North/South Street	El Pueblo Rd
Peak Hour Factor	0.95
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		1	0	1		0	0	0
Configuration			T	R		LT	T			L		R				
Volume (veh/h)			69	96		264	117			134		71				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage				Undivided												

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.2				
Critical Headway (sec)						4.16				6.86		6.26				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						278				141		75				
Capacity, c (veh/h)						1393				296		985				
v/c Ratio						0.20				0.48		0.08				
95% Queue Length, Q_{95} (veh)						0.7				2.6		0.2				
Control Delay (s/veh)						8.2				28.1		9.0				
Level of Service (LOS)						A				D		A				
Approach Delay (s/veh)						5.8				21.5						
Approach LOS										C						

HCS7 Two-Way Stop-Control Report

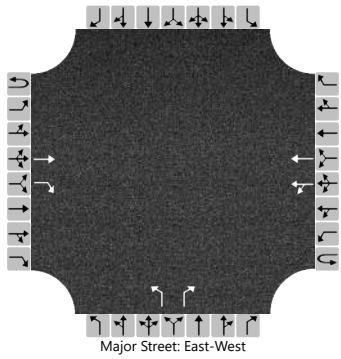
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out Midday - No Dwy
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo & Las Lomitas
Jurisdiction	CABQ
East/West Street	Las Lomitas Dr
North/South Street	El Pueblo Rd
Peak Hour Factor	0.94
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		1	0	1		0	0	0
Configuration			T	R		LT	T			L		R				
Volume (veh/h)			80	63		72	79			51		54				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.2				
Critical Headway (sec)						4.16				6.86		6.26				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						77				54		57				
Capacity, c (veh/h)						1419				645		970				
v/c Ratio						0.05				0.08		0.06				
95% Queue Length, Q_{95} (veh)						0.2				0.3		0.2				
Control Delay (s/veh)						7.7				11.1		8.9				
Level of Service (LOS)						A				B		A				
Approach Delay (s/veh)						3.7				10.0						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

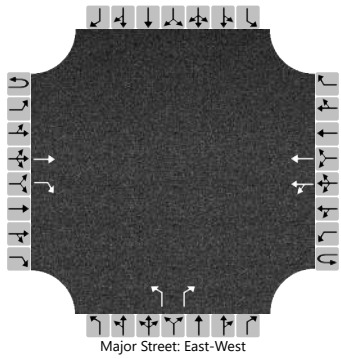
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out PM - No Dwy
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo & Las Lomitas
Jurisdiction	CABQ
East/West Street	Las Lomitas Dr
North/South Street	El Pueblo Rd
Peak Hour Factor	0.95
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		1	0	1		0	0	0
Configuration			T	R		LT	T			L		R				
Volume (veh/h)			69	110		283	117			153		97				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage				Undivided												

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.2				
Critical Headway (sec)						4.16				6.86		6.26				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						298				161		102				
Capacity, c (veh/h)						1376				273		985				
v/c Ratio						0.22				0.59		0.10				
95% Queue Length, Q_{95} (veh)						0.8				4.0		0.3				
Control Delay (s/veh)						8.3				36.8		9.1				
Level of Service (LOS)						A				E		A				
Approach Delay (s/veh)						5.9				26.0						
Approach LOS										D						

HCS7 Two-Way Stop-Control Report

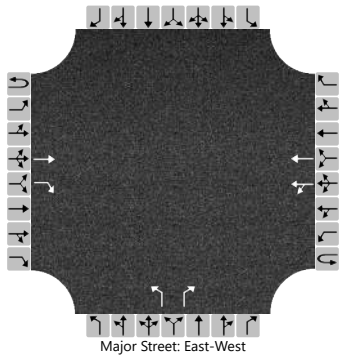
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out Midday - RI/RO
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo & Las Lomitas
Jurisdiction	CABQ
East/West Street	Las Lomitas Dr
North/South Street	El Pueblo Rd
Peak Hour Factor	0.94
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		1	0	1		0	0	0
Configuration			T	R		LT	T			L		R				
Volume (veh/h)			86	56		72	79			51		50				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage				Undivided												

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.2				
Critical Headway (sec)						4.16				6.86		6.26				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						77				54		53				
Capacity, c (veh/h)						1420				639		962				
v/c Ratio						0.05				0.08		0.06				
95% Queue Length, Q_{95} (veh)						0.2				0.3		0.2				
Control Delay (s/veh)						7.7				11.2		9.0				
Level of Service (LOS)						A				B		A				
Approach Delay (s/veh)						3.7				10.1						
Approach LOS										B						

HCS7 Two-Way Stop-Control Report

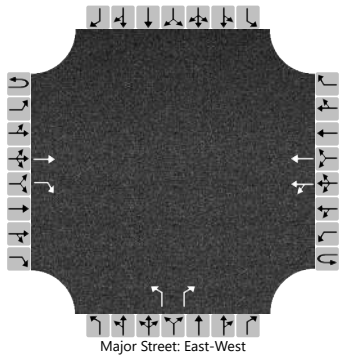
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out PM - RI/RO
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo & Las Lomitas
Jurisdiction	CABQ
East/West Street	Las Lomitas Dr
North/South Street	El Pueblo Rd
Peak Hour Factor	0.95
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		1	0	1		0	0	0
Configuration			T	R		LT	T			L		R				
Volume (veh/h)			88	99		283	117			153		79				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.2				
Critical Headway (sec)						4.16				6.86		6.26				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						298				161		83				
Capacity, c (veh/h)						1366				264		960				
v/c Ratio						0.22				0.61		0.09				
95% Queue Length, Q_{95} (veh)						0.8				4.3		0.3				
Control Delay (s/veh)						8.4				39.3		9.1				
Level of Service (LOS)						A				E		A				
Approach Delay (s/veh)						6.0				29.0						
Approach LOS										D						

HCS7 Two-Way Stop-Control Report

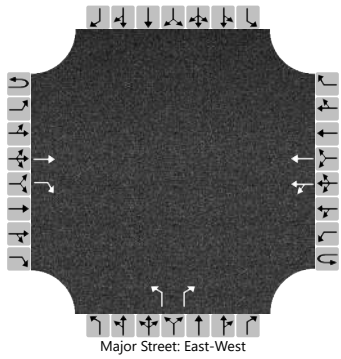
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out Midday - Full A
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo & Las Lomitas
Jurisdiction	CABQ
East/West Street	Las Lomitas Dr
North/South Street	El Pueblo Rd
Peak Hour Factor	0.94
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		1	0	1		0	0	0
Configuration			T	R		LT	T			L		R				
Volume (veh/h)			83	56		69	84			47		53				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.2				
Critical Headway (sec)						4.16				6.86		6.26				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						73				50		56				
Capacity, c (veh/h)						1424				647		966				
v/c Ratio						0.05				0.08		0.06				
95% Queue Length, Q_{95} (veh)						0.2				0.3		0.2				
Control Delay (s/veh)						7.7				11.0		9.0				
Level of Service (LOS)						A				B		A				
Approach Delay (s/veh)						3.5				9.9						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

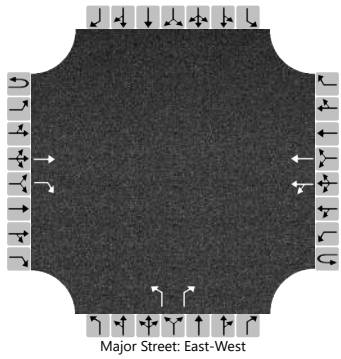
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out PM - Full Acces
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo & Las Lomitas
Jurisdiction	CABQ
East/West Street	Las Lomitas Dr
North/South Street	El Pueblo Rd
Peak Hour Factor	0.95
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		1	0	1		0	0	0
Configuration			T	R		LT	T			L		R				
Volume (veh/h)			77	99		278	123			138		90				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.2				
Critical Headway (sec)						4.16				6.86		6.26				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						293				145		95				
Capacity, c (veh/h)						1379				274		975				
v/c Ratio						0.21				0.53		0.10				
95% Queue Length, Q_{95} (veh)						0.8				3.2		0.3				
Control Delay (s/veh)						8.3				32.8		9.1				
Level of Service (LOS)						A				D		A				
Approach Delay (s/veh)						5.8				23.4						
Approach LOS										C						

HCS7 Two-Way Stop-Control Report

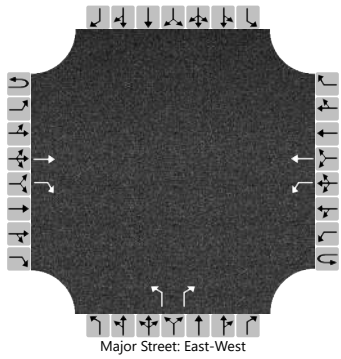
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2021
Time Analyzed	Existing 2021-Midday
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo Rd & Jacs Ln
Jurisdiction	CABQ
East/West Street	El Pueblo Rd
North/South Street	Jacs Ln
Peak Hour Factor	0.93
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	1	1	0		1	0	1		0	0	0
Configuration			T	R		L	T			L		R				
Volume (veh/h)			150	4		16	155			6		20				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						17				6		22				
Capacity, c (veh/h)						1406				627		881				
v/c Ratio						0.01				0.01		0.02				
95% Queue Length, Q_{95} (veh)						0.0				0.0		0.1				
Control Delay (s/veh)						7.6				10.8		9.2				
Level of Service (LOS)						A				B		A				
Approach Delay (s/veh)						0.7				9.6						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

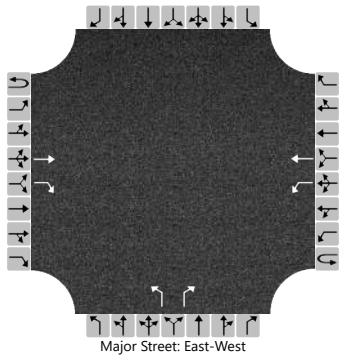
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2021
Time Analyzed	Existing 2021-PM
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo Rd & Jacs Ln
Jurisdiction	CABQ
East/West Street	El Pueblo Rd
North/South Street	Jacs Ln
Peak Hour Factor	0.87
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	1	1	0		1	0	1		0	0	0
Configuration			T	R		L	T			L		R				
Volume (veh/h)			160	3		15	369			11		12				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						17				13		14				
Capacity, c (veh/h)						1381				431		856				
v/c Ratio						0.01				0.03		0.02				
95% Queue Length, Q_{95} (veh)						0.0				0.1		0.0				
Control Delay (s/veh)						7.6				13.6		9.3				
Level of Service (LOS)						A				B		A				
Approach Delay (s/veh)						0.3				11.3						
Approach LOS										B						

HCS7 Two-Way Stop-Control Report

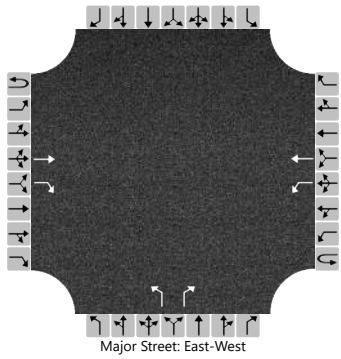
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Background Midday
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo Rd & Jacs Ln
Jurisdiction	CABQ
East/West Street	El Pueblo Rd
North/South Street	Jacs Ln
Peak Hour Factor	0.93
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	1	1	0		1	0	1		0	0	0
Configuration			T	R		L	T			L		R				
Volume (veh/h)			152	5		17	157			7		21				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage				Undivided												

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						18				8		23				
Capacity, c (veh/h)						1403				621		879				
v/c Ratio						0.01				0.01		0.03				
95% Queue Length, Q_{95} (veh)						0.0				0.0		0.1				
Control Delay (s/veh)						7.6				10.9		9.2				
Level of Service (LOS)						A				B		A				
Approach Delay (s/veh)						0.7				9.6						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

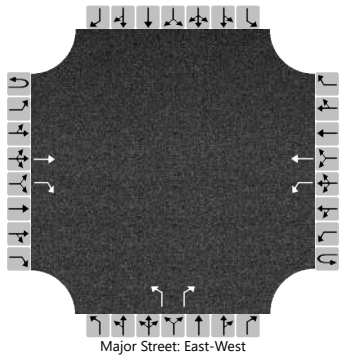
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Existing PM
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo Rd & Jacs Ln
Jurisdiction	CABQ
East/West Street	El Pueblo Rd
North/South Street	Jacs Ln
Peak Hour Factor	0.87
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	1	1	0		1	0	1		0	0	0
Configuration			T	R		L	T			L		R				
Volume (veh/h)			162	4		16	373			12		13				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						18				14		15				
Capacity, c (veh/h)						1377				425		853				
v/c Ratio						0.01				0.03		0.02				
95% Queue Length, Q_{95} (veh)						0.0				0.1		0.1				
Control Delay (s/veh)						7.7				13.7		9.3				
Level of Service (LOS)						A				B		A				
Approach Delay (s/veh)						0.3				11.4						
Approach LOS										B						

HCS7 Two-Way Stop-Control Report

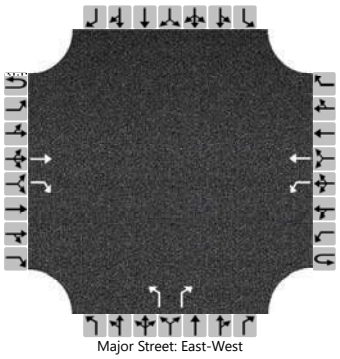
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out Midday
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo Rd & Jacs Ln
Jurisdiction	CABQ
East/West Street	El Pueblo Rd
North/South Street	Jacs Ln
Peak Hour Factor	0.93
Analysis Time Period (hrs)	1.00

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	1	1	0		1	0	1		0	0	0
Configuration			T	R		L	T			L		R				
Volume (veh/h)			151	5		17	172			7		21				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						18				8		23				
Capacity, c (veh/h)						1404				609		880				
v/c Ratio						0.01				0.01		0.03				
95% Queue Length, Q_{95} (veh)						0.0				0.0		0.1				
Control Delay (s/veh)						7.6				11.0		9.2				
Level of Service (LOS)						A				B		A				
Approach Delay (s/veh)						0.7				9.6						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

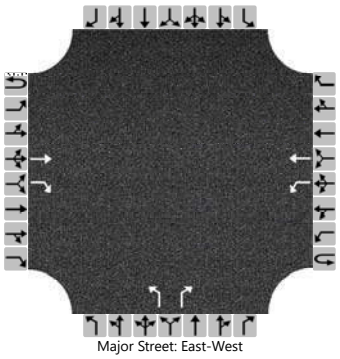
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out PM
Intersection Orientation	East-West
Project Description	Lone Sun Brewery TIS

Site Information

Intersection	El Pueblo Rd & Jacs Ln
Jurisdiction	CABQ
East/West Street	El Pueblo Rd
North/South Street	Jacs Ln
Peak Hour Factor	0.87
Analysis Time Period (hrs)	1.00

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	1	1	0		1	0	1		0	0	0
Configuration			T	R		L	T			L		R				
Volume (veh/h)			190	4		16	394			12		13				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						18				14		15				
Capacity, c (veh/h)						1340				394		819				
v/c Ratio						0.01				0.03		0.02				
95% Queue Length, Q_{95} (veh)						0.0				0.1		0.1				
Control Delay (s/veh)						7.7				14.5		9.5				
Level of Service (LOS)						A				B		A				
Approach Delay (s/veh)						0.3				11.9						
Approach LOS										B						

HCS7 Two-Way Stop-Control Report

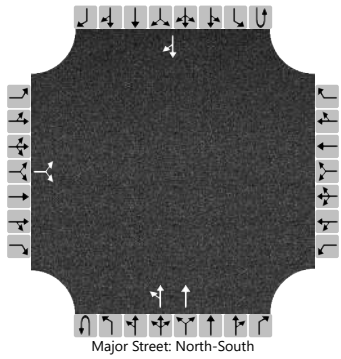
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out Midday - No Dwy
Intersection Orientation	North-South
Project Description	Lon Sun Brewery TIS

Site Information

Intersection	Las Lomitas & Dwy 1
Jurisdiction	CABQ
East/West Street	Dwy 1
North/South Street	Las Lomitas
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	1	0
Configuration			LR							LT	T					TR
Volume (veh/h)		12		2						3	91				112	23
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.2						4.1						
Critical Headway (sec)		6.86		6.26						4.16						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			15							3						
Capacity, c (veh/h)			793							1425						
v/c Ratio			0.02							0.00						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			9.6							7.5						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		9.6								0.2						
Approach LOS		A														

HCS7 Two-Way Stop-Control Report

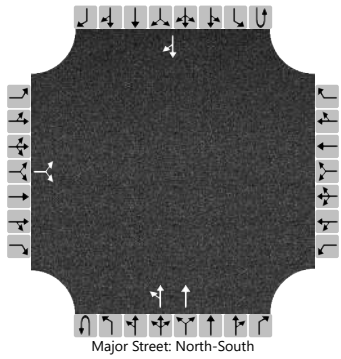
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out PM - No Dwy
Intersection Orientation	North-South
Project Description	Lon Sun Brewery TIS

Site Information

Intersection	Las Lomitas & Dwy 1
Jurisdiction	CABQ
East/West Street	Dwy 1
North/South Street	Las Lomitas
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	1	0
Configuration			LR							LT	T					TR
Volume (veh/h)		44		4						3	205				360	32
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.2						4.1						
Critical Headway (sec)		6.86		6.26						4.16						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			52							3						
Capacity, c (veh/h)			487							1123						
v/c Ratio			0.11							0.00						
95% Queue Length, Q_{95} (veh)			0.4							0.0						
Control Delay (s/veh)			13.3							8.2						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		13.3								0.1						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

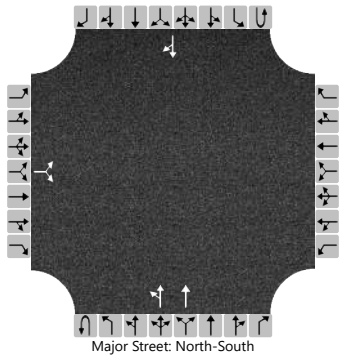
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out Midday - RIRO
Intersection Orientation	North-South
Project Description	Lon Sun Brewery TIS

Site Information

Intersection	Las Lomitas & Dwy 1
Jurisdiction	CABQ
East/West Street	Dwy 1
North/South Street	Las Lomitas
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	1	0
Configuration			LR							LT	T					TR
Volume (veh/h)		7		2						3	91				112	14
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.2						4.1						
Critical Headway (sec)		6.86		6.26						4.16						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			10							3						
Capacity, c (veh/h)			808							1437						
v/c Ratio			0.01							0.00						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
Control Delay (s/veh)			9.5							7.5						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		9.5								0.2						
Approach LOS		A														

HCS7 Two-Way Stop-Control Report

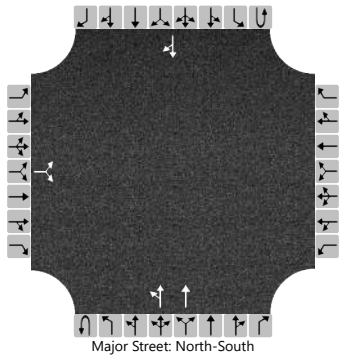
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out PM - RIRO
Intersection Orientation	North-South
Project Description	Lon Sun Brewery TIS

Site Information

Intersection	Las Lomitas & Dwy 1
Jurisdiction	CABQ
East/West Street	Dwy 1
North/South Street	Las Lomitas
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	1	0
Configuration			LR							LT	T					TR
Volume (veh/h)		26		4						3	205				360	21
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.2						4.1						
Critical Headway (sec)		6.86		6.26						4.16						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			33							3						
Capacity, c (veh/h)			498							1134						
v/c Ratio			0.07							0.00						
95% Queue Length, Q_{95} (veh)			0.2							0.0						
Control Delay (s/veh)			12.7							8.2						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		12.7								0.1						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

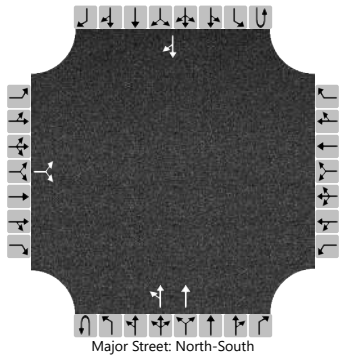
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out Midday - Full A
Intersection Orientation	North-South
Project Description	Lon Sun Brewery TIS

Site Information

Intersection	Las Lomitas & Dwy 1
Jurisdiction	CABQ
East/West Street	Dwy 1
North/South Street	Las Lomitas
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	1	0
Configuration			LR							LT	T					TR
Volume (veh/h)		6		2						3	91				112	11
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.2						4.1						
Critical Headway (sec)		6.86		6.26						4.16						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			9							3						
Capacity, c (veh/h)			813							1441						
v/c Ratio			0.01							0.00						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
Control Delay (s/veh)			9.5							7.5						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		9.5								0.2						
Approach LOS		A														

HCS7 Two-Way Stop-Control Report

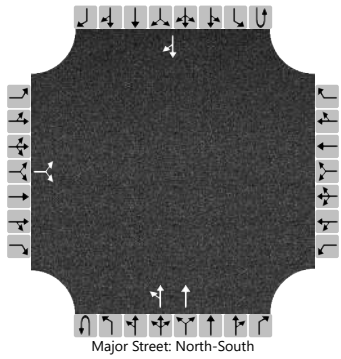
General Information

Analyst	MRM
Agency/Co.	Lee Engineering
Date Performed	10/6/2021
Analysis Year	2022
Time Analyzed	Build-Out PM - Full Acces
Intersection Orientation	North-South
Project Description	Lon Sun Brewery TIS

Site Information

Intersection	Las Lomitas & Dwy 1
Jurisdiction	CABQ
East/West Street	Dwy 1
North/South Street	Las Lomitas
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	1	0
Configuration			LR							LT	T					TR
Volume (veh/h)		22		4						3	205				360	16
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.2						4.1						
Critical Headway (sec)		6.86		6.26						4.16						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

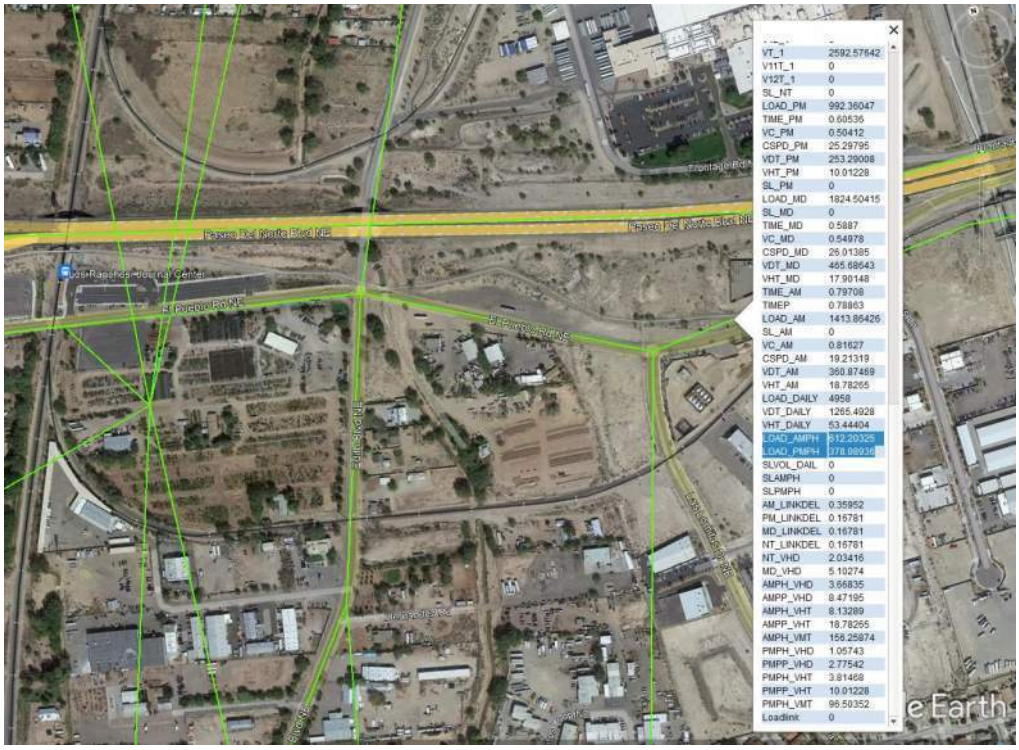
Flow Rate, v (veh/h)			28							3						
Capacity, c (veh/h)			503							1139						
v/c Ratio			0.06							0.00						
95% Queue Length, Q_{95} (veh)			0.2							0.0						
Control Delay (s/veh)			12.6							8.2						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		12.6								0.1						
Approach LOS		B														

Appendix E:

MRCOG Traffic Growth Data

El Pueblo Rd– East of Las Lomitas Dr

MRCOG 2016 Traffic Model



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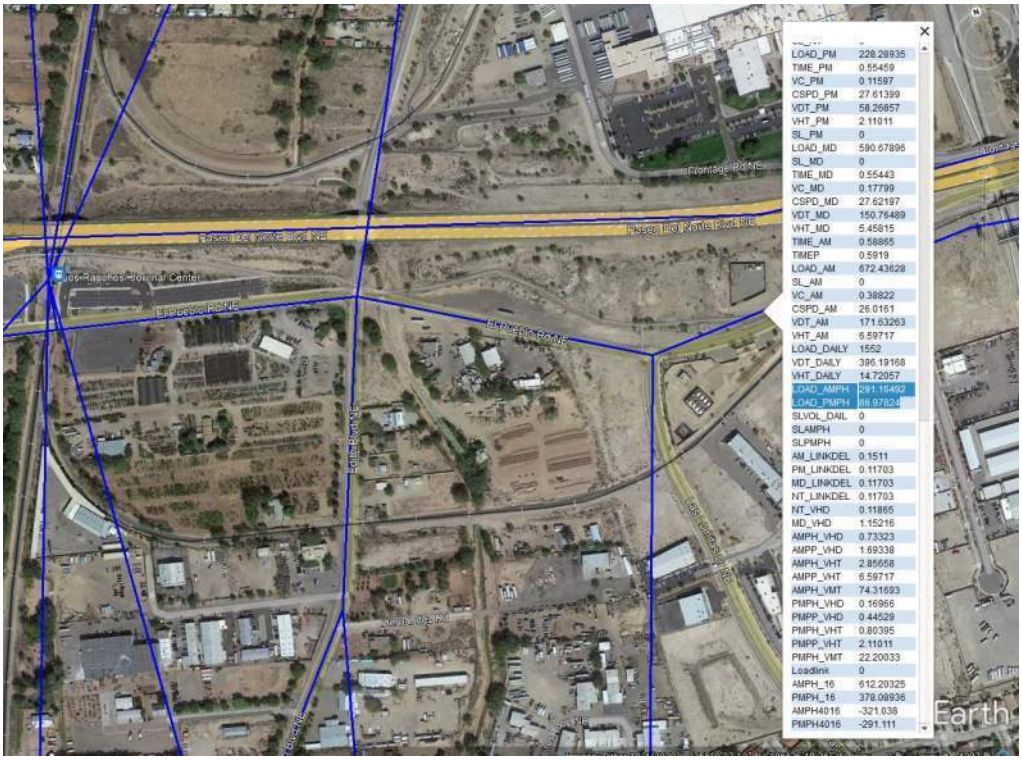

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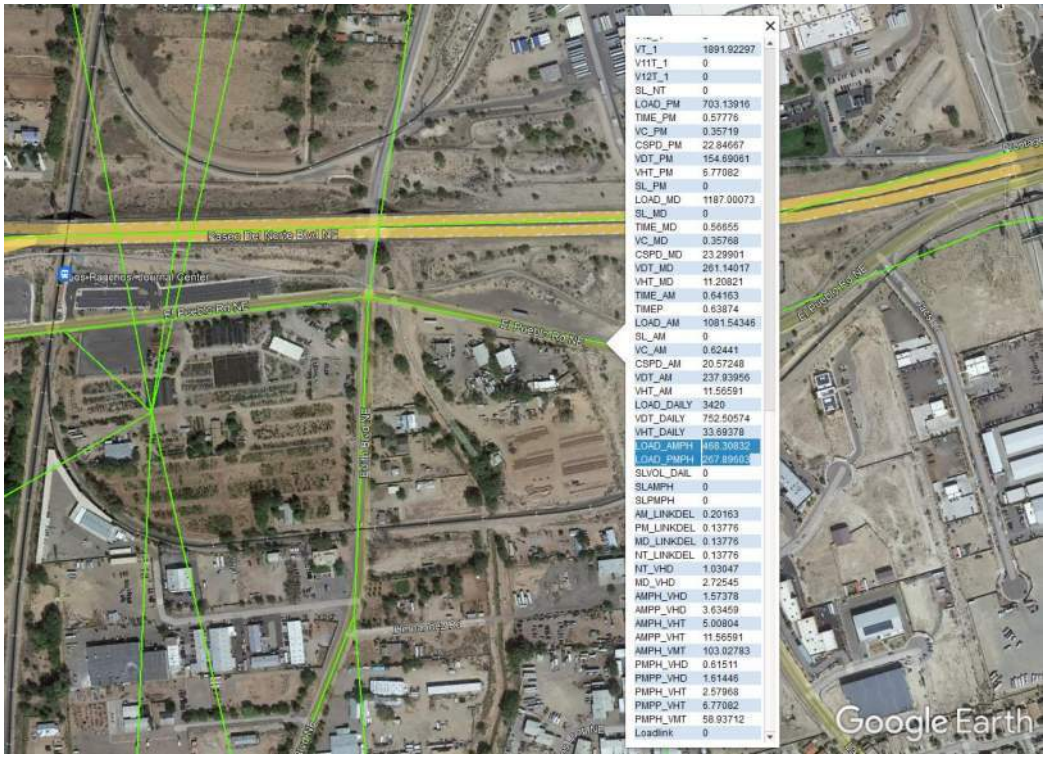

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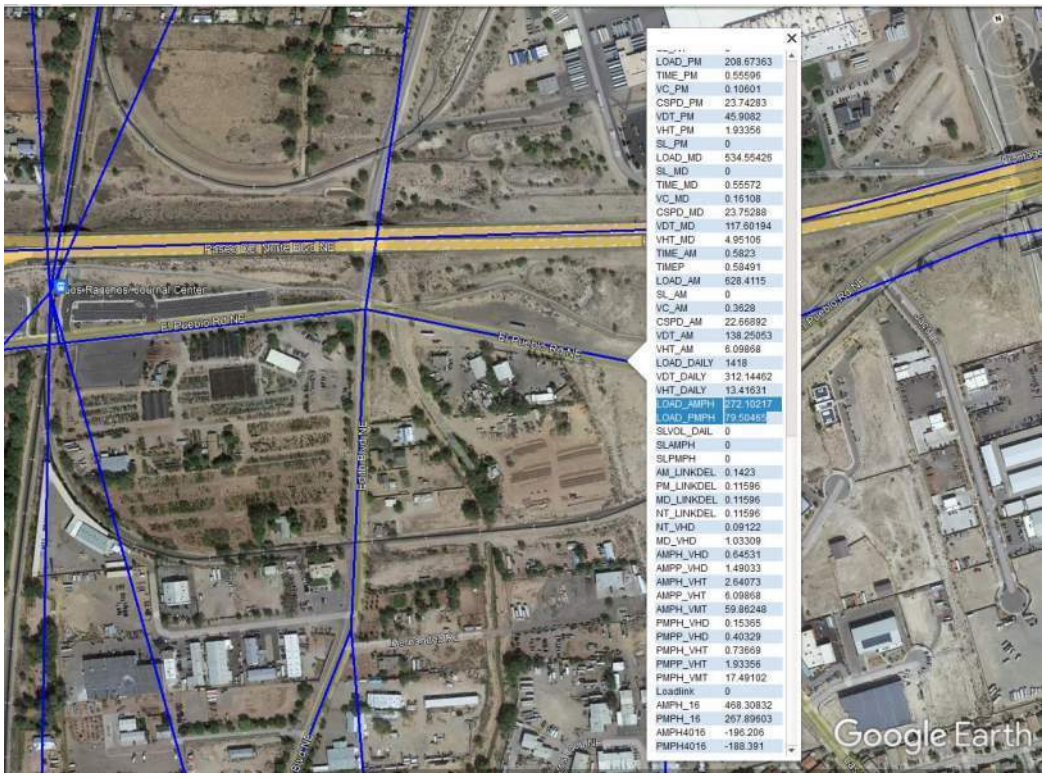
MRCOG 2040 Traffic Projection Model



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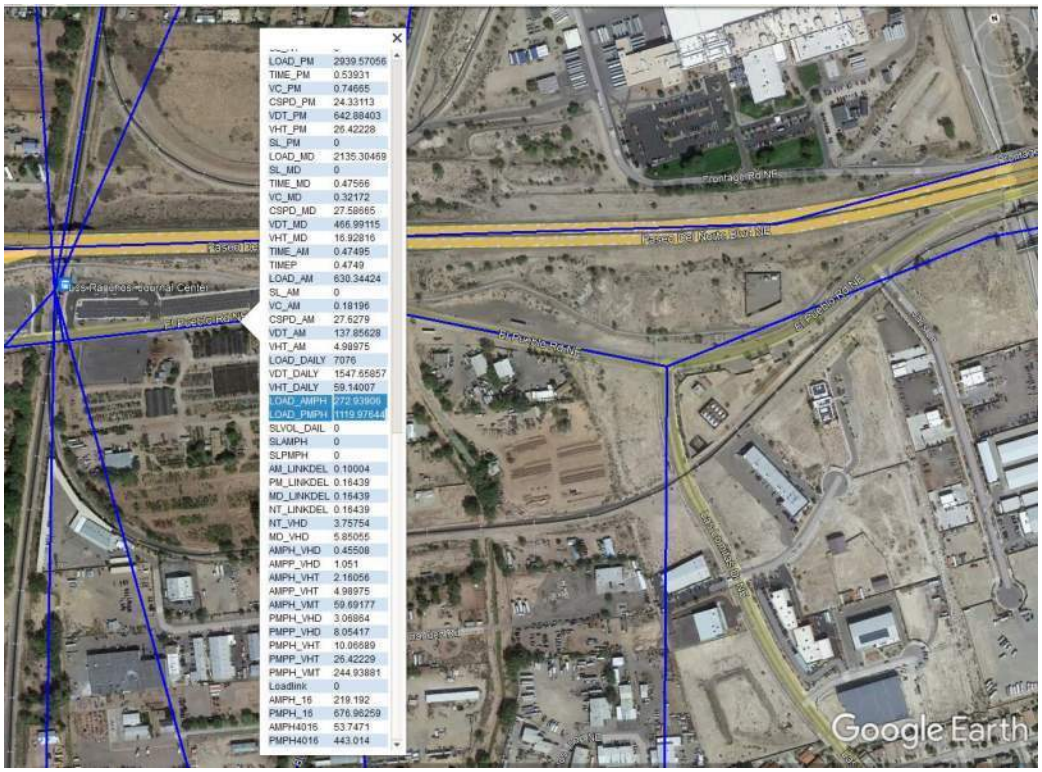
El Pueblo Rd– West of Edith Blvd

MRCOG 2016 Traffic Model

MRCOG 2040 Traffic Projection Model



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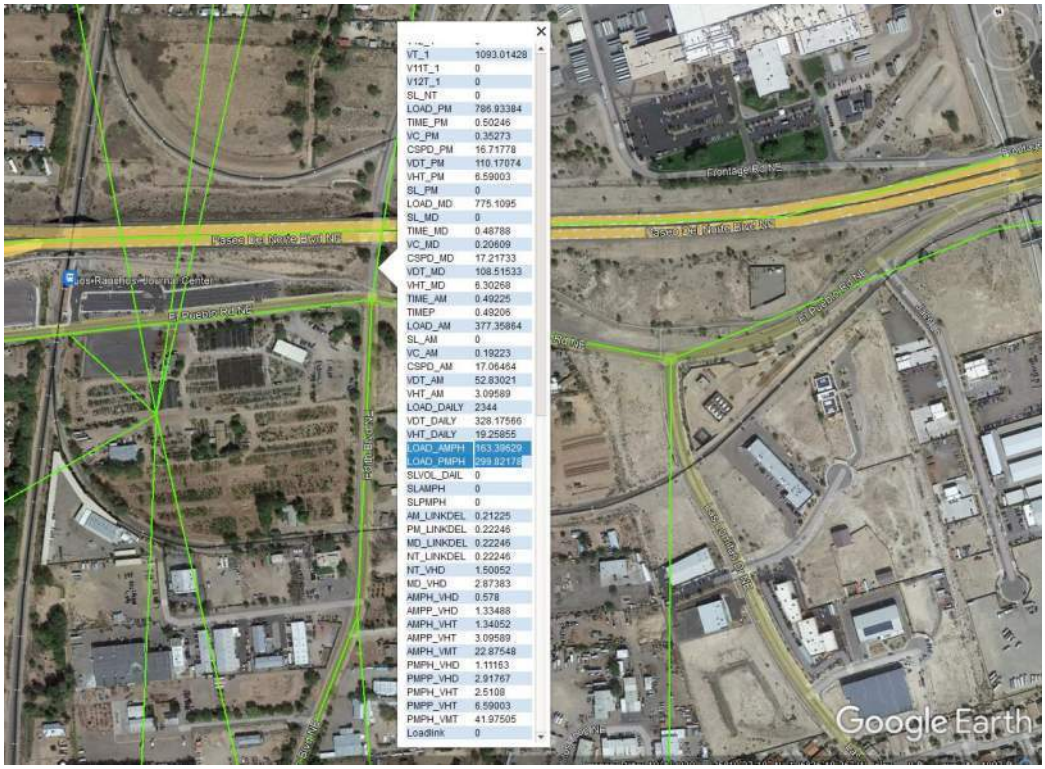
MRCOG 2016 Traffic Model



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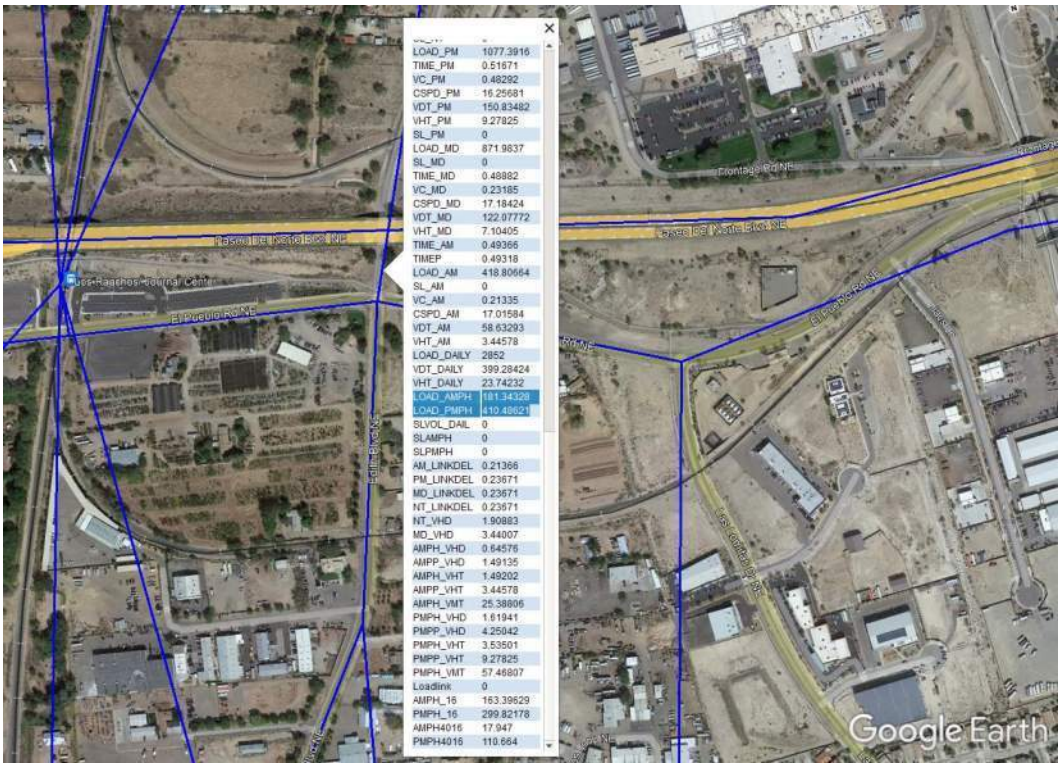
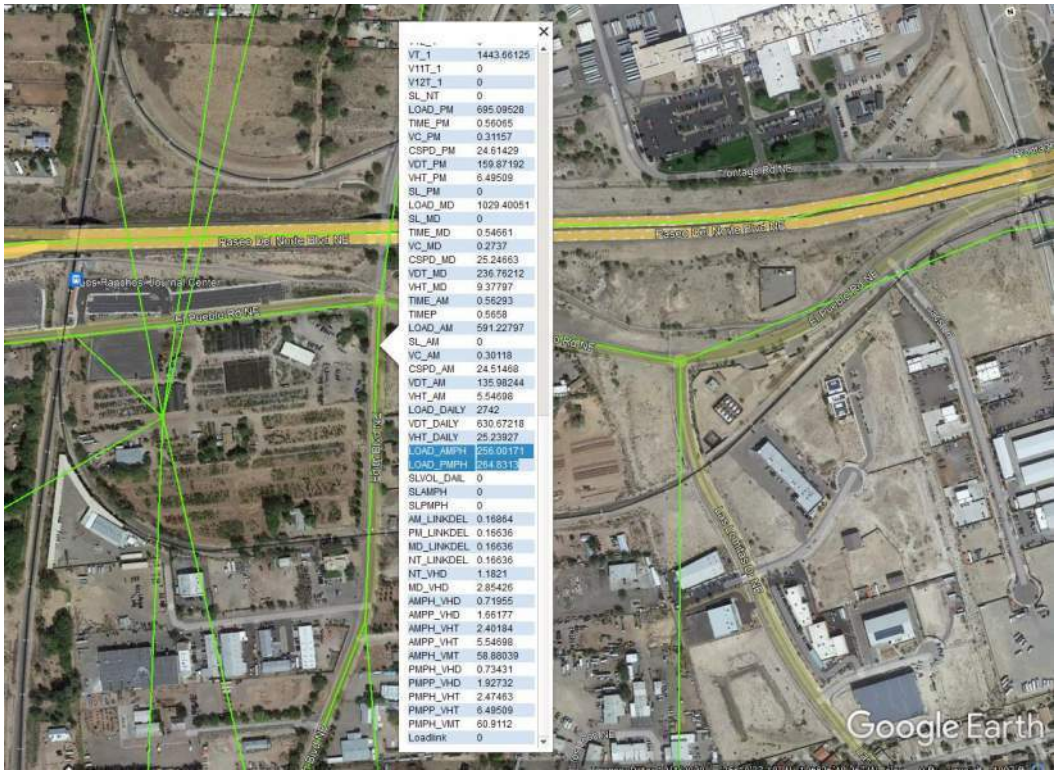


Edith Blvd – South of El Pueblo Rd

MRCOG 2016 Traffic Model



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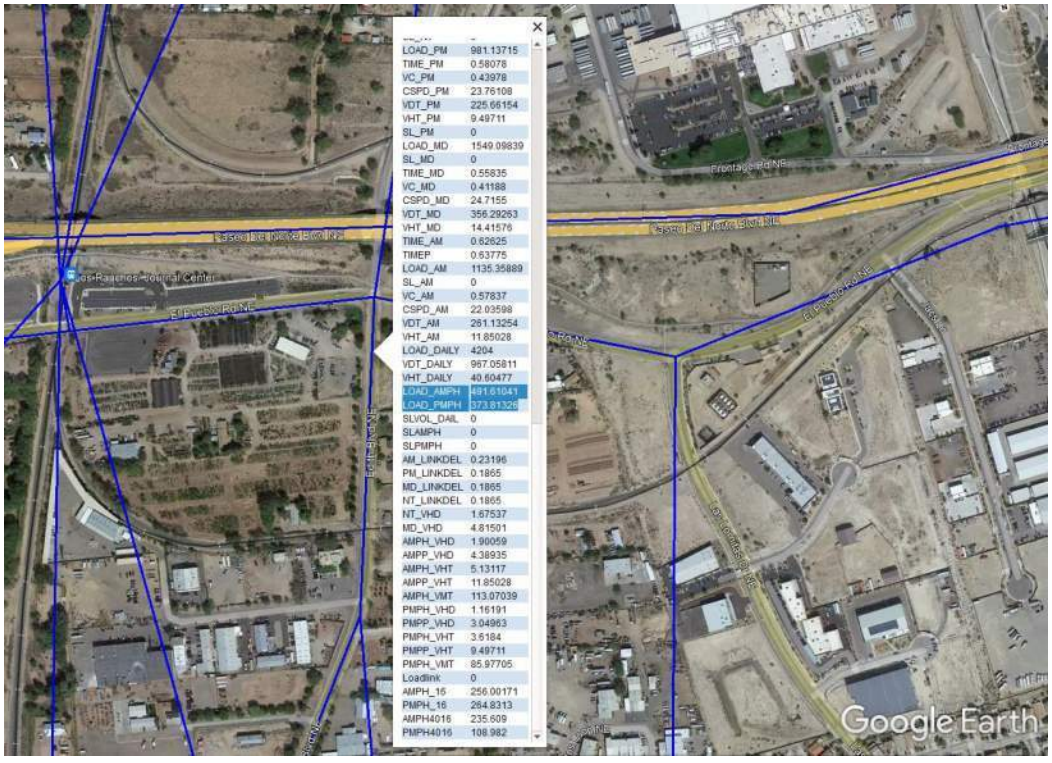
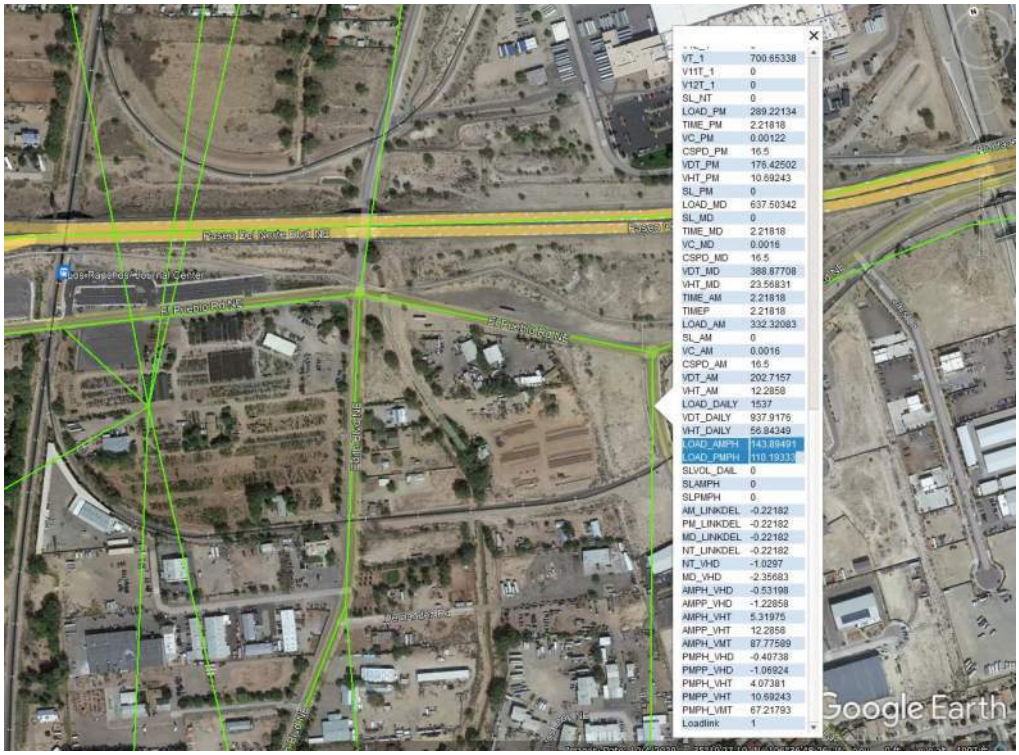


Las Lomitas Dr – South of El Pueblo Rd

MRCOG 2016 Traffic Model



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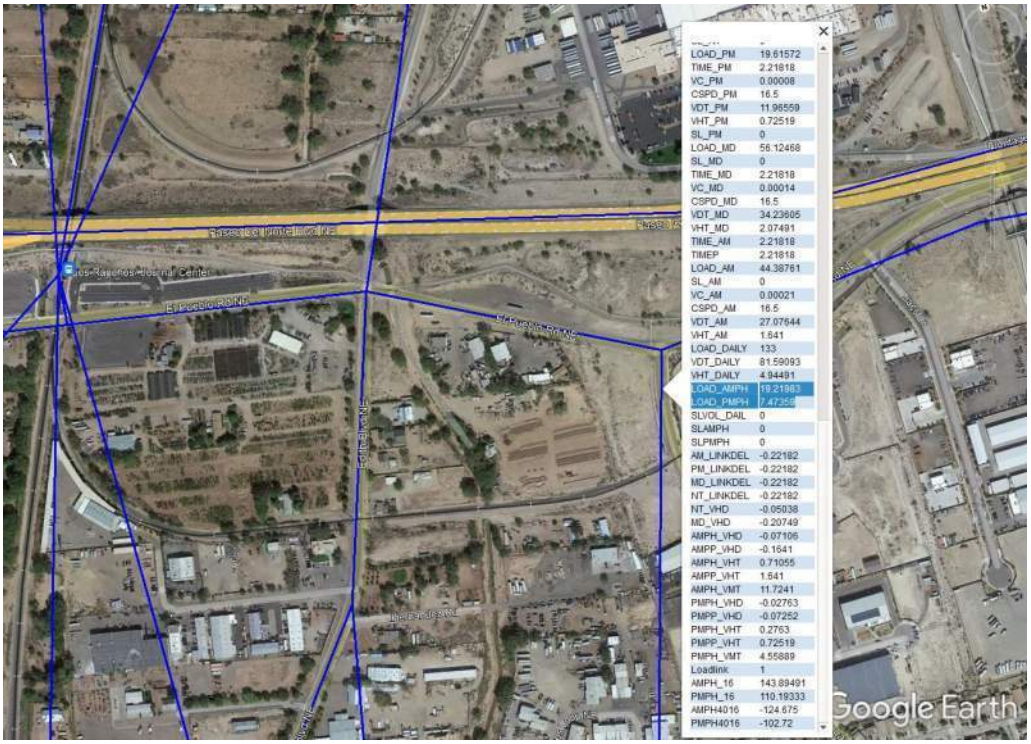

Appendix F:
AASHTO Greenbook Intersection Sight Distances Calculations

Table 9-6. Time Gap for Case B1, Left Turn from Stop

Design Vehicle	Time Gap (t_g)(s) at Design Speed of Major Road
Passenger car	7.5
Single-unit truck	9.5
Combination truck	11.5

Note: Time gaps are for a stopped vehicle to turn left onto a two-lane highway with no median and with minor-road approach grades of 3 percent or less. The time gaps are applicable to determining sight distance to the right in left-turn maneuvers. The table values should be adjusted as follows:

For multilane roadways or medians—For left turns onto two-way roadways with more than two lanes, including turn lanes, add 0.5 s for passenger cars or 0.7 s for trucks for each additional lane, from the left, in excess of one, to be crossed by the turning vehicle. Median widths should be converted to an equivalent number of lanes in applying the 0.5 and 0.7 s criteria presented above; for example, an 18-ft [5.5-m] median is equivalent to one and a half lanes, and would require an additional 0.75 s for a passenger to cross and an additional 1.05 s for a truck to cross.

For minor-road approach grades—If the approach grade is an upgrade that exceeds 3 percent, add 0.2 s for each percent grade by which the approach grade exceeds zero percent.

Table 9-8. Time Gap for Case B2—Right Turn from Stop

Design Vehicle	Time Gap (t_g)(s) at Design Speed of Major Road
Passenger car	6.5
Single-unit truck	8.5
Combination truck	10.5

Note: Time gaps are for a stopped vehicle to turn right onto or to cross a two-lane roadway with no median and with minor-road approach grades of 3 percent or less. The table values should be adjusted as follows:

For minor-road approach grades—If the approach grade is an upgrade that exceeds 3 percent, add 0.1 s for each percent grade by which the approach grade exceeds zero percent.

U.S. Customary	Metric
$ISD = 1.47\ V_{major}\ t_g$	$ISD = 0.278\ V_{major}\ t_g$ (9-1)
where:	where:
ISD = intersection sight distance (length of the leg of sight triangle along the major road) (ft)	ISD = intersection sight distance (length of the leg of sight triangle along the major road) (m)
V_{major} = design speed of major road (mph)	V_{major} = design speed of major road (km/h)
t_g = time gap for minor road vehicle to enter the major road (s)	t_g = time gap for minor road vehicle to enter the major road (s)

Table 9-7. Design Intersection Sight Distance—Case B1, Left Turn from Stop

U.S. Customary			
Design Speed (mph)	Stopping Sight Distance (ft)	Intersection Sight Distance for Passenger Cars	
		Calculated (ft)	Design (ft)
15	80	165.4	170
20	115	220.5	225
25	155	275.6	280
30	200	330.8	335
35	250	385.9	390
40	305	441.0	445
45	360	496.1	500
50	425	551.3	555
55	495	606.4	610
60	570	661.5	665
65	645	716.6	720
70	730	771.8	775
75	820	826.9	830
80	910	882.0	885

Metric			
Design Speed (km/h)	Stopping Sight Distance (m)	Intersection Sight Distance for Passenger Cars	
		Calculated (m)	Design (m)
20	20	41.7	45
30	35	62.6	65
40	50	83.4	85
50	65	104.3	105
60	85	125.1	130
70	105	146.0	150
80	130	166.8	170
90	160	187.7	190
100	185	208.5	210
110	220	229.4	230
120	250	250.2	255
130	285	271.1	275

Note: Intersection sight distance shown is for a stopped passenger car to turn left onto a two-lane highway with no median and grades 3 percent or less. For other conditions, the time gap should be adjusted and the sight distance recalculated.

Table 9-9. Design Intersection Sight Distance—Case B2, Right Turn from Stop

U.S. Customary			
Design Speed (mph)	Stopping Sight Distance (ft)	Intersection Sight Distance for Passenger Cars	
		Calculated (ft)	Design (ft)
15	80	143.3	145
20	115	191.1	195
25	155	238.9	240
30	200	286.7	290
35	250	334.4	335
40	305	382.2	385
45	360	430.0	430
50	425	477.8	480
55	495	525.5	530
60	570	573.3	575
65	645	621.1	625
70	730	668.9	670
75	820	716.6	720
80	910	764.4	765

Metric			
Design Speed (km/h)	Stopping Sight Distance (m)	Intersection Sight Distance for Passenger Cars	
		Calculated (m)	Design (m)
20	20	36.1	40
30	35	54.2	55
40	50	72.3	75
50	65	90.4	95
60	85	108.4	110
70	105	126.5	130
80	130	144.6	145
90	160	162.6	165
100	185	180.7	185
110	220	198.8	200
120	250	216.8	220
130	285	234.9	235

Note: Intersection sight distance shown is for a stopped passenger car to turn right onto or to cross a two-lane roadway with no median and with grades of 3 percent or less. For other conditions, the time gap should be adjusted and the sight distance recalculated.

Appendix G:

IHSDM Output Sheets

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

March 8, 2022

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Table of Contents

List of Tables

Report Overview

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IHSDM Version: v17.0.0 (Sep 22, 2021)
Site Set Crash Prediction Module: v|ModuleInfo.moduleVersion| (|ModuleInfo.moduleDate|)

User Name: JPham
Organization Name: Lee Engineering
Phone:
E-Mail: jpham@lee-eng.com

Project Title: Lone Sun Brewery TIS
Project Comment: Created Tue Mar 08 13:03:56 MST 2022
Project Unit System: U.S. Customary

Site Set: El Pueblo Rd Full Access
Site Set Comment: Copied from El Pueblo Rd (v1)
Site Set Version: v1

Evaluation Title: Evaluation 1
Evaluation Comment: Created Tue Mar 08 16:06:36 MST 2022
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration

First Year of Analysis: 2021
Last Year of Analysis: 2026
Empirical-Bayes Analysis: None

Disclaimer Regarding Crash Prediction Method

IMPORTANT NOTICE ABOUT COMPARING RESULTS FROM HIGHWAY SAFETY MANUAL FIRST EDITION (2010) MODELS TO RESULTS FROM NEW MODELS DEVELOPED UNDER NCHRP PROJECTS 17-70, 17-58, AND 17-68

Since the publication of the Highway Safety Manual - First Edition (HSM-1), in 2010 by the American Association of State Highway and Transportation Officials (AASHTO), multiple research efforts have been undertaken through the National

Cooperative Highway Research Program (NCHRP) to develop safety performance models for road segment and intersection facility types that were not initially reflected in the HSM-1, in order to expand the breadth and depth of the HSM in the future.

The IHSDM Crash Prediction Module (CPM) is intended as a faithful implementation of HSM Part C predictive methods. As NCHRP projects to develop new predictive methods for the HSM are completed, FHWA works to incorporate the new methods into IHSDM, sometimes in advance of publication in the HSM. The following new crash predictive methods have been accepted by NCHRP project panels and incorporated into IHSDM, while pending AASHTO's approval for incorporation into a future edition of the HSM:

- Roundabouts: completed in 2018 under NCHRP Project 17-70, the new methods will provide improved outcomes for the safety analysis of roundabouts.
- 6+ lane and one-way urban/suburban arterials (including models for segments and intersections): completed under NCHRP Project 17-58.
- Intersection crash prediction methods for some intersection configurations and traffic control types not currently addressed in the HSM (e.g., all-way stop; rural 3-leg signalized; 3-leg stop-controlled where the major leg turns; urban 5-leg signalized; urban high-speed intersections): completed in 2021 under NCHRP Project 17-68.

However, in the absence of local calibration factors (see HSM-1 Part C, Appendix A for guidance on calibration of the predictive models), it is neither appropriate nor advisable to directly compare the results from new models (from NCHRP Projects 17-58, 17-68, and 17-70) to results from HSM-1 models, as the models were not calibrated to the same base state data sets, and consequently can produce unexpected results. If local calibration factors are available and applied to both new models and HSM-1 models, then it may be appropriate to directly compare the results.*[Note: Work being performed under NCHRP Project 17-72 (Update of Crash Modification Factors for the Highway Safety Manual) is expected to re-calibrate many of the old (HSM-1) and new (e.g., NCHRP 17-70) models to data from a single (or small number of) states, that would allow results from all models to be directly compared.]*

The models produced for NCHRP Project 17-70 have independent value in terms of informing the design of a roundabout and assessing the effects of different design characteristics on the expected safety performance of a roundabout.

The HSM-1 interim method previously included in IHSDM for evaluating roundabouts on urban/suburban arterials (i.e., evaluating an existing intersection and then applying a Crash Modification Factor for replacing the existing intersection with a roundabout) has been deactivated in IHSDM, to minimize any confusion with the new roundabout methodology.

Section Types

Urban Arterial Site Set CPM Evaluation

Site Type

Type: 3ST
Calibration Factor: 1

Table 1. Evaluation and Crash Data (CSD) (if applicable) Intersection Sites

Site No.	Type	Highway	Site Description	Major AADT	Minor AADT	Number of Approaches with Left-Turn Lanes	Number of Approaches with Right-Turn Lanes	Presence of Lighting
1	3ST2x2le5	El Pueblo Rd	Las Lomitas Dr	2021-2026: 4588	2021-2026: 1	1	2	no
2	3ST2x2le5	El Pueblo Rd	Driveway 2 Full Access	2021-2026: 4588	2021-2026: 1	0	0	no

Table 2. Predicted Crash Frequencies and Rates by Site

Site No.	Type	Highway	Site Description	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	3ST	El Pueblo Rd	Las Lomitas Dr	0.070	0.0116	0.0080	0.0036	0.01	0.0116
2	3ST	El Pueblo Rd	Driveway 2 Full Access	0.140	0.0234	0.0160	0.0073	0.01	0.0234
		Total	Total	0.210	0.0350	0.0240	0.0110	0.01	0.0350

Table 3. Predicted Crash Frequencies by Year (3ST)

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2021	0.04	0.02	68.658	0.01	31.342
2022	0.04	0.02	68.658	0.01	31.342
2023	0.04	0.02	68.658	0.01	31.342
2024	0.04	0.02	68.658	0.01	31.342
2025	0.04	0.02	68.658	0.01	31.342
2026	0.04	0.02	68.658	0.01	31.342
Total	0.21	0.14	68.658	0.07	31.342
Average	0.04	0.02	68.658	0.01	31.342

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 4. Predicted 3ST Crash Type Distribution

Element Type	Crash Type	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)	Total Crashes	Percent Total (%)
Intersection	Collision with Animal	0.00	0.0	0.00	0.2	0.00	0.2
Intersection	Collision with Bicycle	0.00	1.5	0.00	0.0	0.00	1.5
Intersection	Collision with Fixed Object	0.01	5.6	0.02	9.0	0.03	14.6
Intersection	Non-Collision	0.00	0.8	0.00	0.3	0.00	1.1
Intersection	Collision with Other Object	0.00	0.7	0.00	1.0	0.00	1.7
Intersection	Other Single-vehicle Collision	0.00	0.3	0.00	0.2	0.00	0.5
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.00	2.0	0.00	0.0	0.00	2.0
Intersection	Total Intersection Single Vehicle Crashes	0.02	11.0	0.02	10.8	0.05	21.7
Intersection	Angle Collision	0.04	19.8	0.01	5.4	0.05	25.2
Intersection	Head-on Collision	0.01	2.6	0.00	0.5	0.01	3.1
Intersection	Other Multi-vehicle Collision	0.01	3.8	0.01	4.8	0.02	8.6
Intersection	Rear-end Collision	0.05	24.3	0.02	9.0	0.07	33.3
Intersection	Sideswipe	0.01	7.3	0.00	0.8	0.02	8.1
Intersection	Total Intersection Multiple Vehicle Crashes	0.12	57.7	0.04	20.5	0.16	78.3
Intersection	Total Intersection Crashes	0.14	68.7	0.07	31.3	0.21	100.0
	Total Crashes	0.14	68.7	0.07	31.3	0.21	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

March 9, 2022

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User Name: JPham
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Phone:
E-Mail: jpham@lee-eng.com

Project Title: Lone Sun Brewery TIS
Project Comment: Created Tue Mar 08 13:03:56 MST 2022
Project Unit System: U.S. Customary

Site Set: El Pueblo Rd Driveway 2 No Access
Site Set Comment: Created Tue Mar 08 13:04:12 MST 2022
Site Set Version: v1

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Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration

First Year of Analysis: 2021
Last Year of Analysis: 2026
Empirical-Bayes Analysis: None

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Cooperative Highway Research Program (NCHRP) to develop safety performance models for road segment and intersection facility types that were not initially reflected in the HSM-1, in order to expand the breadth and depth of the HSM in the future.

The IHSDM Crash Prediction Module (CPM) is intended as a faithful implementation of HSM Part C predictive methods. As NCHRP projects to develop new predictive methods for the HSM are completed, FHWA works to incorporate the new methods into IHSDM, sometimes in advance of publication in the HSM. The following new crash predictive methods have been accepted by NCHRP project panels and incorporated into IHSDM, while pending AASHTO's approval for incorporation into a future edition of the HSM:

- Roundabouts: completed in 2018 under NCHRP Project 17-70, the new methods will provide improved outcomes for the safety analysis of roundabouts.
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- Intersection crash prediction methods for some intersection configurations and traffic control types not currently addressed in the HSM (e.g., all-way stop; rural 3-leg signalized; 3-leg stop-controlled where the major leg turns; urban 5-leg signalized; urban high-speed intersections): completed in 2021 under NCHRP Project 17-68.

However, in the absence of local calibration factors (see HSM-1 Part C, Appendix A for guidance on calibration of the predictive models), it is neither appropriate nor advisable to directly compare the results from new models (from NCHRP Projects 17-58, 17-68, and 17-70) to results from HSM-1 models, as the models were not calibrated to the same base state data sets, and consequently can produce unexpected results. If local calibration factors are available and applied to both new models and HSM-1 models, then it may be appropriate to directly compare the results.*[Note: Work being performed under NCHRP Project 17-72 (Update of Crash Modification Factors for the Highway Safety Manual) is expected to re-calibrate many of the old (HSM-1) and new (e.g., NCHRP 17-70) models to data from a single (or small number of) states, that would allow results from all models to be directly compared.]*

The models produced for NCHRP Project 17-70 have independent value in terms of informing the design of a roundabout and assessing the effects of different design characteristics on the expected safety performance of a roundabout.

The HSM-1 interim method previously included in IHSDM for evaluating roundabouts on urban/suburban arterials (i.e., evaluating an existing intersection and then applying a Crash Modification Factor for replacing the existing intersection with a roundabout) has been deactivated in IHSDM, to minimize any confusion with the new roundabout methodology.

Section Types

Urban Arterial Site Set CPM Evaluation

Site Type

Type: 3ST
Calibration Factor: 1

Table 1. Evaluation and Crash Data (CSD) (if applicable) Intersection Sites

Site No.	Type	Highway	Site Description	Major AADT	Minor AADT	Number of Approaches with Left-Turn Lanes	Number of Approaches with Right-Turn Lanes	Presence of Lighting
1	3ST2x2le5	El Pueblo Rd	Las Lomitas Dr	2021-2026: 4588	2021-2026: 1990	1	2	no

Table 2. Predicted Crash Frequencies and Rates by Site

Site No.	Type	Highway	Site Description	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	3ST	El Pueblo Rd	Las Lomitas Dr	1.901	0.3169	0.1194	0.1975	0.16	0.3169
		Total	Total	1.901	0.3169	0.1194	0.1975	0.16	0.3169

Table 3. Predicted Crash Frequencies by Year (3ST)

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2021	0.32	0.12	37.690	0.20	62.310
2022	0.32	0.12	37.690	0.20	62.310
2023	0.32	0.12	37.690	0.20	62.310
2024	0.32	0.12	37.690	0.20	62.310
2025	0.32	0.12	37.690	0.20	62.310
2026	0.32	0.12	37.690	0.20	62.310
Total	1.90	0.72	37.690	1.19	62.310
Average	0.32	0.12	37.690	0.20	62.310

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 4. Predicted 3ST Crash Type Distribution

Element Type	Crash Type	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)	Total Crashes	Percent Total (%)
Intersection	Collision with Animal	0.00	0.0	0.01	0.4	0.01	0.4
Intersection	Collision with Bicycle	0.03	1.5	0.00	0.0	0.03	1.5
Intersection	Collision with Fixed Object	0.15	8.2	0.34	17.7	0.49	25.9
Intersection	Non-Collision	0.02	1.1	0.01	0.6	0.03	1.8
Intersection	Collision with Other Object	0.02	1.0	0.04	2.0	0.06	2.9
Intersection	Other Single-vehicle Collision	0.01	0.4	0.01	0.5	0.02	0.9
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.1	0.00	0.1
Intersection	Collision with Pedestrian	0.04	2.0	0.00	0.0	0.04	2.0
Intersection	Total Intersection Single Vehicle Crashes	0.27	14.3	0.40	21.3	0.68	35.6
Intersection	Angle Collision	0.15	8.0	0.20	10.8	0.36	18.8
Intersection	Head-on Collision	0.02	1.1	0.02	0.9	0.04	2.0
Intersection	Other Multi-vehicle Collision	0.03	1.5	0.18	9.6	0.21	11.2
Intersection	Rear-end Collision	0.19	9.8	0.34	18.1	0.53	27.9
Intersection	Sideswipe	0.06	2.9	0.03	1.6	0.09	4.6
Intersection	Total Intersection Multiple Vehicle Crashes	0.45	23.4	0.78	41.0	1.23	64.4
Intersection	Total Intersection Crashes	0.72	37.7	1.19	62.3	1.90	100.0
	Total Crashes	0.72	37.7	1.19	62.3	1.90	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

March 8, 2022

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Report Overview

Report Generated: Mar 8, 2022 5:11 PM
Report Template: System: Multi-Page, 508 Compliant [System] (sscpm4, Mar 8, 2022 12:45 PM)

Evaluation Date: Tue Mar 08 17:10:52 MST 2022
IHSDM Version: v17.0.0 (Sep 22, 2021)
Site Set Crash Prediction Module: v|ModuleInfo.moduleVersion| (|ModuleInfo.moduleDate|)

User Name: JPham
Organization Name: Lee Engineering
Phone:
E-Mail: jpham@lee-eng.com

Project Title: Lone Sun Brewery TIS
Project Comment: Created Tue Mar 08 13:03:56 MST 2022
Project Unit System: U.S. Customary

Site Set: El Pueblo Rd RI/RO
Site Set Comment: Copied from El Pueblo Rd (v1)
Site Set Version: v1

Evaluation Title: Evaluation 1
Evaluation Comment: Created Tue Mar 08 17:10:41 MST 2022
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration

First Year of Analysis: 2021
Last Year of Analysis: 2026
Empirical-Bayes Analysis: None

Disclaimer Regarding Crash Prediction Method

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Site No.	Type	Highway	Site Description	Major AADT	Minor AADT	Number of Approaches with Left-Turn Lanes	Number of Approaches with Right-Turn Lanes	Presence of Lighting
1	3ST2x2le5	El Pueblo Rd	Los Lomitas Dr	2021-2026: 4588	2021-2026: 1	0	1	no

Table 2. Predicted Crash Frequencies and Rates by Site

Site No.	Type	Highway	Site Description	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	3ST	El Pueblo Rd	Los Lomitas Dr	0.121	0.0201	0.0138	0.0063	0.01	0.0201
		Total	Total	0.121	0.0201	0.0138	0.0063	0.01	0.0201

Table 3. Predicted Crash Frequencies by Year (3ST)

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2021	0.02	0.01	68.658	0.01	31.342
2022	0.02	0.01	68.658	0.01	31.342
2023	0.02	0.01	68.658	0.01	31.342
2024	0.02	0.01	68.658	0.01	31.342
2025	0.02	0.01	68.658	0.01	31.342
2026	0.02	0.01	68.658	0.01	31.342
Total	0.12	0.08	68.658	0.04	31.342
Average	0.02	0.01	68.658	0.01	31.342

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 4. Predicted 3ST Crash Type Distribution

Element Type	Crash Type	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)	Total Crashes	Percent Total (%)
Intersection	Collision with Animal	0.00	0.0	0.00	0.2	0.00	0.2
Intersection	Collision with Bicycle	0.00	1.5	0.00	0.0	0.00	1.5
Intersection	Collision with Fixed Object	0.01	5.6	0.01	9.0	0.02	14.6
Intersection	Non-Collision	0.00	0.8	0.00	0.3	0.00	1.1
Intersection	Collision with Other Object	0.00	0.7	0.00	1.0	0.00	1.7
Intersection	Other Single-vehicle Collision	0.00	0.3	0.00	0.2	0.00	0.5
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.00	2.0	0.00	0.0	0.00	2.0
Intersection	Total Intersection Single Vehicle Crashes	0.01	11.0	0.01	10.8	0.03	21.7
Intersection	Angle Collision	0.02	19.8	0.01	5.4	0.03	25.2
Intersection	Head-on Collision	0.00	2.6	0.00	0.5	0.00	3.1
Intersection	Other Multi-vehicle Collision	0.01	3.8	0.01	4.8	0.01	8.6
Intersection	Rear-end Collision	0.03	24.3	0.01	9.0	0.04	33.3
Intersection	Sideswipe	0.01	7.3	0.00	0.8	0.01	8.1
Intersection	Total Intersection Multiple Vehicle Crashes	0.07	57.7	0.03	20.5	0.09	78.3
Intersection	Total Intersection Crashes	0.08	68.7	0.04	31.3	0.12	100.0
	Total Crashes	0.08	68.7	0.04	31.3	0.12	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Site Type

Type: 3ST_1WA
Calibration Factor: 1

Table 5. Evaluation and Crash Data (CSD) (if applicable) Intersection Sites

Site No.	Type	Highway	Site Description	Major AADT	Minor AADT	Presence of Lighting
1	3ST1x2	El Pueblo Rd	Driveway 2 RI-RO	2021-2026: 4588	2021-2026: 184	no

Table 6. Predicted Crash Frequencies and Rates by Site

Site No.	Type	Highway	Site Description	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	3ST	El Pueblo Rd	Driveway 2 RI-RO	0.573	0.0954	0.0497	0.0458	0.06	0.0954
		Total	Total	0.573	0.0954	0.0497	0.0458	0.06	0.0954

Table 7. Predicted Crash Frequencies by Year (3ST_1WA)

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2021	0.10	0.05	52.022	0.05	47.978
2022	0.10	0.05	52.022	0.05	47.978
2023	0.10	0.05	52.022	0.05	47.978
2024	0.10	0.05	52.022	0.05	47.978
2025	0.10	0.05	52.022	0.05	47.978
2026	0.10	0.05	52.022	0.05	47.978
Total	0.57	0.30	52.022	0.28	47.978
Average	0.10	0.05	52.022	0.05	47.978

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 8. Predicted USA 3ST_1WA Sites Crash Severity

Site No.	Fatal (K) Crashes (crashes)	Incapacitating Injury (A) Crashes (crashes)	Non-Incapacitating Injury (B) Crashes (crashes)	Possible Injury (C) Crashes (crashes)	No Injury (O) Crashes (crashes)
1	0.0016	0.0367	0.0897	0.1699	0.2748
Total	0.0016	0.0367	0.0897	0.1699	0.2748

Table 9. Predicted 3ST_1WA Crash Type Distribution

Element Type	Crash Type	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)	Total Crashes	Percent Total (%)
Intersection	Angle Collision	0.08	14.6	0.07	12.0	0.15	26.6
Intersection	Collision with Bicycle	0.01	1.7	0.00	0.0	0.01	1.7
Intersection	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Other Multi-vehicle Collision	0.03	4.9	0.01	2.4	0.04	7.3
Intersection	Other Single-vehicle Collision	0.03	4.9	0.07	12.0	0.10	16.9
Intersection	Collision with Pedestrian	0.01	1.5	0.00	0.0	0.01	1.5
Intersection	Rear-end Collision	0.03	4.9	0.03	4.8	0.06	9.7
Intersection	Sideswipe	0.11	19.5	0.10	16.8	0.21	36.3
Intersection	Total Intersection Total Vehicle Crashes	0.30	52.0	0.28	48.0	0.57	100.0
Intersection	Total Intersection Crashes	0.30	52.0	0.28	48.0	0.57	100.0
	Total Crashes	0.30	52.0	0.28	48.0	0.57	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.