



TRAFFIC IMPACT ANALYSIS

NWC Riviera Drive
and Mesquite Avenue
Lake Havasu City, Arizona

Prepared for:

Circle K Stores, Inc.

Kimley»»Horn

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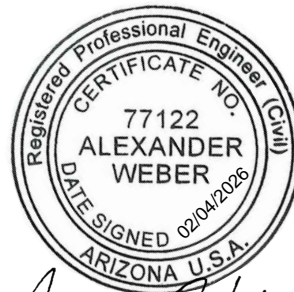
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A handwritten signature in black ink that reads "Alexander Weber".

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1 EXECUTIVE SUMMARY

1.1 INTRODUCTION

This report documents a traffic impact analysis (TIA) performed for a proposed gas station with convenience store and an automated car wash development located on the northwest corner of the intersection of Riviera Drive and Mesquite Avenue in Lake Havasu City, Arizona. The site is anticipated to be built out by 2026.

1.2 REPORT PURPOSE AND OBJECTIVES

Kimley-Horn and Associates, Inc. has been retained by Circle K Stores Inc. to perform the TIA for the proposed development.

The purpose of this study is to address traffic and transportation impacts of the proposed development on surrounding streets and intersections. This traffic impact analysis was prepared based on Mohave County Traffic Impact Analysis Guidelines and on previous coordination between Lake Havasu City and Kimley-Horn. The specific objectives of this study are:

- To evaluate lane requirements on existing roadway links and at the study area intersections;
- To determine future level of service (LOS) for the analyzed study area intersections and recommend any capacity-related improvements;
- To determine necessary lane configurations at all new driveways within the proposed development in order to provide acceptable future levels of service;
- To analyze the most recent 5-years crash history data for the intersection of Riviera Drive and Mesquite Avenue;
- To evaluate the need for auxiliary lanes at all study area intersections; and
- To evaluate the need for future traffic signals.

1.3 PRINCIPAL FINDINGS AND RECOMMENDATIONS

The proposed development is expected to generate 1,548 new daily trips, with 156 new AM peak hour trips and 146 new PM peak hour trips. To estimate the maximum traffic impacts that can be expected, it is assumed that the site will be fully built out by 2026.

- The study area intersections are expected to operate at a satisfactory LOS in 2026 total traffic conditions.
- The intersection of Riviera Drive and Mesquite Avenue meets Warrant 7 using crash history data for the last available 5-year period. Therefore, the installation of a traffic signal is recommended at site build out as an alternative to reduce preventable crashes at this location.
- It is recommended that sight triangles be provided at all site access points to give drivers exiting the site a clear view of oncoming traffic. The landscaping within sight triangles must not obstruct drivers' views of the adjacent travel lanes.

2 PROPOSED DEVELOPMENT

2.1 SITE LOCATION

The proposed development is located on the northwest corner of the intersection of Riviera Boulevard and Mesquite Avenue in Lake Havasu City, Arizona.

2.2 LAND USE AND SITE PLAN

The development consists of a gas station with 12 fueling positions and a 5,200 square feet (SF) convenience store and a one tunnel automated car wash. The total site area is approximately 0.94 acres. The layout of the site is illustrated in **Figure 1**.

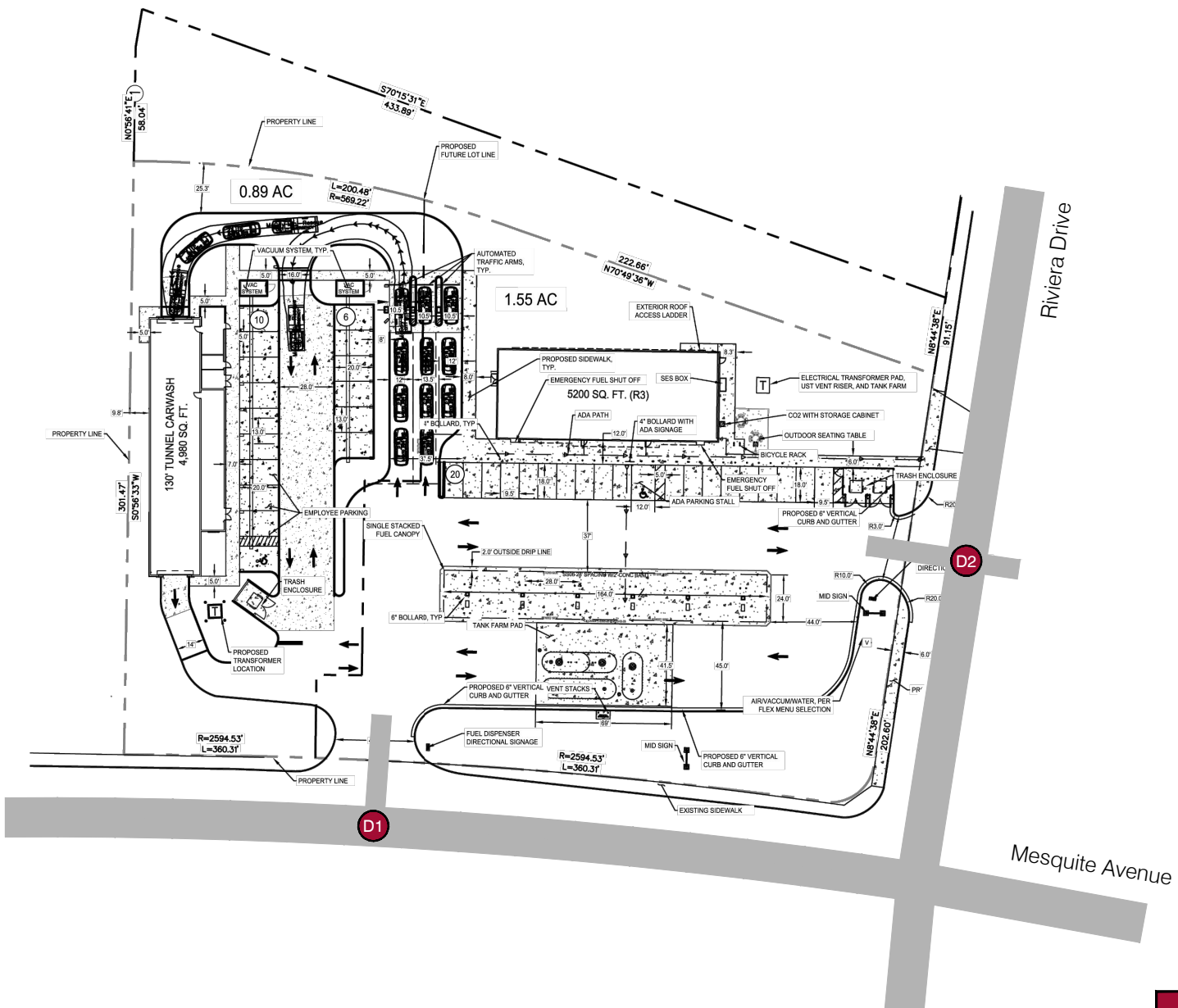
2.3 SITE ACCESSIBILITY

The site is accessed locally via Riviera Boulevard and Mesquite Avenue. Regional access is expected to be provided by State Route 95 and by the other arterial streets in the vicinity such as McCulloch Boulevard and Acoma Boulevard.

2.4 SITE CIRCULATION

The site plan is shown in previously referenced **Figure 1**. Access to the development is proposed to be provided by two new driveways.

- Driveway D1 is a proposed full access driveway located along the north side of Mesquite Avenue approximately 280 feet west of Riviera Drive.
- Driveway D2 is a proposed right-in/right-out driveway located along the west side of Riviera Drive approximately 170 feet north of Mesquite Avenue.



LEGEND	
	DRIVEWAYS

3 STUDY AREA

3.1 STUDY AREA

The study area includes the intersection of Riviera Drive and Mesquite Avenue as well as the two proposed site driveways.

3.2 ADJACENT LAND USE

The area in the vicinity of the site is primarily composed of commercial and medical land uses with residential zones located further north and south of the site.

4 EXISTING CONDITIONS

4.1 PHYSICAL CHARACTERISTICS

The existing roadway network within the study area includes Mesquite Avenue and Riviera Drive. **Figure 2** shows the existing lane use and traffic control at the intersection of Mesquite Avenue and Riviera Drive.

Mesquite Avenue currently extends east-west with two lanes in the eastbound direction and one lane in the westbound direction with a center two-way left-turn lane. Curb, gutter, and sidewalk are present on both sides of the road. Mesquite Avenue has a 30 miles per hour posted speed limit within the study area.

Riviera Drive currently extends north-south with one lane in each direction and a center two-way left-turn lane. Curb, gutter, and sidewalk are present on both sides of the road. Riviera Drive has a 25 miles per hour posted speed limit within the study area.

The existing intersection analyzed in this report, Riviera Drive and Mesquite Avenue, is an all-way stop-controlled intersection.

4.2 TRAFFIC VOLUMES

24-hour turning movement counts were collected at the existing study area intersection on Wednesday, March 26, 2025. The results of these counts are shown in **Figure 2**. Copies of the traffic counts are attached in the **Appendix**.

4.3 LEVEL OF SERVICE

The LOS at the existing study area intersections was evaluated using the collected traffic counts described previously. Intersection LOS was evaluated using the *Highway Capacity Manual (HCM) 7th Edition* methodology for unsignalized intersections using *Synchro 12* analysis software. Due to limitations with HCM methodology for all-way stop-controlled intersections with more than three lanes on one approach, the eastbound approach at the intersection of Riviera Drive and Mesquite Avenue was analyzed with one left turn lane, one through lane, and one right turn lane. For this reason, the level of service analysis may operate better under actual conditions. The existing intersection geometry and control shown in **Figure 2** was used to obtain the LOS. The results of this analysis are shown in **Table 1**. LOS analysis worksheets are included in the **Appendix**.

Table 1. Existing Level of Service – Unsignalized Intersections

Intersection	NB			SB			EB			WB			Intersection LOS
	L	T	R	L	T	R	L	T	R	L	T	R	
<i>Riviera Drive and Mesquite Avenue</i>													
AM Peak	B	B	A	B	B	A	B	B	A	B	B		B
PM Peak	B	B	B	B	B	B	B	C	A	B	C		C

The existing intersection operates at a satisfactory LOS.

4.4 CRASH HISTORY

Crash data for the existing study area intersection was obtained using the ADOT ACIS database for the latest available 5-year period (2019 to 2023). The crash data is included in the **Appendix**.

Table 2 summarizes the number of crashes by injury severity and **Table 3** summarizes the number of crashes by crash type.

Table 2. Crashes by Injury Severity - Riviera Drive and Mesquite Avenue

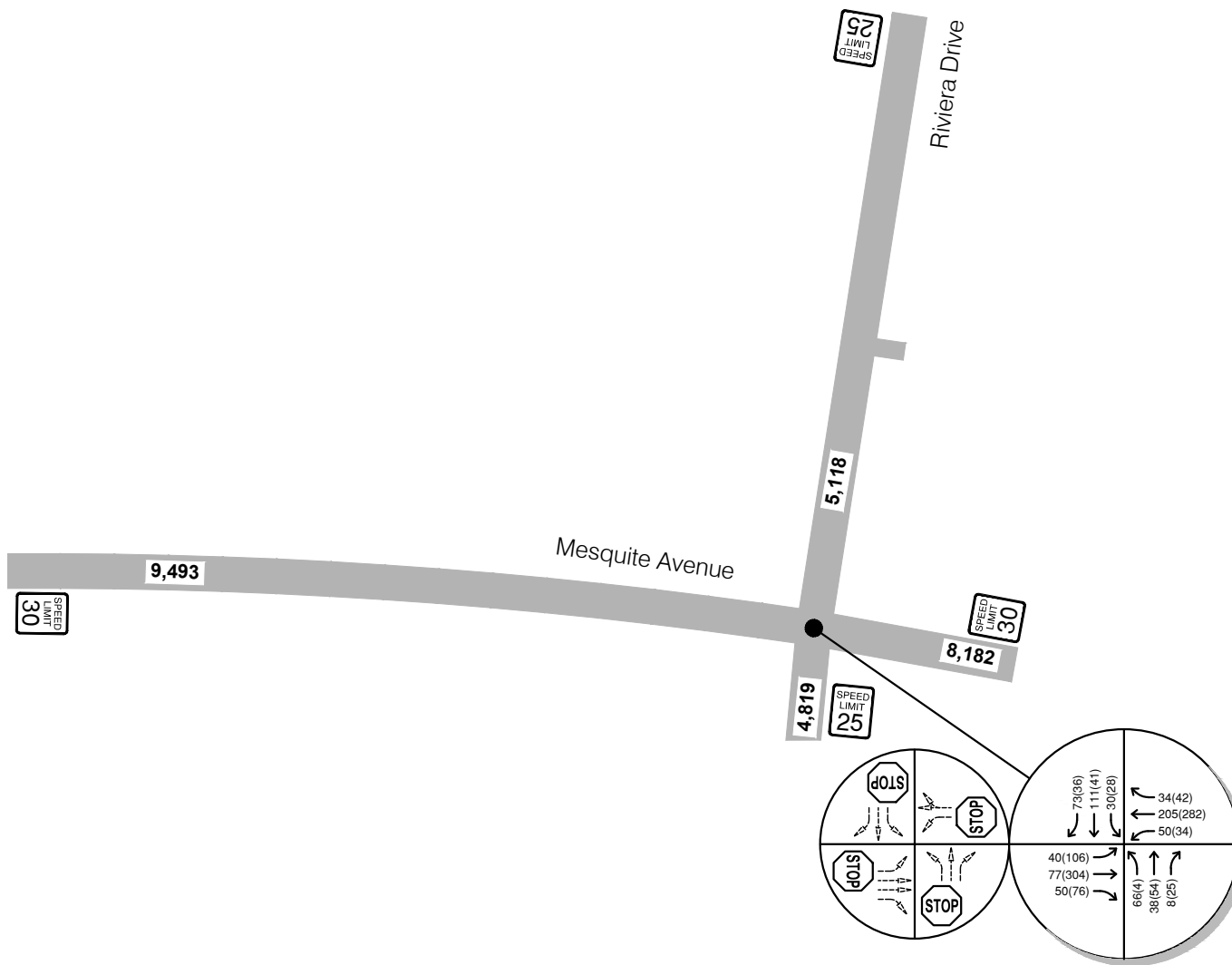
Year	Injury Severity						Total
	No Injury	Possible Injury	Suspected Minor Injury	Suspected Serious Injury	Fatal Injury	Not Reported/Unknown	
2019	6	0	0	1	0	0	7
2020	1	0	0	1	0	0	2
2021	0	0	1	0	0	0	1
2022	5	1	0	0	0	0	6
2023	4	1	0	0	0	0	5

As shown in **Table 2**, a total of 21 crashes were reported within the intersection in the last 5 years. No crashes resulted in a fatal injury and there was a total of three (3) crashes reported with a suspected minor or serious injury from 2019 to 2023.

Table 3. Crashes by Crash Type - Riviera Drive and Mesquite Avenue

Year	Crash Type											Total
	Single Vehicle	Angle	Left Turn	Rear End	Head-on	Sideswipe (same direction)	Sideswipe (opposite direction)	Rear-to-Side	Rear-to-Rear	Other	Unknown	
2019	1	2	1	1	1	1	0	0	0	0	0	7
2020	1	1	0	0	0	0	0	0	0	0	0	2
2021	0	1	0	0	0	0	0	0	0	0	0	1
2022	0	4	0	1	0	1	0	0	0	0	0	6
2023	0	2	1	2	0	0	0	0	0	0	0	5

As shown in **Table 3**, angle crashes were the type of crashes with major frequency in the study area with a total of ten (10) crashes recorded at the intersection from 2019 to 2023. Seven (7) of these crashes were recorded in the last three recorded years (2021 to 2023).



LEGEND	
← XX(XX)	AM(PM) PEAK HOUR TRAFFIC VOLUMES
X,XXX	AVERAGE DAILY TRAFFIC VOLUMES
→	EXISTING LANE USE
STOP	EXISTING INTERSECTION CONTROL
SPEED LIMIT XX	SPEED LIMIT

5 PROJECTED TRAFFIC

5.1 SITE TRAFFIC FORECASTS

5.1.1 TRIP GENERATION

The Institute of Transportation Engineers' (ITE) *Trip Generation, 11th Edition* was used to obtain daily and peak hour trip generation rates and inbound/outbound percentages, which were then used to estimate the number of daily and peak hour trips that can be attributed to the proposed development. The trip generation characteristics of the site are summarized in **Table 4**. Trip generation calculations are provided in the **Appendix**.

Table 4. Project Trip Generation

Land Use	ITE Code	Quantity	Units	Daily Total	AM Peak			PM Peak		
					In	Out	Total	In	Out	Total
Gas Station with Convenience Store (4 - 5.5k square feet)	945	12	Fueling Position(s)	3,086	162	162	324	137	136	273
Automated Car Wash	948	1	Tunnel(s)	776	39	39	78	39	39	78
Trips Subtotal				3,862	201	201	402	176	175	351
Pass-By Trip Reductions				-2,314	-123	-123	-246	-103	-102	-205
Primary Trips				1,548	78	78	156	73	73	146

The proposed development is expected to generate 3,862 daily trips, with 402 trips occurring in the AM peak hour and 351 trips occurring in the PM peak hour. Owing to the proposed land uses, trip reductions are anticipated and justified below.

5.1.2 TRIP REDUCTIONS

As documented in the ITE publication *Trip Generation, 11th Edition*, gas stations do not typically generate exclusively new traffic on a roadway system. The total traffic generation is a combination of pass-by trips, or traffic drawn directly from the passing traffic flow on the adjacent streets, and primary trips, which represent new traffic drawn to the facility. To assess pass-by trips, the data published in the ITE *Trip Generation Handbook* was used to estimate the pass-by percentages for a Gas Station with Convenience Store land use. Note that pass-by trip reductions do not reduce driveway traffic volumes. Pass-by reductions are shown in the **Appendix**.

Considering pass-by trips, the proposed development is expected to add 1,548 new daily trips, 156 new AM peak hour trips, and 146 new PM peak hour trips to the roadway network.

5.1.3 TRIP DISTRIBUTION

Trips were distributed based on existing patterns observed with traffic collected data, the surrounding roadway network configuration, and development within the area. **Figure 3** illustrates the site trip distribution applied to primary tips.

The trip distribution for pass-by trips was determined by the existing directional traffic passing through the proposed driveway locations and by the type of proposed driveway.

5.1.4 SITE TRAFFIC ASSIGNMENT

Trips generated by the proposed development were assigned to the roadway network based on the trip distribution and the likely travel patterns to and from the site. **Figure 4** shows the results of the site primary traffic assignment.

Pass-by trips were assigned to the street system based on the anticipated use of the roadway facilities for users accessing the site. **Figure 5** shows the projected pass-by site traffic assignment. The resulting total traffic assignment is shown in **Figure 6**.

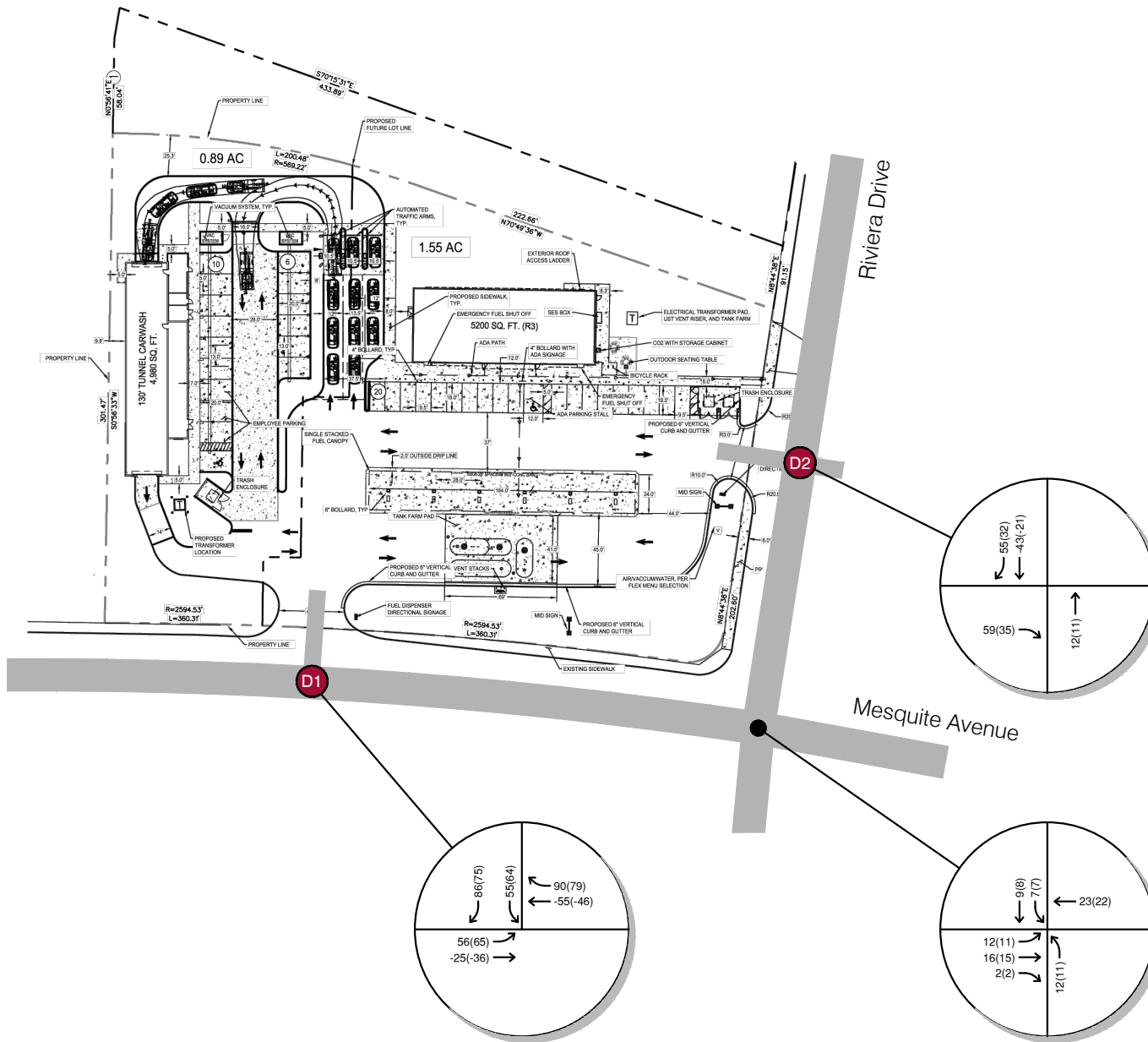
5.2 FUTURE TRAFFIC FORECASTING

2025 collected average daily traffic volumes are consistent with historical available traffic volume data. To be conservative an annual growth rate of 1.0 percent per year was applied to the existing turning movements to obtain 2026 background traffic volumes.

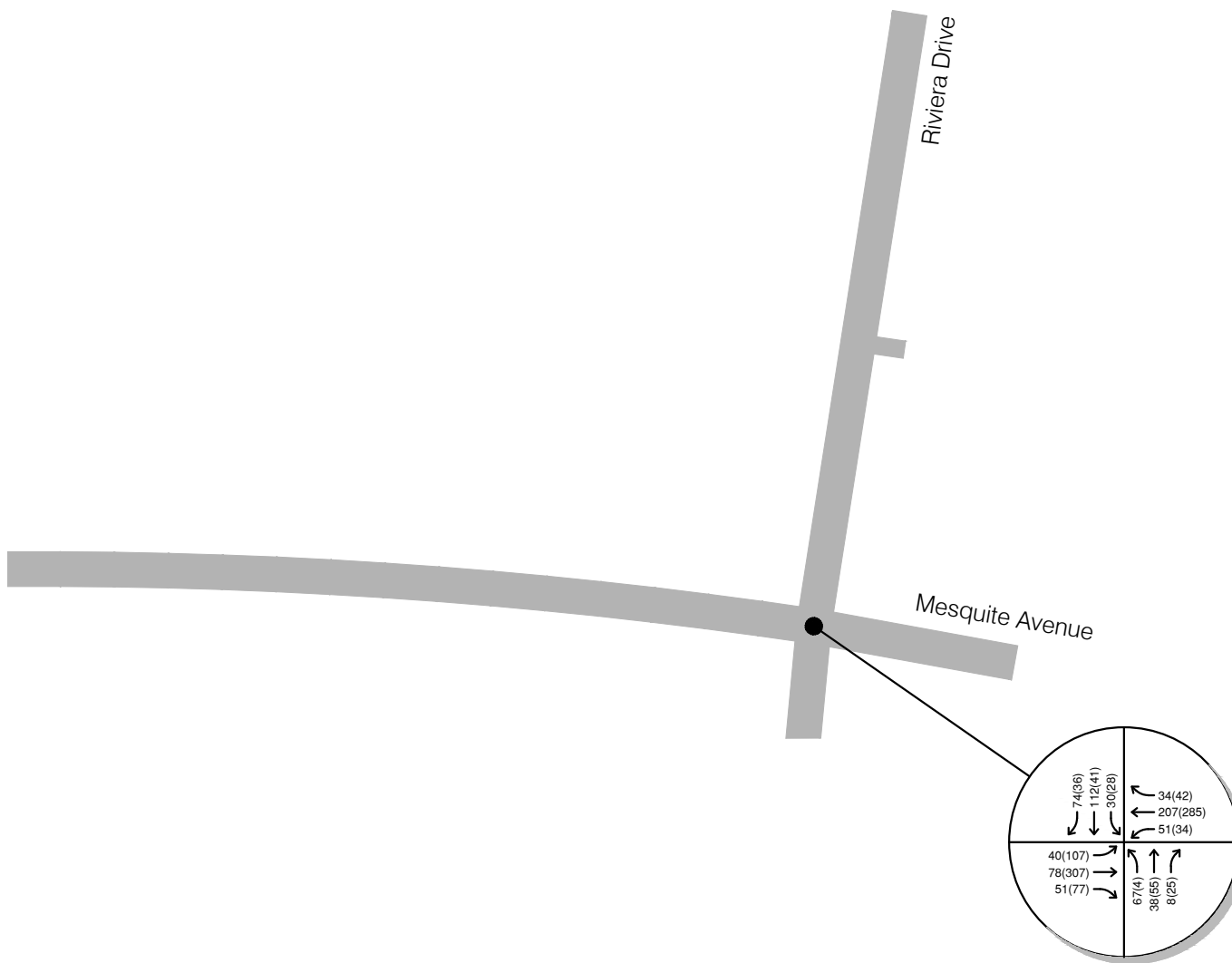
The resulting 2026 background traffic volumes are shown in **Figure 7**.

5.3 TOTAL TRAFFIC

The results of the traffic assignment were added to the 2026 background traffic volumes to produce total traffic volumes for the study area. These total traffic volumes are shown in **Figure 8**.



LEGEND	
← XX(XX)	AM(PM) PEAK HOUR TRAFFIC VOLUMES



LEGEND

← XX(XX) AM(PM) PEAK HOUR TRAFFIC VOLUMES

6 TRAFFIC AND IMPROVEMENT ANALYSIS

6.1 LEVEL OF SERVICE ANALYSIS

The LOS for the study area intersections for 2026 was evaluated using the *Highway Capacity Manual 7th Edition* methodology for unsignalized intersections using *Synchro 12* analysis software. Due to limitations with HCM methodology for all-way stop-controlled intersections with more than three lanes on one approach, the eastbound approach at the intersection of Riviera Drive and Mesquite Avenue was analyzed with one left turn lane, one through lane, and one right turn lane. For this reason, the level of service analysis may operate better under actual conditions. LOS analysis worksheets are included in the **Appendix**.

6.1.1 2026 BACKGROUND TRAFFIC LEVEL OF SERVICE ANALYSIS

The existing study area intersection was evaluated based on the 2026 background traffic volumes shown in **Figure 5** and existing geometry shown in **Figure 2**. The results of this analysis are shown in **Table 5**.

Table 5. 2026 Background Level of Service – Unsignalized Intersections

Intersection	NB			SB			EB			WB			Intersection LOS
	L	T	R	L	T	R	L	T	R	L	T	R	
<i>Riviera Drive and Mesquite Avenue</i>													
AM Peak	B	B	A	B	B	A	B	B	A	B	B	B	B
PM Peak	B	B	B	B	B	B	B	C	A	B	C	C	B

The existing intersection is expected to operate at a satisfactory LOS in 2026 background traffic conditions.

6.1.2 2026 TOTAL TRAFFIC LEVEL OF SERVICE ANALYSIS

The study area intersections were evaluated based on the 2026 total traffic volumes and recommended geometry shown in **Figure 8**. The results of this analysis are shown in **Table 6**.

Table 6. 2026 Total Traffic Level of Service – Unsignalized Intersections

Intersection	NB			SB			EB			WB			Intersection LOS
	L	T	R	L	T	R	L	T	R	L	T	R	
<i>Riviera Drive and Mesquite Avenue</i>													
AM Peak	B	B	A	B	B	B	B	B	B	B	C	C	B
PM Peak	B	B	B	B	B	B	B	B	B	B	D	D	C
<i>Driveway D1 and Mesquite Avenue</i>													
AM Peak				B		B	A	-			-	-	
PM Peak				B		B	A	-			-	-	
<i>Riviera Drive and Driveway D2</i>													
AM Peak			-			-			A			A	
PM Peak			-			-			A			A	

The study area intersections are expected to operate at a satisfactory LOS in 2026 total traffic conditions. A signal warrant analysis is conducted later in Section 6.2 of this report at the intersection of Riviera Drive and Mesquite Avenue and the intersection was found to warrant signal control. Therefore, a LOS analysis was completed for the intersection of Riviera Drive and Mesquite Avenue assuming the intersection was signalized and the LOS under these circumstances is shown in **Table 7**.

Table 7. 2026 Total Traffic Level of Service – Signalized Intersection

Intersection	NB			SB			EB			WB			Intersection LOS
	L	T	R	L	T	R	L	T	R	L	T	R	
<i>Riviera Drive and Mesquite Avenue</i>													
AM Peak	B	B	B	B	B	B	B	B	B	B	B	B	B
PM Peak	B	B	B	B	B	B	A	B	A	B	B	B	B

The Riviera Drive and Mesquite Avenue intersection is expected to operate at a satisfactory LOS as a signalized intersection in 2026 total traffic conditions.

6.2 SIGNAL WARRANT ANALYSIS

The 2026 total volumes shown in **Figure 8** were analyzed to determine whether the intersection of Riviera Drive and Mesquite Avenue warrants the installation of a traffic signal. The signal warrant analysis was prepared based on the *2023 Manual on Uniform Traffic Control Devices (MUTCD)*, Warrant 1, 2, and 3 (eight-hour, four-hour, and peak-hour volume warrants, respectively). A copy of worksheets documenting the results of the analysis is provided in the **Appendix**. It was determined that the intersection of Riviera Drive and Mesquite Avenue does not meet the volume warrants under 2026 total conditions.

The *MUTCD* Warrant 7 (crash experience warrant) was included in the analysis at the intersection of Riviera Drive and Mesquite Avenue. As previously shown in **Table 3**, there were seven (7) reported angle crashes at the intersection during a three-year period, which is higher than the threshold (6 crashes) stated in *Table 4C-3* of the *MUTCD*. There are 8 or more hours of an average day where the vehicular volume at the intersection is equal or higher than the 80 percent columns of *Condition A* within *Table 4C-1* of the *MUTCD*. It was determined that the intersection of Riviera Drive and Mesquite Avenue meets Warrant 7. Therefore, the installation of a traffic signal is recommended at site build out as an alternative to reduce preventable crashes at this location. **Table 7** shows the level of service analysis for the intersection with signal control.

6.3 LEFT-TURN STORAGE ANALYSIS

The unsignalized intersections in the study area were analyzed to determine the left-turn storage needed to accommodate the expected total traffic volumes in the buildout year 2026. The calculated storage lengths are based on total traffic volumes shown in **Figure 8**.

Table 8 provides the recommended left-turn storage at the study area intersections. The calculations associated with these conclusions are included in the **Appendix**.

Table 8. Left-Turn Storage

Intersection and Approach	Existing	HCM 95 th Percentile Queue	Recommended
Riviera Drive and Mesquite Avenue			
- Northbound Approach	90 feet	50 feet	90 feet*
- Southbound Approach	100 feet	25 feet	100 feet*
- Eastbound Approach	100 feet	25 feet	100 feet*
- Westbound Approach	80 feet	25 feet	80 feet*
Driveway D1 and Mesquite Avenue			
- Eastbound Approach	TWLT	25 feet	TWLT

*Calculated value less than existing.

TWLT = Two-way left-turn lane.

As shown in **Table 8**, the existing left-turn lanes are expected to accommodate the projected queues.

6.4 RIGHT-TURN LANES

Right-turn lanes are often recommended on roadways where right-turning vehicles create delays or safety concerns for other traffic movements. The need for a right-turn lane depends on the speed of traffic on the road, the volume of traffic turning right, and the through traffic volume in the same lane as the right-turning traffic.

6.4.1 INTERSECTIONS

Right turn lanes are provided on all approaches at the intersection of Riviera Drive and Mesquite Avenue. Review of queues using 2026 total traffic volumes reveals that the existing right turn storage is expected to accommodate the projected queues. The HCM 95th percentile queues are included in the **Appendix**.

6.4.2 DRIVEWAY

Turn lane warrants were analyzed per ADOT Traffic Guidelines and Processes to determine if right turn lanes were required at the proposed site driveways. Right turn lane warrants are not met at any of the two proposed driveways using 2026 total volumes.

6.5 SITE CIRCULATION

To provide smooth ingress and egress to the proposed development, all site driveways should be constructed with appropriate throat lengths. Provision of sufficient throat lengths at all site driveways will prevent entering vehicles from obstructing traffic flow on the adjacent public street system and provide adequate on-site storage for exiting vehicles. Based on the site plan, sufficient throat length is provided to accommodate the projected on-site queueing at each driveway.

6.6 SIGHT TRIANGLES

It is recommended that sight triangles be provided at all site access points to give drivers exiting the site a clear view of oncoming traffic. The landscaping within sight triangles must not obstruct drivers' views of the adjacent travel lanes.

7 CONCLUSIONS AND RECOMMENDATIONS

The proposed development is expected to generate 1,548 new daily trips, with 156 new AM peak hour trips and 146 new PM peak hour trips. To estimate the maximum traffic impacts that can be expected, it is assumed that the site will be fully built out by 2026.

The study area intersections are expected to operate at a satisfactory LOS in 2026 total traffic conditions.

The intersection of Riviera Drive and Mesquite Avenue meets Warrant 7 using crash history data for the last available 5-year period. Therefore, the installation of a traffic signal is recommended at site build out as an alternative to reduce preventable crashes at this location.

It is recommended that sight triangles be provided at all site access points to give drivers exiting the site a clear view of oncoming traffic. The landscaping within sight triangles must not obstruct drivers' views of the adjacent travel lanes.

APPENDIX

Appendix A: Traffic Counts

Appendix B: Crash Data

Appendix C: Existing AM Traffic Capacity Analysis

Appendix D: Existing PM Traffic Capacity Analysis

Appendix E: Trip Generation

Appendix F: 2026 Background AM Traffic Capacity Analysis

Appendix G: 2026 Background PM Traffic Capacity Analysis

Appendix H: 2026 Total AM Traffic Capacity Analysis

Appendix I: 2026 Total PM Traffic Capacity Analysis

Appendix J: Signal Warrant Analysis

Appendix K: Relevant Standards

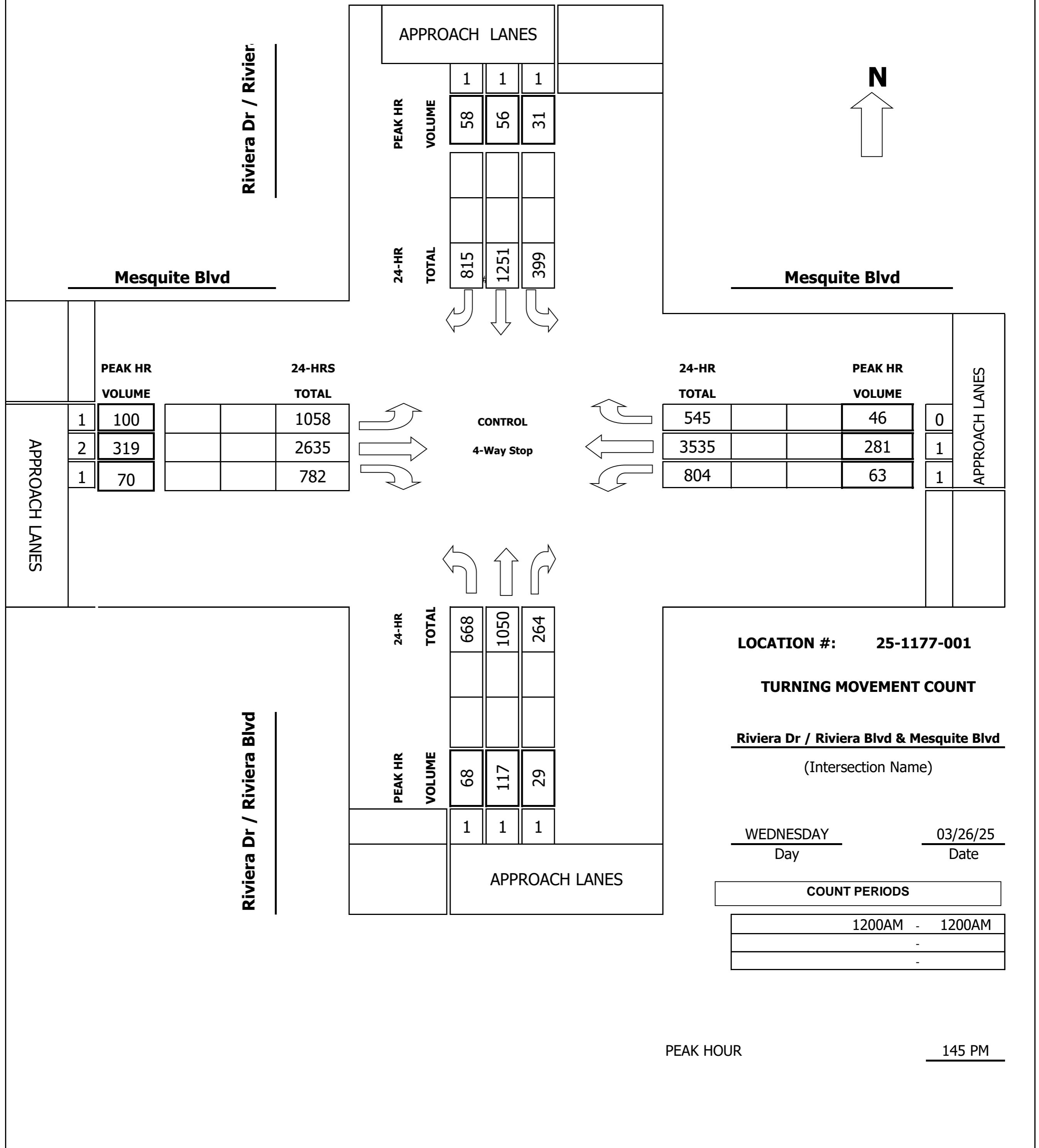
Appendix A: Traffic Counts

**Intersection Turning Movement
Prepared by:**



Project #: 25-1177-001

TMC SUMMARY OF Riviera Dr / Riviera Blvd & Mesquite Blvd



Riviera Dr / Riviera Blvd

APPROACH LANES	
PEAK HR VOLUME	24-HR TOTAL
58	815
56	1251
31	399

Mesquite Blvd

APPROACH LANES	
PEAK HR VOLUME	24-HR TOTAL
46	545
281	3535
63	804

Mesquite Blvd

APPROACH LANES	PEAK HR VOLUME	24-HRS TOTAL
1	100	1058
2	319	2635
1	70	782

Riviera Dr / Riviera Blvd

APPROACH LANES	24-HR TOTAL	PEAK HR VOLUME
0	545	46
1	3535	281
1	804	63

Mesquite Blvd

PEAK HR VOLUME	24-HR TOTAL
68	668
117	1050
29	264

Riviera Dr / Riviera Blvd

APPROACH LANES	PEAK HR VOLUME	24-HR TOTAL
1	68	668
1	117	1050
1	29	264

LOCATION #: 25-1177-001

TURNING MOVEMENT COUNT

Riviera Dr / Riviera Blvd & Mesquite Blvd
(Intersection Name)

WEDNESDAY 03/26/25
Day Date

COUNT PERIODS

1200AM - 1200AM
-
-

PEAK HOUR 145 PM

**Intersection Turning Movement
Prepared by:**



N-S STREET: Riviera Dr / Riviera Blvd DATE: 03/26/25 LOCATION: Lake Havasu
E-W STREET: Mesquite Blvd DAY: WEDNESDAY PROJECT# 25-1177-001

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 2	ER 1	WL 1	WT 1	WR 0	
12:00 AM	0	0	0	0	0	0	3	5	0	0	1	0	9
12:15 AM	0	0	0	0	0	0	0	4	0	0	0	0	4
12:30 AM	0	0	0	0	0	0	4	5	2	0	2	0	13
12:45 AM	0	0	0	0	2	0	0	2	0	0	2	0	6
1:00 AM	0	0	0	0	1	1	1	1	0	0	1	0	5
1:15 AM	0	1	0	0	0	0	3	0	0	1	0	0	5
1:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	2
2:00 AM	0	0	0	0	4	0	1	1	0	3	1	0	10
2:15 AM	0	0	0	0	1	0	1	2	0	2	1	0	7
2:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	2
2:45 AM	0	0	0	1	3	0	0	2	0	0	0	0	6
3:00 AM	1	0	0	0	1	1	1	3	0	1	3	0	11
3:15 AM	1	1	0	1	0	0	1	2	0	3	1	0	10
3:30 AM	0	0	0	0	1	1	0	1	0	2	1	1	7
3:45 AM	0	0	0	0	2	3	0	0	1	1	3	0	10
4:00 AM	0	0	1	0	1	2	2	2	0	0	2	0	10
4:15 AM	0	0	0	0	1	1	1	1	0	0	4	1	9
4:30 AM	3	1	0	0	4	0	1	0	0	0	1	2	12
4:45 AM	1	0	0	0	7	1	0	2	1	1	3	1	17
5:00 AM	1	0	0	3	6	3	0	1	0	2	8	0	24
5:15 AM	0	1	3	3	8	1	1	6	0	1	8	1	33
5:30 AM	8	2	0	1	5	5	2	4	0	4	12	3	46
5:45 AM	6	1	0	1	9	8	3	1	1	1	17	0	48
6:00 AM	9	11	0	2	6	11	9	7	2	5	20	1	83
6:15 AM	16	4	1	2	8	10	3	11	3	8	24	3	93
6:30 AM	18	7	0	4	11	14	5	10	2	5	41	2	119
6:45 AM	14	4	1	7	10	15	6	14	4	9	45	1	130
7:00 AM	21	8	3	3	14	16	7	15	4	11	59	0	161
7:15 AM	20	11	0	6	18	16	3	16	13	10	66	1	180
7:30 AM	13	10	1	6	16	13	3	13	13	14	60	5	167
7:45 AM	16	14	4	11	20	20	12	9	20	15	65	8	214
8:00 AM	16	8	1	9	21	21	10	11	11	11	58	11	188
8:15 AM	15	5	3	8	25	14	8	20	10	10	52	10	180
8:30 AM	14	9	0	5	24	18	12	21	14	14	45	8	184
8:45 AM	21	16	4	8	41	20	10	25	15	15	50	5	230
9:00 AM	20	16	5	2	43	21	13	24	16	15	56	9	240
9:15 AM	16	13	3	8	39	25	14	21	18	15	60	6	238
9:30 AM	18	20	4	8	30	24	9	25	11	11	64	9	233
9:45 AM	14	21	7	7	32	22	7	24	10	10	70	6	230
10:00 AM	21	14	5	12	52	20	16	26	8	14	70	8	266
10:15 AM	20	15	7	6	41	21	19	26	5	18	77	5	260
10:30 AM	16	19	7	9	43	14	20	23	11	16	71	11	260
10:45 AM	18	16	6	7	30	18	13	22	13	16	75	10	244
11:00 AM	14	13	7	9	32	16	23	20	15	13	68	14	244
11:15 AM	10	20	6	12	25	16	23	21	18	9	70	16	246
11:30 AM	11	21	7	5	24	13	24	39	16	11	70	16	257
11:45 AM	8	14	12	9	21	20	20	33	20	10	62	16	245
12:00 PM	9	18	8	3	14	21	26	30	21	14	74	13	251
12:15 PM	13	16	7	6	18	14	20	41	14	18	73	8	248
12:30 PM	16	16	7	5	16	5	15	45	15	16	78	11	245
12:45 PM	16	20	10	10	20	8	15	50	22	16	89	10	286
1:00 PM	15	21	13	12	21	5	7	55	16	13	66	14	258
1:15 PM	14	25	7	19	14	9	21	59	14	20	69	15	286
1:30 PM	21	24	2	6	18	11	21	65	16	14	70	16	284
1:45 PM	20	29	10	6	16	10	30	73	16	18	71	16	315
2:00 PM	16	26	8	12	16	14	28	82	13	16	72	13	316
2:15 PM	18	30	7	6	13	18	24	84	20	16	60	9	305
2:30 PM	14	32	4	7	11	16	18	80	21	13	78	8	302
2:45 PM	10	25	5	6	10	20	32	65	14	20	78	5	290
3:00 PM	11	21	7	16	14	14	32	67	15	21	69	8	295
3:15 PM	8	14	5	8	15	15	23	75	16	14	77	5	275
3:30 PM	9	18	3	12	16	8	28	64	19	14	67	9	267
3:45 PM	6	16	11	9	16	5	17	64	20	15	92	11	282
4:00 PM	1	16	11	9	9	9	29	65	21	8	64	10	252
4:15 PM	2	13	5	7	6	13	27	66	25	5	82	14	265
4:30 PM	1	11	8	9	11	9	22	76	22	8	63	15	255
4:45 PM	0	10	2	4	10	6	27	80	14	11	60	8	232
5:00 PM	1	20	10	8	14	8	30	82	15	10	77	5	280
5:15 PM	2	21	2	3	18	11	26	68	6	14	74	9	254
5:30 PM	3	41	3	2	22	10	16	47	15	15	60	16	250
5:45 PM	1	42	4	9	20	11	23	39	10	16	39	13	227
6:00 PM	0	20	1	8	21	10	15	62	6	16	37	9	205
6:15 PM	2	21	1	6	14	8	16	47	6	13	40	6	180
6:30 PM	1	14	2	4	16	5	15	54	4	9	33	8	165
6:45 PM	4	18	2	2	16	7	11	44	4	6	33	5	152
7:00 PM	6	18	1	2	16	4	13	48	11	8	19	7	153
7:15 PM	1	8	0	4	13	9	16	41	10	5	29	1	137
7:30 PM	7	11	0	4	11	6	17	28	9	7	24	8	132
7:45 PM	1	10	0	0	10	3	11	34	9	4	17	5	104
8:00 PM	1	14	0	0	14	2	6	32	6	8	20	9	112
8:15 PM	1	8	0	0	15	5	11	24	5	11	15	6	101
8:30 PM	2	5	0	0	8	2	7	22	6	10	20	3	85
8:45 PM	2	9	0	0	7	7	13	16	5	7	13	2	81
9:00 PM	0	6	0	0	4	4	7	16	2	4	8	5	56
9:15 PM	1	3	0	0	8	1	4	21	5	8	13	2	66
9:30 PM	0	2	0	0	5	5	10	24	2	5	7	1	61
9:45 PM	1	5	0	0	9	2	3	12	6	9	8	4	59
10:00 PM	4	2	0	0	6	6	3	12	2	6	3	1	45
10:15 PM	1	4	0	0	3	3	2	13	1	3	5	5	40
10:30 PM	2	7	0	0	2	2	4	16	1	2	7	2	45
10:45 PM	0	4	0	0	5	5	0	5	0	5	5	1	30
11:00 PM	2	9	0	0	2	2	0	4	1	2	4	0	26
11:15 PM	1	6	0	0	1	1	2	5	2	1	1	1	21
11:30 PM	0	3	0	0	4	0	0	7	0	0	2	3	19
11:45 PM	1	2	0	0	1	1	0	4	1	1	1	0	12

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	668	1050	264	399	1251	815	1058	2635	782	804	3535	545	13806
Approach %	33.70	52.98	13.32	16.19	50.75	33.06	23.64	58.88	17.47	16.46	72.38	11.16	
App/Depart	1982	/	2653	2465	/	2837	4475	/	3298	4884	/	5018	

Peak Hr Begins at: 145 PM

PEAK													PEAK
Volumes	68	117	29	31	56	58	100	319	70	63	281	46	1238
Approach %	31.78	54.67	13.55	21.38	38.62	40.00	20.45	65.24	14.31	16.15	72.05	11.79	

PEAK HR. FACTOR:													
	0.907			0.863			0.955			0.929		0.979	

CONTROL: 4-Way Stop
COMMENT 1:
GPS: 34.479141, -114.335118



N-S STREET: Riviera Dr / Riviera Blvd

DATE: 03/26/25

LOCATION: Lake Havasu

E-W STREET: Mesquite Blvd

DAY: WEDNESDAY

PROJECT# 25-1177-001

AM PEAK HOUR													
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	1	1	1	1	1	1	2	1	1	1	0	
7:00 AM	21	8	3	3	14	16	7	15	4	11	59	0	161
7:15 AM	20	11	0	6	18	16	3	16	13	10	66	1	180
7:30 AM	13	10	1	6	16	13	3	13	13	14	60	5	167
7:45 AM	16	14	4	11	20	20	12	9	20	15	65	8	214
8:00 AM	16	8	1	9	21	21	10	11	11	11	58	11	188
8:15 AM	15	5	3	8	25	14	8	20	10	10	52	10	180
8:30 AM	14	9	0	5	24	18	12	21	14	14	45	8	184
8:45 AM	21	16	4	8	41	20	10	25	15	15	50	5	230
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
12:00 PM													
12:15 PM													
12:30 PM													
12:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	136	81	16	56	179	138	65	130	100	100	455	48	1504
Approach %	58.37	34.76	6.87	15.01	47.99	37.00	22.03	44.07	33.90	16.58	75.46	7.96	
App/Depart	233	/	194	373	/	379	295	/	202	603	/	729	

AM Peak Hour: 800 AM

PEAK	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	66	38	8	30	111	73	40	77	50	50	205	34	782
Approach %	58.93	33.93	7.14	14.02	51.87	34.11	23.95	46.11	29.94	17.30	70.93	11.76	

PEAK HR. FACTOR:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
		0.683			0.775			0.835			0.903		0.850



N-S STREET: Riviera Dr / Riviera Blvd

DATE: 03/26/25

LOCATION: Lake Havasu

E-W STREET: Mesquite Blvd

DAY: WEDNESDAY

PROJECT# 25-1177-001

PM PEAK HOUR

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	1	1	1	1	1	1	2	1	1	1	0	

1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	1	16	11	9	9	9	29	65	21	8	64	10	252
4:15 PM	2	13	5	7	6	13	27	66	25	5	82	14	265
4:30 PM	1	11	8	9	11	9	22	76	22	8	63	15	255
4:45 PM	0	10	2	4	10	6	27	80	14	11	60	8	232
5:00 PM	1	20	10	8	14	8	30	82	15	10	77	5	280
5:15 PM	2	21	2	3	18	11	26	68	6	14	74	9	254
5:30 PM	3	41	3	2	22	10	16	47	15	15	60	16	250
5:45 PM	1	42	4	9	20	11	23	39	10	16	39	13	227
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	11	174	45	51	110	77	200	523	128	87	519	90	2015
Approach %	4.78	75.65	19.57	21.43	46.22	32.35	23.50	61.46	15.04	12.50	74.57	12.93	
App/Depart	230	/	464	238	/	325	851	/	619	696	/	607	

PM Peak Hour: 4:15 PM

PEAK	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	4	54	25	28	41	36	106	304	76	34	282	42	1032
Approach %	4.82	65.06	30.12	26.67	39.05	34.29	21.81	62.55	15.64	9.50	78.77	11.73	

PEAK HR. FACTOR:	0.669	0.875	0.957	0.886	0.921
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FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745



veracitytrafficgroup

Pedestrian & Bicycle Study

N-S STREET: Riviera Dr / Riviera Blvd
E-W STREET: Mesquite Blvd

Date: 03/26/25
Day: WEDNESDAY

City: Lake Havasu
Project #: 25-1177-001

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
12:00 AM	0	0	0	0
12:15 AM	0	0	0	0
12:30 AM	0	0	0	0
12:45 AM	0	0	0	0
1:00 AM	0	0	0	0
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	0	0	0	0
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	0	0	0	0
4:15 AM	0	0	0	0
4:30 AM	0	0	0	0
4:45 AM	0	0	0	0
5:00 AM	1	0	0	0
5:15 AM	0	0	0	0
5:30 AM	0	1	1	0
5:45 AM	1	0	0	0
6:00 AM	0	0	0	0
6:15 AM	0	0	0	0
6:30 AM	0	1	0	0
6:45 AM	1	0	0	1
7:00 AM	0	0	0	0
7:15 AM	0	1	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	1	1	0
8:15 AM	0	0	0	0
8:30 AM	1	1	0	0
8:45 AM	0	0	0	0
9:00 AM	0	0	0	0
9:15 AM	0	0	0	0
9:30 AM	0	0	0	0
9:45 AM	0	1	0	0
10:00 AM	0	0	0	0
10:15 AM	0	0	0	0
10:30 AM	0	0	0	0
10:45 AM	0	2	0	0
11:00 AM	0	0	0	0
11:15 AM	0	0	0	0
11:30 AM	0	0	0	0
11:45 AM	0	0	0	2
12:00 PM	0	0	0	0
12:15 PM	0	0	0	2
12:30 PM	0	0	0	1
12:45 PM	0	1	0	1
1:00 PM	0	0	0	0
1:15 PM	0	0	0	0
1:30 PM	0	0	0	0
1:45 PM	0	0	0	2
2:00 PM	0	1	0	0
2:15 PM	0	0	0	0
2:30 PM	0	0	0	0
2:45 PM	0	0	0	0
3:00 PM	0	0	0	0
3:15 PM	0	0	0	0
3:30 PM	0	1	0	1
3:45 PM	0	4	0	0
4:00 PM	0	1	0	0
4:15 PM	1	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
6:00 PM	0	0	0	1
6:15 PM	0	0	0	0
6:30 PM	0	0	0	0
6:45 PM	0	0	0	0
7:00 PM	0	0	0	0
7:15 PM	0	0	0	0
7:30 PM	0	0	0	0
7:45 PM	0	0	0	0
8:00 PM	0	0	0	0
8:15 PM	0	0	0	0
8:30 PM	0	0	0	0
8:45 PM	0	0	0	0
9:00 PM	0	0	0	0
9:15 PM	0	0	0	0
9:30 PM	0	0	0	0
9:45 PM	0	0	0	0
10:00 PM	0	0	0	0
10:15 PM	0	0	0	0
10:30 PM	0	0	0	0
10:45 PM	0	0	0	0
11:00 PM	0	0	0	0
11:15 PM	0	0	0	0
11:30 PM	0	0	0	0
11:45 PM	0	0	0	0
TOTAL	5	16	2	11

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
12:00 AM	0	0	0	0
12:15 AM	0	0	0	0
12:30 AM	0	0	0	0
12:45 AM	0	0	0	0
1:00 AM	0	0	0	0
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	0	0	0	0
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	0	0	0	0
4:15 AM	0	0	0	0
4:30 AM	0	0	0	0
4:45 AM	0	0	0	0
5:00 AM	0	0	0	0
5:15 AM	0	0	0	0
5:30 AM	0	0	0	0
5:45 AM	0	0	0	0
6:00 AM	0	0	0	0
6:15 AM	0	0	0	0
6:30 AM	0	0	0	0
6:45 AM	0	0	0	0
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
9:00 AM	0	0	0	0
9:15 AM	0	0	0	0
9:30 AM	0	0	0	0
9:45 AM	0	0	0	0
10:00 AM	0	0	0	0
10:15 AM	0	0	0	0
10:30 AM	0	0	0	0
10:45 AM	0	1	0	0
11:00 AM	0	0	0	0
11:15 AM	0	0	0	0
11:30 AM	0	0	0	0
11:45 AM	0	0	0	2
12:00 PM	0	0	0	0
12:15 PM	0	0	0	0
12:30 PM	0	0	0	0
12:45 PM	0	0	0	0
1:00 PM	0	0	0	0
1:15 PM	0	0	0	0
1:30 PM	0	0	0	0
1:45 PM	0	0	0	0
2:00 PM	0	0	0	0
2:15 PM	0	0	0	0
2:30 PM	0	0	0	0
2:45 PM	0	0	0	0
3:00 PM	0	0	0	0
3:15 PM	0	0	0	0
3:30 PM	0	0	0	0
3:45 PM	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	1
4:45 PM	1	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	1	0	0
5:45 PM	0	0	0	0
6:00 PM	0	0	0	1
6:15 PM	0	0	0	0
6:30 PM	0	0	0	0
6:45 PM	0	0	0	0
7:00 PM	0	0	0	0
7:15 PM	0	0	0	0
7:30 PM	0	0	0	0
7:45 PM	0	0	0	0
8:00 PM	0	0	0	0
8:15 PM	0	0	0	1
8:30 PM	0	0	0	0
8:45 PM	0	0	0	0
9:00 PM	0	0	0	0
9:15 PM	0	0	0	0
9:30 PM	0	0	0	0
9:45 PM	0	0	0	0
10:00 PM	0	0	0	0
10:15 PM	0	0	0	0
10:30 PM	0	0	0	0
10:45 PM	0	0	0	0
11:00 PM	0	0	0	0
11:15 PM	0	0	0	0
11:30 PM	0	0	0	0
11:45 PM	0	0	0	0
TOTAL	1	2	0	5

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Wednesday, March 26, 2025

City: Lake Havasu City

Project #: 25-1177-001

Location: Riviera Dr north of Mesquite Ave

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB	
00:00	3	0			12:00	57	38			
00:15	0	0			12:15	44	38			
00:30	4	0			12:30	42	26			
00:45	0	7	2	2	12:45	45	188	38	140	
01:00	1	2			13:00	42	38			
01:15	4	0			13:15	61	42			
01:30	0	0			13:30	61	35			
01:45	0	5	0	2	13:45	75	239	32	147	
02:00	1	4			14:00	67	42			
02:15	1	1			14:15	63	37			
02:30	1	0			14:30	58	34			
02:45	0	3	4	9	14:45	62	250	36	149	
03:00	1	2			15:00	61	44			
03:15	2	1			15:15	42	38			
03:30	1	2			15:30	55	36			
03:45	0	4	5	10	15:45	44	202	30	148	
04:00	2	3			16:00	55	27			
04:15	2	2			16:15	54	26			
04:30	4	4			16:30	48	29			
04:45	1	9	8	17	16:45	45	202	20	102	
05:00	0	12			17:00	55	30			
05:15	3	12			17:15	56	32			
05:30	7	11			17:30	73	34			
05:45	4	14	18	53	17:45	78	262	40	136	
06:00	21	19			18:00	44	39			
06:15	10	20			18:15	43	28			
06:30	14	29			18:30	37	25			
06:45	11	56	32	100	18:45	34	158	25	117	
07:00	15	33			19:00	38	22			
07:15	15	40			19:15	25	26			
07:30	18	35			19:30	36	21			
07:45	34	82	51	159	19:45	26	125	13	82	
08:00	29	51			20:00	29	16			
08:15	23	47			20:15	25	20			
08:30	29	47			20:30	15	10			
08:45	31	112	69	214	20:45	24	93	14	60	
09:00	38	66			21:00	18	8			
09:15	33	72			21:15	9	9			
09:30	38	62			21:30	13	10			
09:45	34	143	61	261	21:45	12	52	11	38	
10:00	38	84			22:00	6	12			
10:15	39	68			22:15	11	6			
10:30	50	66			22:30	13	4			
10:45	39	166	55	273	22:45	5	35	10	32	
11:00	50	57			23:00	9	4			
11:15	59	53			23:15	9	2			
11:30	61	42			23:30	6	4			
11:45	50	220	50	202	23:45	2	26	2	12	
Total Vol.	821	1302				1832	1163			2995

GPS: 34.479141, -114.335118

Daily Totals				
NB	SB	EB	WB	Combined
2653	2465			5118

	AM			PM		
Split %	38.7%	61.3%	41.5%	61.2%	38.8%	58.5%
Peak Hour	11:15	09:15	09:45	13:30	14:45	13:15
Volume	227	279	440	266	154	415
P.H.F.	0.93	0.83	0.90	0.89	0.88	0.95

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Wednesday, March 26, 2025

City: Lake Havasu City

Project #: 25-1177-001

Location: Riviera Blvd south of Mesquite Ave

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00	0	0			12:00	35	49		
00:15	0	0			12:15	36	50		
00:30	0	2			12:30	39	47		
00:45	0	0	2	4	12:45	46	156	58	204
01:00	0	1			13:00	49	50		
01:15	1	1			13:15	46	48		
01:30	0	1			13:30	47	48		
01:45	0	1	1	4	13:45	59	201	50	196
02:00	0	7			14:00	50	45		
02:15	0	3			14:15	55	49		
02:30	0	1			14:30	50	45		
02:45	0	0	3	14	14:45	40	195	44	183
03:00	1	2			15:00	39	50		
03:15	2	3			15:15	27	45		
03:30	0	3			15:30	30	49		
03:45	0	3	4	12	15:45	33	129	51	195
04:00	1	1			16:00	28	38		
04:15	0	1			16:15	20	36		
04:30	4	4			16:30	20	41		
04:45	1	6	9	15	16:45	12	80	35	150
05:00	1	8			17:00	31	39		
05:15	4	9			17:15	25	38		
05:30	10	9			17:30	47	52		
05:45	7	22	11	37	17:45	47	150	46	175
06:00	20	13			18:00	21	43		
06:15	21	19			18:15	24	33		
06:30	25	18			18:30	17	29		
06:45	19	85	23	73	18:45	24	86	26	131
07:00	32	29			19:00	25	35		
07:15	31	41			19:15	9	28		
07:30	24	43			19:30	18	27		
07:45	34	121	55	168	19:45	11	63	23	113
08:00	25	43			20:00	15	28		
08:15	23	45			20:15	9	31		
08:30	23	52			20:30	7	24		
08:45	41	112	71	211	20:45	11	42	19	102
09:00	41	74			21:00	6	10		
09:15	32	72			21:15	4	21		
09:30	42	52			21:30	2	12		
09:45	42	157	52	250	21:45	6	18	24	67
10:00	40	74			22:00	6	14		
10:15	42	64			22:15	5	7		
10:30	42	70			22:30	9	5		
10:45	40	164	59	267	22:45	4	24	10	36
11:00	34	60			23:00	11	5		
11:15	36	52			23:15	7	4		
11:30	39	51			23:30	3	4		
11:45	34	143	51	214	23:45	3	24	3	16
Total Vol.	814	1269				1168	1568		

GPS: 34.479141, -114.335118

Daily Totals				
NB	SB	EB	WB	Combined
1982	2837			4819

	AM			PM		
Split %	39.1%	60.9%	43.2%	42.7%	57.3%	56.8%
Peak Hour	09:30	08:30	10:00	13:45	12:15	13:30
Volume	166	269	431	214	205	403
P.H.F.	0.99	0.91	0.95	0.91	0.88	0.92

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Wednesday, March 26, 2025

City: Lake Havasu City

Project #: 25-1177-001

Location: Mesquite Ave east of Riveria Dr / Riviera Blvd

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB			
00:00			5	1	12:00			41	101			
00:15			4	0	12:15			54	99			
00:30			5	2	12:30			57	105			
00:45			2	16	2	5	21	70	222	115	420	642
01:00			1	1	13:00			80	93			
01:15			0	1	13:15			85	104			
01:30			0	0	13:30			73	100			
01:45			1	2	1	3	5	89	327	105	402	729
02:00			1	4	14:00			102	101			
02:15			2	3	14:15			97	85			
02:30			0	1	14:30			91	99			
02:45			3	6	0	8	14	76	366	103	388	754
03:00			3	4	15:00			90	98			
03:15			3	4	15:15			88	96			
03:30			1	4	15:30			79	90			
03:45			0	7	4	16	23	84	341	118	402	743
04:00			3	2	16:00			85	82			
04:15			1	5	16:15			78	101			
04:30			0	3	16:30			93	86			
04:45			2	6	5	15	21	86	342	79	348	690
05:00			4	10	17:00			100	92			
05:15			12	10	17:15			73	97			
05:30			5	19	17:30			52	91			
05:45			2	23	18	57	80	52	277	68	348	625
06:00			9	26	18:00			71	62			
06:15			14	35	18:15			54	59			
06:30			14	48	18:30			60	50			
06:45			22	59	55	164	223	48	233	44	215	448
07:00			21	70	19:00			51	34			
07:15			22	77	19:15			45	35			
07:30			20	79	19:30			32	39			
07:45			24	87	88	314	401	34	162	26	134	296
08:00			21	80	20:00			32	37			
08:15			31	72	20:15			24	32			
08:30			26	67	20:30			22	33			
08:45			37	115	70	289	404	16	94	22	124	218
09:00			31	80	21:00			16	17			
09:15			32	81	21:15			21	23			
09:30			37	84	21:30			24	13			
09:45			38	138	86	331	469	12	73	21	74	147
10:00			43	92	22:00			12	10			
10:15			39	100	22:15			13	13			
10:30			39	98	22:30			16	11			
10:45			35	156	101	391	547	5	46	11	45	91
11:00			36	95	23:00			4	6			
11:15			39	95	23:15			5	3			
11:30			51	97	23:30			7	5			
11:45			54	180	88	375	555	4	20	2	16	36

Total Vol. 795 1968 **2763** 2503 2916 **5419**

GPS: 34.479141, -114.335118

Daily Totals				
NB	SB	EB	WB	Combined
		3298	4884	8182

AM

PM

Split %	28.8%	71.2%	33.8%	46.2%	53.8%	66.2%
Peak Hour	11:45	10:15	11:45	13:45	12:00	13:45
Volume	206	394	599	379	420	769
P.H.F.	0.90	0.98	0.92	0.93	0.91	0.95

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Wednesday, March 26, 2025

City: Lake Havasu City

Project #: 25-1177-001

Location: Mesquite Ave west of Riveria Dr / Riviera Blvd

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB			
00:00			8	1	12:00			77	104			
00:15			4	0	12:15			75	100			
00:30			11	2	12:30			75	99			
00:45			2	25	2	5	30	87	314	113	416	730
01:00			2	2	13:00			78	86			
01:15			3	0	13:15			94	92			
01:30			1	0	13:30			102	102			
01:45			1	7	0	2	9	119	393	101	381	774
02:00			2	1	14:00			123	102			
02:15			3	1	14:15			128	96			
02:30			1	0	14:30			119	108			
02:45			2	8	0	2	10	111	481	108	414	895
03:00			4	5	15:00			114	94			
03:15			3	2	15:15			114	100			
03:30			1	2	15:30			111	84			
03:45			1	9	6	15	24	101	440	103	381	821
04:00			4	4	16:00			115	74			
04:15			2	5	16:15			118	97			
04:30			1	4	16:30			120	73			
04:45			3	10	5	18	28	121	474	66	310	784
05:00			1	12	17:00			127	86			
05:15			7	9	17:15			100	87			
05:30			6	25	17:30			78	73			
05:45			5	19	31	77	96	72	377	51	297	674
06:00			18	40	18:00			83	47			
06:15			17	50	18:15			69	50			
06:30			17	73	18:30			73	39			
06:45			24	76	74	237	313	59	284	44	180	464
07:00			26	96	19:00			72	29			
07:15			32	102	19:15			67	39			
07:30			29	86	19:30			54	37			
07:45			41	128	101	385	513	54	247	21	126	373
08:00			32	95	20:00			44	23			
08:15			38	81	20:15			40	21			
08:30			47	77	20:30			35	24			
08:45			50	167	91	344	511	34	153	22	90	243
09:00			53	97	21:00			25	12			
09:15			53	101	21:15			30	15			
09:30			45	106	21:30			36	12			
09:45			41	192	106	410	602	21	112	11	50	162
10:00			50	111	22:00			17	13			
10:15			50	118	22:15			16	9			
10:30			54	101	22:30			21	11			
10:45			48	202	111	441	643	5	59	10	43	102
11:00			58	98	23:00			5	8			
11:15			62	96	23:15			9	3			
11:30			79	94	23:30			7	2			
11:45			73	272	90	378	650	5	26	3	16	42

Total Vol. 1115 2314 **3429** 3360 2704 **6064**

GPS: 34.479141, -114.335118

Daily Totals				
NB	SB	EB	WB	Combined
		4475	5018	9493

AM

PM

Split %	32.5%	67.5%	36.1%	55.4%	44.6%	63.9%
Peak Hour	11:30	09:30	11:45	13:45	12:00	13:45
Volume	304	441	693	489	416	896
P.H.F.	0.96	0.93	0.96	0.96	0.92	0.99

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Wednesday, March 26, 2025

City: Lake Havasu City

Project #: 25-1177-001

Location: Riveria Dr / Riviera Blvd & Mesquite Ave

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB										
00:00	0	0	8	1	12:00	35	38	77	101										
00:15	0	0	4	0	12:15	36	38	75	99										
00:30	0	0	11	2	12:30	39	26	75	105										
00:45	0	0	2	2	2	25	2	5	32	12:45	46	156	38	140	87	314	115	420	1030
01:00	0	2	2	1	13:00	49	38	78	93										
01:15	1	0	3	1	13:15	46	42	94	104										
01:30	0	0	1	0	13:30	47	35	102	100										
01:45	0	1	0	2	1	7	1	3	13	13:45	59	201	32	147	119	393	105	402	1143
02:00	0	4	2	4	14:00	50	42	123	101										
02:15	0	1	3	3	14:15	55	37	128	85										
02:30	0	0	1	1	14:30	50	34	119	99										
02:45	0	0	4	9	2	8	0	8	25	14:45	40	195	36	149	111	481	103	388	1213
03:00	1	2	4	4	15:00	39	44	114	98										
03:15	2	1	3	4	15:15	27	38	114	96										
03:30	0	2	1	4	15:30	30	36	111	90										
03:45	0	3	5	10	1	9	4	16	38	15:45	33	129	30	148	101	440	118	402	1119
04:00	1	3	4	2	16:00	28	27	115	82										
04:15	0	2	2	5	16:15	20	26	118	101										
04:30	4	4	1	3	16:30	20	29	120	86										
04:45	1	6	8	17	3	10	5	15	48	16:45	12	80	20	102	121	474	79	348	1004
05:00	1	12	1	10	17:00	31	30	127	92										
05:15	4	12	7	10	17:15	25	32	100	97										
05:30	10	11	6	19	17:30	47	34	78	91										
05:45	7	22	18	53	5	19	18	57	151	17:45	47	150	40	136	72	377	68	348	1011
06:00	20	19	18	26	18:00	21	39	83	62										
06:15	21	20	17	35	18:15	24	28	69	59										
06:30	25	29	17	48	18:30	17	25	73	50										
06:45	19	85	32	100	24	76	55	164	425	18:45	24	86	25	117	59	284	44	215	702
07:00	32	33	26	70	19:00	25	22	72	34										
07:15	31	40	32	77	19:15	9	26	67	35										
07:30	24	35	29	79	19:30	18	21	54	39										
07:45	34	121	51	159	41	128	88	314	722	19:45	11	63	13	82	54	247	26	134	526
08:00	25	51	32	80	20:00	15	16	44	37										
08:15	23	47	38	72	20:15	9	20	40	32										
08:30	23	47	47	67	20:30	7	10	35	33										
08:45	41	112	69	214	50	167	70	289	782	20:45	11	42	14	60	34	153	22	124	379
09:00	41	66	53	80	21:00	6	8	25	17										
09:15	32	72	53	81	21:15	4	9	30	23										
09:30	42	62	45	84	21:30	2	10	36	13										
09:45	42	157	61	261	41	192	86	331	941	21:45	6	18	11	38	21	112	21	74	242
10:00	40	84	50	92	22:00	6	12	17	10										
10:15	42	68	50	100	22:15	5	6	16	13										
10:30	42	66	54	98	22:30	9	4	21	11										
10:45	40	164	55	273	48	202	101	391	1030	22:45	4	24	10	32	5	59	11	45	160
11:00	34	57	58	95	23:00	11	4	5	6										
11:15	36	53	62	95	23:15	7	2	9	3										
11:30	39	42	79	97	23:30	3	4	7	5										
11:45	34	143	50	202	73	272	88	375	992	23:45	3	24	2	12	5	26	2	16	78

Total Vol. 814 1302 1115 1968 **5199** 1168 1163 3360 2916 **8607**

GPS: 34.479141, -114.335118

Daily Totals				
NB	SB	EB	WB	Combined
1982	2465	4475	4884	13806

AM

PM

Split %	15.7%	25.0%	21.4%	37.9%	37.7%
Peak Hour	09:30	09:15	11:30	10:15	10:00
Volume	166	279	304	394	1030
P.H.F.	0.99	0.83	0.96	0.98	0.97

Split %	13.6%	13.5%	39.0%	33.9%	62.3%
Peak Hour	13:45	14:45	13:45	12:00	13:45
Volume	214	154	489	420	1238
P.H.F.	0.91	0.88	0.96	0.91	0.98

Appendix B: Crash Data

OBJECTID	IncidentID	ADOTReceivedDate	Status	IncidentDate	IncidentDateTime	IncidentYear	IncidentMonth	IncidentDayOfWeek	IncidentHour	OfficerNcic	OfficerId	FileNumber	ExtendedNcic	CollisionManner	CollisionManner
1	3458838	2019-01-15 0:00:00	200	2019-01-10 0:00:00	2019-01-10 18:45:00	2019	1	5	18 804			1900188		804 Angle (Front To Side)(Other Than Left Turn)	2
2	3469706	2019-02-12 0:00:00	200	2019-02-05 0:00:00	2019-02-05 15:35:00	2019	2	3	15 804			1900773		804 Left Turn	3
3	3486078	2019-03-20 0:00:00	200	2019-03-13 0:00:00	2019-03-13 13:31:00	2019	3	4	13 804			1901626		804 Rear End	4
4	3501817	2019-04-30 0:00:00	200	2019-04-25 0:00:00	2019-04-25 14:45:00	2019	4	5	14 804			1902622		804 Angle (Front To Side)(Other Than Left Turn)	2
5	3506979	2019-05-09 0:00:00	200	2019-05-06 0:00:00	2019-05-06 7:59:00	2019	5	2	7 804			1902894		804 Single Vehicle	1
6	3525970	2019-06-28 0:00:00	200	2019-06-27 0:00:00	2019-06-27 9:16:00	2019	6	5	9 804			1904109		804 Head On	5
7	3598748	2019-12-20 0:00:00	200	2019-12-16 0:00:00	2019-12-16 15:52:00	2019	12	2	15 804			1907507		804 Sideswipe Same Direction	6
8	3643558	2020-04-24 0:00:00	200	2020-04-22 0:00:00	2020-04-22 11:20:00	2020	4	4	11 804			2002198		804 Angle (Front To Side)(Other Than Left Turn)	2
9	3648335	2020-05-19 0:00:00	200	2020-05-16 0:00:00	2020-05-16 13:21:00	2020	5	7	13 804			2002620		804 Single Vehicle	1
10	3829611	2021-11-02 7:01:00	200	2021-10-30 0:00:00	2021-10-30 12:32:00	2021	10	7	12 804			2106132		804 Angle (Front To Side)(Other Than Left Turn)	2
11	3860628	2022-01-25 0:00:00	200	2022-01-21 0:00:00	2022-01-21 7:55:00	2022	1	6	7 804			2200405		804 Angle (Front To Side)(Other Than Left Turn)	2
12	3865691	2022-02-08 0:00:00	200	2022-02-04 0:00:00	2022-02-04 15:25:00	2022	2	6	15 804			2200648		804 Rear End	4
13	3878854	2022-03-15 7:02:00	200	2022-03-11 0:00:00	2022-03-11 19:55:00	2022	3	6	19 804			2201321		804 Angle (Front To Side)(Other Than Left Turn)	2
14	3891514	2022-04-13 7:01:00	200	2022-04-07 0:00:00	2022-04-07 11:33:00	2022	4	5	11 804			2201939		804 Sideswipe Same Direction	6
15	3937207	2022-08-31 0:00:00	200	2022-08-29 0:00:00	2022-08-29 11:21:00	2022	8	2	11 804			2204869		804 Angle (Front To Side)(Other Than Left Turn)	2
16	3946335	2022-09-27 0:00:00	200	2022-09-21 0:00:00	2022-09-21 6:50:00	2022	9	4	6 804			2205375		804 Angle (Front To Side)(Other Than Left Turn)	2
17	4028574	2023-04-13 0:00:00	200	2023-04-11 0:00:00	2023-04-11 14:45:00	2023	4	3	14 804			2301936		804 Rear End	4
18	4036879	2023-05-04 0:00:00	200	2023-05-03 0:00:00	2023-05-03 10:15:00	2023	5	4	10 804			2302417		804 Angle (Front To Side)(Other Than Left Turn)	2
19	4049692	2023-06-07 7:01:00	200	2023-06-06 0:00:00	2023-06-06 12:17:00	2023	6	3	12 804			2303217		804 Left Turn	3
20	4061378	2023-07-12 0:00:00	200	2023-07-10 0:00:00	2023-07-10 10:19:00	2023	7	2	10 804			2303980		804 Angle (Front To Side)(Other Than Left Turn)	2
21	4079831	2023-09-04 0:00:00	200	2023-09-02 0:00:00	2023-09-02 16:21:00	2023	9	7	16 804			2305046		804 Rear End	4

LightCondition	LightCondition	FirstHarmfulEvent	FirstHarmfulEvent	TotalUnits	TotalMotorists	TotalNonMotorists	TotalInjuries	TotalFatalities	TotalMotoristsInjuries	TotalNonMotoristsInjuries	TotalMotoristsFatalities	TotalNonMotoristsFatalities
Dark Not Lighted		5 Motor Vehicle In Transport	16	2	4	0	0	0	0	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	2	0	0	0	0	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	3	0	0	0	0	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	4	0	2	0	2	0	0	0
Daylight		1 Curb	33	1	1	0	0	0	0	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	2	0	0	0	0	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	2	0	0	0	0	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	2	0	0	0	0	0	0	0
Daylight		1 Other Fixed Object	49	1	1	0	1	0	1	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	4	0	1	0	1	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	2	0	1	0	1	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	4	0	0	0	0	0	0	0
Dark Not Lighted		5 Motor Vehicle In Transport	16	2	3	0	0	0	0	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	2	0	0	0	0	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	3	0	0	0	0	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	2	0	0	0	0	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	2	0	0	0	0	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	3	0	0	0	0	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	2	0	0	0	0	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	2	0	0	0	0	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	2	0	0	0	0	0	0	0
Daylight		1 Motor Vehicle In Transport	16	2	3	0	1	0	1	0	0	0

InjurySeverity	InjurySeverity	FatalAccidentFlag	TowAwayFlag	SchoolBusRelatedFlag	WorkZoneRelatedFlag	WorkersPresentFlag	AlcoholInvolvementFlag	DrugInvolvementFlag	HitAndRunFlag	RouteName	CrossingFeatureName	Offset
No Injury	1	0	1	0	0	0	0	0	0	0 08 MESQUITE AVE	Riviera Dr	0
No Injury	1	0	1	0	0	0	0	0	0	0 08 MESQUITE AVE	Riviera Blvd	0
No Injury	1	0	0	0	0	0	0	0	0	0 08 MESQUITE AVE	Riviera Blvd	0
Suspected Serious Injury	4	0	1	0	0	0	0	0	0	0 08 RIVIERA BLVD	Mesquite Ave	-75
No Injury	1	0	1	0	0	0	0	0	0	0 08 RIVIERA BLVD 1	Mesquite Ave	0
No Injury	1	0	1	0	0	0	0	0	0	0 08 MESQUITE AVE	Riviera Blvd	0
No Injury	1	0	0	0	0	0	0	0	0	0 08 MESQUITE AVE	Riviera Blvd	20
No Injury	1	0	1	0	0	0	0	0	0	0 08 MESQUITE AVE	Riviera Blvd	0
Suspected Serious Injury	4	0	1	0	0	0	0	0	0	0 08 MESQUITE AVE	Riviera Blvd	10
Suspected Minor Injury	3	-1	1	0	0	0	0	0	0	0 08 RIVIERA BLVD 1	Mesquite Ave	25
Possible Injury	2	0	1	0	0	0	0	0	0	0 08 RIVIERA BLVD	Mesquite Ave	0
No Injury	1	0	0	0	0	0	0	0	0	0 08 MESQUITE AVE	Riviera Blvd	20
No Injury	1	-1	1	0	0	0	0	0	0	0 08 MESQUITE AVE	Riviera Blvd	0
No Injury	1	-1	0	0	0	0	0	0	0	0 08 RIVIERA BLVD 1	Mesquite Ave	163
No Injury	1	0	1	0	0	0	0	0	0	0 08 MESQUITE AVE	Riviera Dr	0
No Injury	1	0	1	0	0	0	0	0	0	1 08 MESQUITE AVE	Riviera Blvd	0
No Injury	1	0	1	0	0	0	0	0	0	0 08 MESQUITE AVE	Moyo Dr	-36
No Injury	1	0	1	0	0	0	0	0	0	0 08 RIVIERA DR	Mesquite Ave	0
No Injury	1	-1	0	0	0	0	0	0	0	0 08 MESQUITE AVE	Riviera Blvd	0
No Injury	1	0	1	0	0	0	0	0	0	0 08 MESQUITE AVE	Riviera Blvd	0
Possible Injury	2	0	1	0	0	0	0	1	0	0 08 MESQUITE AVE	Riviera Blvd	10

OffsetMeasuredFlag	OffsetUnit	MPNum	MPOffset	CityId	CountyId	CountyId	StateId	StateCode	CountryCode	Latitude	Longitude	ValidLocationFlag	IntersectionFlag	TrafficWayType	TrafficWayType	IntersectionType
0	0	0	0	149	Mohave	15	3	AZ		34.47914687	-114.3351402	1	1	Two Way Not Divided With Continuous Left Turn Lane	3	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47914687	-114.3351402	1	1	Two Way Not Divided With Continuous Left Turn Lane	3	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47914687	-114.3351402	1	1	Two Way Not Divided With Continuous Left Turn Lane	3	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47894309	-114.3351744	1	0	Two Way Not Divided With Continuous Left Turn Lane	3	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47901496	-114.3351624	1	1	Two Way Not Divided	2	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47914687	-114.3351402	1	1	Two Way Not Divided With Continuous Left Turn Lane	3	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47913801	-114.3350749	1	1	Two Way Not Divided	2	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47914687	-114.3351402	1	1	Two Way Not Divided With Continuous Left Turn Lane	3	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47914244	-114.3351076	1	1	Two Way Not Divided	2	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47908437	-114.3351507	1	1	Two Way Divided Unprotected Painted 4 Feet Median	4	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47914687	-114.3351402	1	1	Two Way Not Divided With Continuous Left Turn Lane	3	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47913801	-114.3350749	1	1	Two Way Divided Unprotected Painted 4 Feet Median	4	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47915229	-114.3351802	1	1	Two Way Not Divided	2	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47856607	-114.3352376	1	0	Two Way Not Divided	2	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47914687	-114.3351402	1	1	Two Way Divided Unprotected Painted 4 Feet Median	4	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47914687	-114.3351402	1	1	Two Way Not Divided With Continuous Left Turn Lane	3	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47902297	-114.3343094	1	1	Two Way Not Divided With Continuous Left Turn Lane	3	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47914687	-114.3351402	1	1	Two Way Not Divided With Continuous Left Turn Lane	3	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47915229	-114.3351802	1	1	Two Way Not Divided	2	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47914687	-114.3351402	1	1	Two Way Not Divided	2	Not Reported
0	0	0	0	149	Mohave	15	3	AZ		34.47914244	-114.3351076	1	1	Two Way Not Divided	2	Not Reported

IntersectionType	JunctionRelation	JunctionRelation	Weather	Weather	OffsetDirection	SecondaryCrashFlag	GeocodeOnRoad	GeocodeCrossingFeatureName	GeocodeOffsetInMiles	X	Y	GeocodeOnRoadRouteId	CrossingFeature
255 Intersection		201 Clear	1	0	0	0	Mesquite Ave	Riviera Dr	0	-28899.20898	1274453.741	08 MESQUITE AVE	08 RIVIERA DR
255 Intersection		201 Clear	1	0	0	0	Mesquite Ave	Riviera Blvd	0	-28899.20898	1274453.741	08 MESQUITE AVE	08 RIVIERA BLVD
255 Intersection Related		206 Clear	1	0	0	0	Mesquite Ave	Riviera Blvd	0	-28899.20898	1274453.741	08 MESQUITE AVE	08 RIVIERA BLVD
255 Driveway Or Alley		7 Clear	1	3	0	0	Riviera Blvd	Mesquite Ave	-0.014204545	-28911.27559	1274379.806	08 RIVIERA BLVD	08 MESQUITE AVE
255 Intersection		201 Clear	1	0	0	0	Riviera Blvd	Mesquite Ave	0	-28907.01988	1274405.882	08 RIVIERA BLVD	08 MESQUITE AVE
255 Intersection		201 Clear	1	0	0	0	Mesquite Ave	Riviera Blvd	0	-28899.20898	1274453.741	08 MESQUITE AVE	08 RIVIERA BLVD
255 Intersection 4 Way		202 Clear	1	2	0	0	Mesquite Ave	Riviera Blvd	0.003787879	-28879.58158	1274450.045	08 MESQUITE AVE	08 RIVIERA BLVD
255 Intersection 4 Way		202 Clear	1	0	0	0	Mesquite Ave	Riviera Blvd	0	-28899.20898	1274453.741	08 MESQUITE AVE	08 RIVIERA BLVD
255 Intersection Related		206 Clear	1	2	0	0	Mesquite Ave	Riviera Blvd	0.001893939	-28889.39954	1274451.894	08 MESQUITE AVE	08 RIVIERA BLVD
255 Intersection 4 Way		202 Clear	1	1	0	0	Riviera Blvd	Mesquite Ave	0.004734848	-28902.90957	1274431.067	08 RIVIERA BLVD	08 MESQUITE AVE
255 Intersection		201 Clear	1	0	0	0	Riviera Blvd	Mesquite Ave	0	-28899.20898	1274453.741	08 RIVIERA BLVD	08 MESQUITE AVE
255 Intersection 4 Way		202 Clear	1	2	0	0	Mesquite Ave	Riviera Blvd	0.003787879	-28879.58158	1274450.045	08 MESQUITE AVE	08 RIVIERA BLVD
255 Intersection		201 Clear	1	0	0	0	Mesquite Ave	Riviera Blvd	0	-28911.21195	1274456.005	08 MESQUITE AVE	08 RIVIERA BLVD 1
0 Not Junction Related		0 Clear	1	3	0	0	Riviera Blvd	Mesquite Ave	0.030871212	-28933.59999	1274243.017	08 RIVIERA BLVD	08 MESQUITE AVE
255 Intersection		201 Clear	1	0	0	0	Mesquite Ave	Riviera Dr	0	-28899.20898	1274453.741	08 MESQUITE AVE	08 RIVIERA DR
255 Intersection		201 Cloudy	2	0	0	0	Mesquite Ave	Riviera Blvd	0	-28899.20898	1274453.741	08 MESQUITE AVE	08 RIVIERA BLVD
255 Intersection		201 Clear	1	4	0	0	Mesquite Ave	Moyo Dr	-0.006818182	-28649.8109	1274402.651	08 MESQUITE AVE	08 MOYO DR
255 Intersection 4 Way		202 Clear	1	0	0	0	Riviera Dr	Mesquite Ave	0	-28899.20898	1274453.741	08 RIVIERA DR	08 MESQUITE AVE
255 Intersection Related		206 Clear	1	0	0	0	Mesquite Ave	Riviera Blvd	0	-28911.21195	1274456.005	08 MESQUITE AVE	08 RIVIERA BLVD 1
255 Intersection 4 Way		202 Clear	1	0	0	0	Mesquite Ave	Riviera Blvd	0	-28899.20898	1274453.741	08 MESQUITE AVE	08 RIVIERA BLVD
255 Intersection Related		206 Cloudy	2	2	0	0	Mesquite Ave	Riviera Blvd	0.001893939	-28889.39954	1274451.894	08 MESQUITE AVE	08 RIVIERA BLVD

Appendix C: Existing AM Traffic Capacity Analysis

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↘		↖	↗	↘	↖	↗	↘
Traffic Vol, veh/h	40	77	50	50	205	34	66	38	8	30	111	73
Future Vol, veh/h	40	77	50	50	205	34	66	38	8	30	111	73
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.68	0.68	0.68	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	92	60	56	228	38	97	56	12	38	142	94
Number of Lanes	1	1	1	1	1	0	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	3
HCM Control Delay, s/veh	10.5	13.9	11.3	11
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	86%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	14%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	66	38	8	40	77	50	50	239	30	111	73
LT Vol	66	0	0	40	0	0	50	0	30	0	0
Through Vol	0	38	0	0	77	0	0	205	0	111	0
RT Vol	0	0	8	0	0	50	0	34	0	0	73
Lane Flow Rate	97	56	12	48	92	60	56	266	38	142	94
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.2	0.107	0.02	0.096	0.173	0.1	0.107	0.467	0.077	0.265	0.156
Departure Headway (Hd)	7.426	6.92	6.212	7.284	6.781	6.078	6.927	6.327	7.202	6.696	5.989
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	481	515	572	490	526	586	516	568	495	534	595
Service Time	5.208	4.702	3.993	5.063	4.56	3.856	4.692	4.093	4.975	4.469	3.762
HCM Lane V/C Ratio	0.202	0.109	0.021	0.098	0.175	0.102	0.109	0.468	0.077	0.266	0.158
HCM Control Delay, s/veh	12.1	10.5	9.1	10.8	11	9.5	10.5	14.6	10.6	11.9	9.9
HCM Lane LOS	B	B	A	B	B	A	B	B	B	B	A
HCM 95th-tile Q	0.7	0.4	0.1	0.3	0.6	0.3	0.4	2.5	0.2	1.1	0.5

Appendix D: Existing PM Traffic Capacity Analysis

Intersection	
Intersection Delay, s/veh	15.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↑	↗	↖	↑	↗
Traffic Vol, veh/h	106	304	76	34	282	42	4	54	25	28	41	36
Future Vol, veh/h	106	304	76	34	282	42	4	54	25	28	41	36
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89	0.67	0.67	0.67	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	317	79	38	317	47	6	81	37	32	47	41
Number of Lanes	1	1	1	1	1	0	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	3
HCM Control Delay, s/veh	15	19.9	11.5	11.1
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	87%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	13%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	54	25	106	304	76	34	324	28	41	36
LT Vol	4	0	0	106	0	0	34	0	28	0	0
Through Vol	0	54	0	0	304	0	0	282	0	41	0
RT Vol	0	0	25	0	0	76	0	42	0	0	36
Lane Flow Rate	6	81	37	110	317	79	38	364	32	47	41
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.014	0.173	0.073	0.214	0.57	0.127	0.075	0.655	0.073	0.1	0.08
Departure Headway (Hd)	8.246	7.737	7.025	6.982	6.479	5.776	7.063	6.473	8.261	7.752	7.04
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	436	466	513	510	551	614	504	553	436	465	511
Service Time	5.951	5.442	4.73	4.776	4.273	3.569	4.855	4.264	5.967	5.459	4.746
HCM Lane V/C Ratio	0.014	0.174	0.072	0.216	0.575	0.129	0.075	0.658	0.073	0.101	0.08
HCM Control Delay, s/veh	11.1	12.1	10.3	11.7	17.6	9.4	10.4	20.9	11.6	11.3	10.4
HCM Lane LOS	B	B	B	B	C	A	B	C	B	B	B
HCM 95th-tile Q	0	0.6	0.2	0.8	3.5	0.4	0.2	4.7	0.2	0.3	0.3

Appendix E: Trip Generation

Trip Generation Planner (ITE 11th Edition) - Summary Report



Weekday Trip Generation **Project Name** Circle K - Mesquite & Riviera
Trips Based on Average Rates **Project Number** 192331058

ITE Code	Land Use Description	Independent Variable	Setting/Location	No. of Units	Avg Rate or Eq	Rates			Total Trips							Net Trips after Pass-By						
						Daily Rate	AM Rate	PM Rate	Daily Trips Total	AM Trips In	AM Trips Out	AM Trips Total	PM Trips In	PM Trips Out	PM Trips Total	Daily Trips Total	AM Trips In	AM Trips Out	AM Trips Total	PM Trips In	PM Trips Out	PM Trips Total
945	Convenience Store/Gas Station	Fueling Position(s)	General Urban/Suburban	12	Avg	257.13	27.04	22.76	3,086	162	162	324	137	136	273	772	39	39	78	34	34	68
948	Automated Car Wash	Car Wash Tunnel(s)	General Urban/Suburban	1	Avg	775.00	77.50	77.50	776	39	39	78	39	39	78	776	39	39	78	39	39	78
Grand Total									3,862	201	201	402	176	175	351	1,548	78	78	156	73	73	146

Notes: Land use 945: Daily pass-by trip percentage assumed to be the same as PM peak-hour pass-by percentage.
 Land use 948: AM peak-hour average rate and in/out trip percentages are assumed to be the same as PM peak-hour.
 Land use 948: Daily average rate was obtained assuming that PM peak-hour average rate represents 10% of daily rate.

Appendix F: 2026 Background AM Traffic Capacity Analysis

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↘		↖	↗	↘	↖	↗	↘
Traffic Vol, veh/h	40	78	51	51	207	34	67	38	8	30	112	74
Future Vol, veh/h	40	78	51	51	207	34	67	38	8	30	112	74
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.68	0.68	0.68	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	93	61	57	230	38	99	56	12	38	144	95
Number of Lanes	1	1	1	1	1	0	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	3
HCM Control Delay, s/veh	10.6	14	11.4	11.1
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	86%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	14%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	67	38	8	40	78	51	51	241	30	112	74
LT Vol	67	0	0	40	0	0	51	0	30	0	0
Through Vol	0	38	0	0	78	0	0	207	0	112	0
RT Vol	0	0	8	0	0	51	0	34	0	0	74
Lane Flow Rate	99	56	12	48	93	61	57	268	38	144	95
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.204	0.108	0.02	0.097	0.176	0.103	0.109	0.473	0.077	0.268	0.159
Departure Headway (Hd)	7.456	6.95	6.241	7.314	6.811	6.107	6.953	6.354	7.232	6.727	6.019
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	479	512	569	488	524	583	514	565	493	531	592
Service Time	5.241	4.735	4.026	5.092	4.589	3.885	4.718	4.12	5.007	4.501	3.794
HCM Lane V/C Ratio	0.207	0.109	0.021	0.098	0.177	0.105	0.111	0.474	0.077	0.271	0.16
HCM Control Delay, s/veh	12.2	10.6	9.2	10.9	11.1	9.6	10.6	14.7	10.6	12	9.9
HCM Lane LOS	B	B	A	B	B	A	B	B	B	B	A
HCM 95th-tile Q	0.8	0.4	0.1	0.3	0.6	0.3	0.4	2.5	0.2	1.1	0.6

Appendix G: 2026 Background PM Traffic Capacity Analysis

Intersection	
Intersection Delay, s/veh	16.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↘		↖	↗	↘	↖	↗	↘
Traffic Vol, veh/h	107	307	77	34	285	42	4	55	25	28	41	36
Future Vol, veh/h	107	307	77	34	285	42	4	55	25	28	41	36
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89	0.67	0.67	0.67	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	111	320	80	38	320	47	6	82	37	32	47	41
Number of Lanes	1	1	1	1	1	0	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	3
HCM Control Delay, s/veh	15.3	20.3	11.5	11.1
HCM LOS	C	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	87%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	13%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	55	25	107	307	77	34	327	28	41	36
LT Vol	4	0	0	107	0	0	34	0	28	0	0
Through Vol	0	55	0	0	307	0	0	285	0	41	0
RT Vol	0	0	25	0	0	77	0	42	0	0	36
Lane Flow Rate	6	82	37	111	320	80	38	367	32	47	41
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.014	0.177	0.073	0.217	0.577	0.129	0.075	0.663	0.073	0.101	0.08
Departure Headway (Hd)	8.275	7.766	7.053	7.003	6.5	5.796	7.084	6.494	8.298	7.789	7.077
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	435	465	510	509	550	613	502	551	434	463	509
Service Time	5.981	5.472	4.76	4.797	4.294	3.59	4.877	4.287	6.003	5.494	4.782
HCM Lane V/C Ratio	0.014	0.176	0.073	0.218	0.582	0.131	0.076	0.666	0.074	0.102	0.081
HCM Control Delay, s/veh	11.1	12.1	10.3	11.8	17.9	9.5	10.5	21.3	11.7	11.4	10.4
HCM Lane LOS	B	B	B	B	C	A	B	C	B	B	B
HCM 95th-tile Q	0	0.6	0.2	0.8	3.6	0.4	0.2	4.9	0.2	0.3	0.3

Appendix H: 2026 Total AM Traffic Capacity Analysis

Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↵		↵	↵		↵	↕	↵	↵	↕	↕
Traffic Vol, veh/h	52	94	53	51	230	34	79	38	8	37	121	74
Future Vol, veh/h	52	94	53	51	230	34	79	38	8	37	121	74
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.68	0.68	0.68	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	112	63	57	256	38	116	56	12	47	155	95
Number of Lanes	1	2	0	1	1	0	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	3
HCM Control Delay, s/veh	11.3	16.4	12.4	11.9
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	37%	0%	87%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	0%	63%	0%	13%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	38	8	52	63	84	51	264	37	121	74
LT Vol	79	0	0	52	0	0	51	0	37	0	0
Through Vol	0	38	0	0	63	31	0	230	0	121	0
RT Vol	0	0	8	0	0	53	0	34	0	0	74
Lane Flow Rate	116	56	12	62	75	100	57	293	47	155	95
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.255	0.115	0.022	0.132	0.149	0.188	0.116	0.55	0.101	0.308	0.169
Departure Headway (Hd)	7.894	7.386	6.676	7.693	7.189	6.746	7.338	6.748	7.646	7.139	6.429
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	455	486	536	466	499	532	491	537	469	504	558
Service Time	5.638	5.13	4.419	5.436	4.932	4.489	5.038	4.448	5.387	4.88	4.17
HCM Lane V/C Ratio	0.255	0.115	0.022	0.133	0.15	0.188	0.116	0.546	0.1	0.308	0.17
HCM Control Delay, s/veh	13.3	11.1	9.6	11.6	11.2	11.1	11	17.4	11.2	13	10.5
HCM Lane LOS	B	B	A	B	B	B	B	C	B	B	B
HCM 95th-tile Q	1	0.4	0.1	0.5	0.5	0.7	0.4	3.3	0.3	1.3	0.6

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↖		↖	↗
Traffic Vol, veh/h	56	144	292	90	55	86
Future Vol, veh/h	56	144	292	90	55	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	84	83	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	171	352	98	60	93

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	450	0	-	0	608
Stage 1	-	-	-	-	401
Stage 2	-	-	-	-	207
Critical Hdwy	4.13	-	-	-	6.63
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.83
Follow-up Hdwy	2.219	-	-	-	3.519
Pot Cap-1 Maneuver	1109	-	-	-	648
Stage 1	-	-	-	-	676
Stage 2	-	-	-	-	808
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1109	-	-	-	648
Mov Cap-2 Maneuver	-	-	-	-	510
Stage 1	-	-	-	-	638
Stage 2	-	-	-	-	808

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	2.21	0	12.07
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1109	-	-	-	510	648
HCM Lane V/C Ratio	0.055	-	-	-	0.117	0.144
HCM Ctrl Dly (s/v)	8.4	-	-	-	13	11.5
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4	0.5

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↑			↑		↑			↑	
Traffic Vol, veh/h	0	0	59	0	0	0	0	125	0	0	173	55
Future Vol, veh/h	0	0	59	0	0	0	0	125	0	0	173	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	80	92	92	78	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	64	0	0	0	0	156	0	0	222	60

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	252	-	-	156	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	-	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	-	-	3.318	-	-
Pot Cap-1 Maneuver	0	0	787	0	0	889	0	-
Stage 1	0	0	-	0	0	-	0	-
Stage 2	0	0	-	0	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	787	-	-	889	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.98	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1WBLn1	SBT	SBR
Capacity (veh/h)	-	-	787	-	-
HCM Lane V/C Ratio	-	-	0.081	-	-
HCM Ctrl Dly (s/v)	-	-	10	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	-	-

Timing Report, Sorted By Phase
 1: Mesquite Ave & Riviera Dr

2026 Total AM Signalized

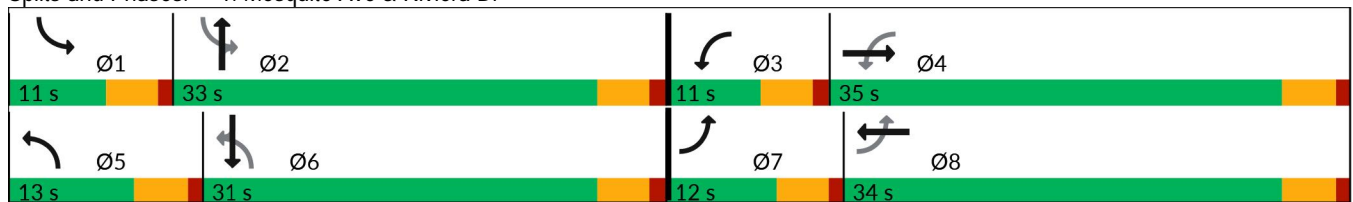


Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBSB	WBL	EBWB	NBL	NBSB	EBL	EBWB
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	None	Min	None	None
Maximum Split (s)	11	33	11	35	13	31	12	34
Maximum Split (%)	12.2%	36.7%	12.2%	38.9%	14.4%	34.4%	13.3%	37.8%
Minimum Split (s)	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Don't Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	11	44	55	0	13	44	56
End Time (s)	11	44	55	0	13	44	56	0
Yield/Force Off (s)	6.5	39.5	50.5	85.5	8.5	39.5	51.5	85.5
Yield/Force Off 170(s)	6.5	39.5	50.5	74.5	8.5	39.5	51.5	74.5
Local Start Time (s)	77	88	31	42	77	0	31	43
Local Yield (s)	83.5	26.5	37.5	72.5	85.5	26.5	38.5	72.5
Local Yield 170(s)	83.5	26.5	37.5	61.5	85.5	26.5	38.5	61.5

Intersection Summary

Cycle Length	90
Control Type	Actuated-Uncoordinated
Natural Cycle	65

Splits and Phases: 1: Mesquite Ave & Riviera Dr



HCM 7th Signalized Intersection Summary

2026 Total AM Signalized

1: Mesquite Ave & Riviera Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	94	53	51	230	34	79	38	8	37	121	74
Future Volume (veh/h)	52	94	53	51	230	34	79	38	8	37	121	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	112	63	57	256	38	116	56	12	47	155	95
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.68	0.68	0.68	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	544	288	528	380	56	432	364	308	498	289	245
Arrive On Green	0.06	0.24	0.24	0.06	0.24	0.24	0.09	0.19	0.19	0.05	0.15	0.15
Sat Flow, veh/h	1781	2247	1187	1781	1592	236	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	62	87	88	57	0	294	116	56	12	47	155	95
Grp Sat Flow(s),veh/h/ln	1781	1777	1657	1781	0	1828	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	1.0	1.6	1.7	0.9	0.0	5.8	2.1	1.0	0.2	0.8	3.0	2.1
Cycle Q Clear(g_c), s	1.0	1.6	1.7	0.9	0.0	5.8	2.1	1.0	0.2	0.8	3.0	2.1
Prop In Lane	1.00		0.72	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	393	431	401	528	0	436	432	364	308	498	289	245
V/C Ratio(X)	0.16	0.20	0.22	0.11	0.00	0.67	0.27	0.15	0.04	0.09	0.54	0.39
Avail Cap(c_a), veh/h	619	1365	1273	715	0	1358	651	1343	1138	699	1248	1058
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.5	12.0	12.0	10.1	0.0	13.7	12.2	13.3	13.0	11.6	15.5	15.1
Incr Delay (d2), s/veh	0.2	0.2	0.3	0.1	0.0	1.8	0.3	0.2	0.1	0.1	1.5	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	1.0	1.0	0.5	0.0	3.9	1.3	0.7	0.1	0.5	2.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.7	12.2	12.3	10.1	0.0	15.5	12.5	13.5	13.0	11.7	17.0	16.1
LnGrp LOS	B	B	B	B		B	B	B	B	B	B	B
Approach Vol, veh/h		237			351			184			297	
Approach Delay, s/veh		11.8			14.7			12.9			15.9	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	12.2	6.8	14.1	8.1	10.6	7.0	14.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	28.5	6.5	30.5	8.5	26.5	7.5	29.5				
Max Q Clear Time (g_c+I1), s	2.8	3.0	2.9	3.7	4.1	5.0	3.0	7.8				
Green Ext Time (p_c), s	0.0	0.3	0.0	1.0	0.1	1.1	0.0	1.7				
Intersection Summary												
HCM 7th Control Delay, s/veh			14.1									
HCM 7th LOS			B									

Appendix I: 2026 Total PM Traffic Capacity Analysis

Intersection	
Intersection Delay, s/veh	17.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↗		↵	↕	↗	↵	↕	↗
Traffic Vol, veh/h	118	322	79	34	307	42	15	55	25	35	49	36
Future Vol, veh/h	118	322	79	34	307	42	15	55	25	35	49	36
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89	0.67	0.67	0.67	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	123	335	82	38	345	47	22	82	37	40	56	41
Number of Lanes	1	2	0	1	1	0	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	3
HCM Control Delay, s/veh	13.5	25.4	12	11.7
HCM LOS	B	D	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	58%	0%	88%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	0%	42%	0%	12%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	55	25	118	215	186	34	349	35	49	36
LT Vol	15	0	0	118	0	0	34	0	35	0	0
Through Vol	0	55	0	0	215	107	0	307	0	49	0
RT Vol	0	0	25	0	0	79	0	42	0	0	36
Lane Flow Rate	22	82	37	123	224	194	38	392	40	56	41
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.053	0.183	0.076	0.251	0.425	0.353	0.079	0.744	0.095	0.124	0.083
Departure Headway (Hd)	8.535	8.026	7.312	7.345	6.841	6.542	7.418	6.834	8.554	8.044	7.331
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	420	447	489	489	525	549	486	533	419	445	488
Service Time	6.288	5.778	5.065	5.087	4.583	4.284	5.118	4.534	6.309	5.799	5.085
HCM Lane V/C Ratio	0.052	0.183	0.076	0.252	0.427	0.353	0.078	0.735	0.095	0.126	0.084
HCM Control Delay, s/veh	11.8	12.6	10.7	12.5	14.6	12.8	10.8	26.8	12.2	11.9	10.8
HCM Lane LOS	B	B	B	B	B	B	B	D	B	B	B
HCM 95th-tile Q	0.2	0.7	0.2	1	2.1	1.6	0.3	6.3	0.3	0.4	0.3

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↖		↖	↗
Traffic Vol, veh/h	65	455	279	79	64	75
Future Vol, veh/h	65	455	279	79	64	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	96	88	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	474	317	86	70	82

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	403	0	-	0	738
Stage 1	-	-	-	-	360
Stage 2	-	-	-	-	378
Critical Hdwy	4.13	-	-	-	6.63
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.83
Follow-up Hdwy	2.219	-	-	-	3.519
Pot Cap-1 Maneuver	1154	-	-	-	684
Stage 1	-	-	-	-	705
Stage 2	-	-	-	-	663
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1154	-	-	-	684
Mov Cap-2 Maneuver	-	-	-	-	460
Stage 1	-	-	-	-	662
Stage 2	-	-	-	-	663

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.08	0	12.46
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1154	-	-	-	460	684
HCM Lane V/C Ratio	0.061	-	-	-	0.151	0.119
HCM Ctrl Dly (s/v)	8.3	-	-	-	14.2	11
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5	0.4

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↑			↑		↑			↑	
Traffic Vol, veh/h	0	0	35	0	0	0	0	215	0	0	85	32
Future Vol, veh/h	0	0	35	0	0	0	0	215	0	0	85	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	87	92	92	88	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	38	0	0	0	0	247	0	0	97	35

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	114	-	-	247	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	-	-	6.22	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	-	-	3.318	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	939	0	0	792	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	939	-	-	792	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	9		0		0		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBT	NBR	EBLn1WBLn1	SBT	SBR
Capacity (veh/h)	-	-	939	-	-
HCM Lane V/C Ratio	-	-	0.041	-	-
HCM Ctrl Dly (s/v)	-	-	9	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-	-

Timing Report, Sorted By Phase
 1: Mesquite Ave & Riviera Dr

2026 Total PM Signalized

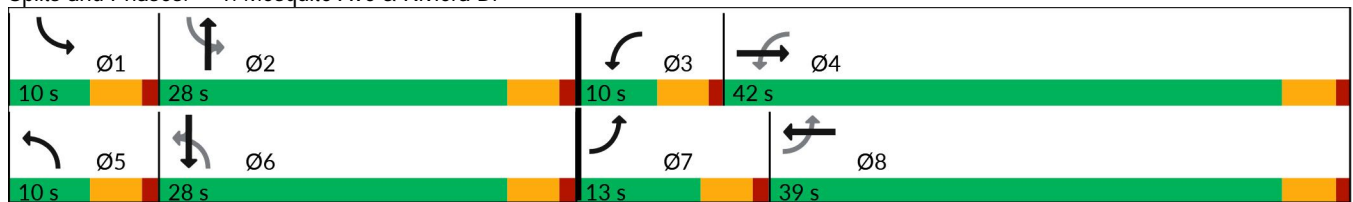


Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBSB	WBL	EBWB	NBL	NBSB	EBL	EBWB
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	None	Min	None	None
Maximum Split (s)	10	28	10	42	10	28	13	39
Maximum Split (%)	11.1%	31.1%	11.1%	46.7%	11.1%	31.1%	14.4%	43.3%
Minimum Split (s)	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Don't Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	10	38	48	0	10	38	51
End Time (s)	10	38	48	0	10	38	51	0
Yield/Force Off (s)	5.5	33.5	43.5	85.5	5.5	33.5	46.5	85.5
Yield/Force Off 170(s)	5.5	33.5	43.5	74.5	5.5	33.5	46.5	74.5
Local Start Time (s)	80	0	28	38	80	0	28	41
Local Yield (s)	85.5	23.5	33.5	75.5	85.5	23.5	36.5	75.5
Local Yield 170(s)	85.5	23.5	33.5	64.5	85.5	23.5	36.5	64.5

Intersection Summary

Cycle Length	90
Control Type	Actuated-Uncoordinated
Natural Cycle	65























Splits and Phases: 1: Mesquite Ave & Riviera Dr



HCM 7th Signalized Intersection Summary

2026 Total PM Signalized

1: Mesquite Ave & Riviera Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	322	79	34	307	42	15	55	25	35	49	36
Future Volume (veh/h)	118	322	79	34	307	42	15	55	25	35	49	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	335	82	38	345	47	22	82	37	40	56	41
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89	0.67	0.67	0.67	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	994	240	506	485	66	371	229	194	360	262	222
Arrive On Green	0.09	0.35	0.35	0.04	0.30	0.30	0.03	0.12	0.12	0.04	0.14	0.14
Sat Flow, veh/h	1781	2838	685	1781	1611	220	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	123	208	209	38	0	392	22	82	37	40	56	41
Grp Sat Flow(s),veh/h/ln	1781	1777	1747	1781	0	1831	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	1.8	3.5	3.6	0.5	0.0	7.8	0.4	1.6	0.9	0.8	1.1	0.9
Cycle Q Clear(g_c), s	1.8	3.5	3.6	0.5	0.0	7.8	0.4	1.6	0.9	0.8	1.1	0.9
Prop In Lane	1.00		0.39	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	450	622	612	506	0	551	371	229	194	360	262	222
V/C Ratio(X)	0.27	0.33	0.34	0.08	0.00	0.71	0.06	0.36	0.19	0.11	0.21	0.18
Avail Cap(c_a), veh/h	656	1629	1602	669	0	1545	563	1075	911	520	1075	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.9	9.8	9.8	7.9	0.0	12.7	14.4	16.5	16.1	14.6	15.6	15.5
Incr Delay (d2), s/veh	0.3	0.3	0.3	0.1	0.0	1.7	0.1	0.9	0.5	0.1	0.4	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	2.0	2.0	0.3	0.0	5.0	0.3	1.2	0.5	0.5	0.8	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.3	10.1	10.1	7.9	0.0	14.4	14.4	17.4	16.6	14.7	16.0	15.9
LnGrp LOS	A	B	B	A		B	B	B	B	B	B	B
Approach Vol, veh/h		540			430			141			137	
Approach Delay, s/veh		9.9			13.9			16.7			15.6	
Approach LOS		A			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.3	9.5	6.3	18.8	5.6	10.2	8.3	16.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	23.5	5.5	37.5	5.5	23.5	8.5	34.5				
Max Q Clear Time (g_c+I1), s	2.8	3.6	2.5	5.6	2.4	3.1	3.8	9.8				
Green Ext Time (p_c), s	0.0	0.5	0.0	2.7	0.0	0.3	0.1	2.5				
Intersection Summary												
HCM 7th Control Delay, s/veh			12.7									
HCM 7th LOS			B									

Appendix J: Signal Warrant Analysis

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2023 MUTCD)

MAJOR STREET: Mesquite Ave EB WB # OF APPROACH LANES:

MINOR STREET: Riviera Dr NB SB # OF APPROACH LANES:

CITY, STATE: Lake Havasu, Arizona

COMMENTS: 2026 Total Volumes

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N):
 85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N):

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2	WARRANT 3
			MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	Four-Hour	Peak Hour
THRESHOLD VALUES			600	150		900	75		480	120		720	60			
06:00 AM TO 07:00 AM	275	111					Y						Y			
07:00 AM TO 08:00 AM	495	175		Y			Y		Y	Y	Y		Y			
08:00 AM TO 09:00 AM	509	230		Y			Y		Y	Y	Y		Y			
09:00 AM TO 10:00 AM	567	274		Y			Y		Y	Y	Y		Y			
10:00 AM TO 11:00 AM	634	285	Y	Y	Y		Y		Y	Y	Y		Y		Y	
11:00 AM TO 12:00 PM	691	216	Y	Y	Y		Y		Y	Y	Y		Y			
12:00 PM TO 01:00 PM	785	168	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y		
01:00 PM TO 02:00 PM	840	211	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y	Y	
02:00 PM TO 03:00 PM	914	205	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
03:00 PM TO 04:00 PM	892	164	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y		
04:00 PM TO 05:00 PM	872	118	Y				Y		Y			Y	Y	Y		
05:00 PM TO 06:00 PM	775	161	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y		
06:00 PM TO 07:00 PM	538	130					Y		Y	Y	Y		Y			
07:00 PM TO 08:00 PM	410	91					Y						Y			
08:00 PM TO 09:00 PM	302	68											Y			
09:00 PM TO 10:00 PM	206	44														
	9,705	2,651	8	10	7	1	14	1	12	11	11	6	15	6	3	0
			8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
			NOT SATISFIED			NOT SATISFIED			NOT SATISFIED						NOT SATISFIED	NOT SATISFIED

Section 4C.07 Warrant 6, Coordinated Signal System

Support:

01 Progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles.

Guidance:

02 *The need for a traffic control signal should be considered if an engineering study finds that one of the following criteria is met:*

- A. *On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.*
- B. *On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.*

03 *The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1,000 feet.*

Section 4C.08 Warrant 7, Crash Experience

Support:

01 The Crash Experience signal warrant conditions are intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.

Guidance:

02 *The need for a traffic control signal should be considered if an engineering study finds that all of the following criteria are met:*

- A. *Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and*
- B. *At least one of the following conditions applies to the reported crash history (where each reported crash considered is related to the intersection and apparently exceeds the applicable requirements for a reportable crash):*
 - 1. *The number of reported angle crashes and pedestrian crashes within a 1-year period equals or exceeds the threshold number in Table 4C-2 for total angle crashes and pedestrian crashes (all severities); or*
 - 2. *The number of reported fatal-and-injury angle crashes and pedestrian crashes within a 1-year period equals or exceeds the threshold number in Table 4C-2 for total fatal-and-injury angle crashes and pedestrian crashes; or*
 - 3. *The number of reported angle crashes and pedestrian crashes within a 3-year period equals or exceeds the threshold number in Table 4C-3 for total angle crashes and pedestrian crashes (all severities); or*
 - 4. *The number of reported fatal-and-injury angle crashes and pedestrian crashes within a 3-year period equals or exceeds the threshold number in Table 4C-3 for total fatal-and-injury angle crashes and pedestrian crashes; and*
- C. *For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 80 percent columns of Condition B in Table 4C-1 exists on the major street and the more critical minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80 percent of the requirements specified in the Pedestrian Volume warrant (see Section 4C.05).*

Table 4C-2. Minimum Number of Reported Crashes in a One-Year Period

Number of through lanes on each approach		Total of angle and pedestrian crashes (all severities) ^a		Total of fatal-and-injury angle and pedestrian crashes ^a	
Major Street	Minor Street	Four Legs	Three Legs	Four Legs	Three Legs
1	1	5	4	3	3
2 or more	1	5	4	3	3
2 or more	2 or more	5	4	3	3
1	2 or more	5	4	3	3

^a Angle crashes include all crashes that occur at an angle and involve one or more vehicles on the major street and one or more vehicles on the minor street

Table 4C-3. Minimum Number of Reported Crashes in a Three-Year Period

Number of through lanes on each approach		Total of angle and pedestrian crashes (all severities) ^a		Total of fatal-and-injury angle and pedestrian crashes ^a	
Major Street	Minor Street	Four Legs	Three Legs	Four Legs	Three Legs
1	1	6	5	4	4
2 or more	1	6	5	4	4
2 or more	2 or more	6	5	4	4
1	2 or more	6	5	4	4

^a Angle crashes include all crashes that occur at an angle and involve one or more vehicles on the major street and one or more vehicles on the minor street

Standard:

03 **These major-street and minor-street volumes shall be for the same 8 hours.**

Support:

04 On the minor street, the more critical volume is not required to be on the same approach during each of these 8 hours. The more critical minor-street volume is the one that meets the warranting criteria for that approach, and in the case of a one-lane minor-street approach that is opposite from a multi-lane minor-street approach might not have the higher volume.

Option:

05 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000:

- A. The traffic volumes in the 56 percent columns in Table 4C-1 may be used in place of the 80 percent columns.
- B. Tables 4C-4 and 4C-5 may be used in place of Tables 4C-2 and 4C-3, respectively.

Table 4C-4. Minimum Number of Reported Crashes in a One-Year Period

Community less than 10,000 population or above 40 mph on major street					
Number of through lanes on each approach		Total of angle and pedestrian crashes (all severities) ^a		Total of fatal-and-injury angle and pedestrian crashes ^a	
Major Street	Minor Street	Four Legs	Three Legs	Four Legs	Three Legs
1	1	4	3	3	3
2 or more	1	10	9	6	6
2 or more	2 or more	10	9	6	6
1	2 or more	4	3	3	3

^a Angle crashes include all crashes that occur at an angle and involve one or more vehicles on the major street and one or more vehicles on the minor street

Table 4C-5. Minimum Number of Reported Crashes in a Three-Year Period

Community less than 10,000 population or above 40 mph on major street					
Number of through lanes on each approach		Total of angle and pedestrian crashes (all severities) ^a		Total of fatal-and-injury angle and pedestrian crashes ^a	
Major Street	Minor Street	Four Legs	Three Legs	Four Legs	Three Legs
1	1	6	5	4	4
2 or more	1	16	13	9	9
2 or more	2 or more	16	13	9	9
1	2 or more	6	5	4	4

^a Angle crashes include all crashes that occur at an angle and involve one or more vehicles on the major street and one or more vehicles on the minor street

Option:

06 Agencies may calibrate Highway Safety Manual (HSM) (AASHTO, 2010) safety performance functions (SPFs) to their own crash data or develop their own SPFs to produce agency specific average crash frequency values. When documented as part of the engineering study, these agency specific crash frequency values may be used instead of the values shown in Tables 4C-2 through 4C-5 when applying the Crash Experience signal warrant.

Support:

07 The values in Tables 4C-2 through 4C-5 for Minimum Number of Reported Crashes that correspond to the Crash Experience signal warrant were derived using the safety performance functions (SPFs) in the Highway Safety Manual (HSM) (AASHTO, 2010) for stop-controlled and signalized intersections with characteristics that are considered typical. The values in Tables 4C-2 through 4C-5 are representative of average crash frequency for the given intersection condition. The values correspond to the threshold at which the signalized intersection safety performance outperforms the stop-controlled intersection, for otherwise identical conditions and equivalent traffic.

Section 4C.09 Warrant 8, Roadway Network

Support:

01 Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network.

Guidance:

- 02 *The need for a traffic control signal should be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:*
- A. *The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or*
 - B. *The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday).*
- 03 *A major route as used in this signal warrant should have at least one of the following characteristics:*
- A. *It is part of the street or highway system that serves as the principal roadway network for through traffic flow;*
 - B. *It includes rural or suburban highways outside, entering, or traversing a city; or*
 - C. *It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.*

Section 4C.10 Warrant 9, Intersection Near a Grade Crossing

Support:

01 The Intersection Near a Grade Crossing signal warrant is intended for use at a location where none of the conditions described in the other eight traffic signal warrants are met, but the proximity of a grade crossing on an approach controlled by a STOP or YIELD sign at a highway-highway intersection is the principal reason to consider installing a traffic control signal.

Guidance:

- 02 *This signal warrant should be applied only after adequate consideration has been given to other alternatives or after a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing. Among the alternatives that should be considered or tried are:*
- A. *Providing additional pavement that would enable vehicles to clear the track or that would provide space for an evasive maneuver, or*
 - B. *Reassigning the stop controls at the highway-highway intersection to make the approach across the track a non-stopping approach.*
- 03 *The need for a traffic control signal should be considered if an engineering study finds that both of the following criteria are met:*
- A. *A grade crossing exists on an approach controlled by a STOP or YIELD sign at a highway-highway intersection and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and*
 - B. *During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) of the highway-highway intersection and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4C-9 or 4C-10 for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance as defined in Section 1C.02.*

Appendix K: Relevant Standards



TRAFFIC IMPACT ANALYSIS STANDARDS

PURPOSE

These standards present policies, detailed procedures, and minimum analysis parameters and criteria for uniform development of traffic impact analysis studies, which enable preparers to present findings and recommendations in a systematic manner, based on sound engineering principles, consistent with the expectations and practice of Mohave County.

TRAFFIC IMPACT ANALYSIS STANDARDS

A **traffic impact analysis (TIA)** shall be required for all new land developments or additions/modifications to existing land developments expected to generate 75 or greater new peak hour trips per day based on highest peak hour of generator estimates derived from data contained in the Institute of Transportation Engineers' *Trip Generation*, latest edition.

A **traffic impact statement (TIS)** shall be required for all new land developments or additions/modifications to existing land developments expected to generate 10 to 74 new peak hour trips per day based on highest peak hour of generator estimates derived from data contained in the Institute of Transportation Engineers' *Trip Generation*, latest edition.

Mohave County arterial- and collector-classified roadways operating at Level of Service C or better under the condition – future traffic without development in horizon year – shall be mitigated to a Level of Service C. Mohave County local-classified roadways operating at Level of Service D or better under the condition – future traffic without development in horizon year – shall be mitigated to a Level of Service D.

All TIA recommended and County approved road and/or traffic control improvements shall be designed and constructed in accordance with or exceed design policy set forth in *Mohave County Standard Specifications and Details* and guidelines herein. The County may consider and approve exceptions on basis of engineering judgment supported by relevant engineering data and calculations.

TRAFFIC IMPACT STATEMENT GUIDELINES

1. Estimate total trip generation.
 - ❖ Reference data in Institute of Transportation Engineers (ITE) Trip Generation, latest edition.
 - ❖ Use highest (AM or PM) peak hour of generator; many Mohave County roads exhibit peak in traffic volume during midday hours.
 - ❖ Evaluate use of rate versus equation; consider and compare size of subject development against generator sizes in ITE published studies.
 - ❖ Local and/or brand-specific trip generation studies may be acceptable with discussion and presentation of individual location characteristics and study data.
2. Estimate daily site-generated truck traffic, FHWA Vehicle Class 5 and above (e.g., total single-unit and semi tractor-trailer trucks).
3. Present directional distribution.
 - ❖ For developments producing trips (e.g., residential), consider effect of area destinations (location and relative weight of attractiveness) from the site on directional distribution.
 - ❖ For developments attracting trips (e.g., commercial), consider effect of area origins (location and relative weight of attractiveness) of trips to the site on directional distribution.
 - ❖ Existing traffic volume distribution may – but not always – approximate directional distribution.
4. Present trip assignment to/from all proposed site access driveways.
 - ❖ Turning movements to/from proposed site access driveways must include site generated pass-by trips.
5. Document location and configuration of all proposed site access driveways adjacent County roads.
6. Calculate total crash rate for each County road adjacent a proposed site access driveway(s).
 - ❖ Obtain the 5-year crash history for the County road(s) from Mohave County Public Works; document total crashes and fatal crashes.
 - ❖ Obtain the average daily traffic for the County road(s) from (1) ADOT Transportation Data Management System or (2) Mohave County Public Works.
 - ❖ Calculate total crash rate as crashes per million vehicle miles traveled.
 - ❖ Obtain the latest published State total crash rate from the latest ADOT *Arizona Motor Vehicle Crash Facts*; take total crashes divided by millions of vehicle miles traveled as published (typically in Table 1-1).
 - ❖ Compare State total crash rate to total crash rate for each County road evaluated.
7. Analyze proximity of proposed site access driveway(s) to other intersections, including intersections of other site access driveways.
 - ❖ Evaluate and confirm the functional area of the proposed site access driveway(s) are does not overlap the functional area of any adjacent intersection on the same road.
 - ❖ Intersection functional area means the distance traveled by vehicles (1) while decelerating on approach to an intersection to stop for traffic control or permissive left-turn and (2) while accelerating away from an intersection after stop or turning maneuver.

8. Determine need for auxiliary lanes (left-turn and right-turn lanes) on roads adjacent proposed site access driveway(s) through Section 245 of the ADOT published *Traffic Engineering Guidelines and Processes*, latest edition.
 - ❖ If the State total crash rate exceeds the total crash rate for the County road evaluated, then apply the Section 245 criteria for right-turn traffic volume and left-turn traffic volume at 80% of published value.
9. For any recommended new auxiliary lanes, determine minimum turn lane length based on through Section 430 of the ADOT published *Traffic Engineering Guidelines and Processes*, latest edition.

TRAFFIC IMPACT ANALYSIS GUIDELINES

1. Complete Traffic Impact Statement Guidelines.
2. Identify County intersections serving site-generated traffic for intersection capacity analysis.
 - ❖ All site access driveways
 - ❖ Nearest County intersection in each direction from site access driveway(s)
3. Collect intersection turning movement counts for each study intersection during target peak hour(s).
 - ❖ Calculate peak hour factor from analysis of turning movement counts.
 - ❖ Determine heavy truck percentage for intersection capacity analysis.
4. Perform intersection capacity analysis for study intersections under the following conditions:
 - ❖ Existing Year Condition – analysis of (1) existing traffic and (2) existing intersection configuration and control.
 - ❖ Horizon Year No-Build Condition – analysis of (1) existing traffic forecast to horizon year, (2) new traffic generated by other known planned developments, and (3) existing intersection configuration and control with modifications per County or other known planned improvements.
 - ❖ Horizon Year Build Condition – analysis of (1) existing traffic forecast to horizon year, (2) new traffic generated by other known planned developments, (3) traffic generated by subject development, and (4) existing intersection configuration and control with modifications per County or other known planned improvements.
 - ❖ Horizon Year represents the year that the subject development opens under full buildout and operation.
 - ❖ Use intersection capacity analysis software based on Highway Capacity Manual, latest edition.
5. Determine roadway modifications from intersection capacity analysis findings and, as pertinent, *Manual on Uniform Traffic Control Devices*, traffic signal warrants.

245 TURN LANE WARRANTS

The intent of this document is to offer guidance to warrant the installation of dedicated left or right turn lanes on state routes, whether during new construction, major reconstruction, or in the course of the encroachment permitting process. **The primary determining factors to warrant an exclusive turn lane shall be: (a) the combination of through traffic volume and turning traffic volume, (b) the posted roadway speed, and (c) the number of through lanes on the roadway.** Note: Dual right- or left-turn lanes should be considered when the turning volume exceeds 300 vehicles per hour. In addition to the criteria presented in the tables below, other factors should be taken into consideration when performing a warrant study such as: shoulder width, percentage of trucks, sight distance, highway grade, horizontal and vertical curvature and crash history.

Right-Turn Lane Warrants

Peak Hour Traffic Volume on the Highway in Advancing Direction	Minimum Peak Hour Right-turn Traffic Volume				
	# of thru lanes per direction				
	1		2		3
	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed	All Speeds
≤ 200					
201 – 300	-	30	-	-	-
301 – 400	-	19	-	55	-
401 – 500	85	14	-	30	-
501 – 600	58	12	140	25	-
601 – 700	27	9	80	18	-
701 – 800	20	8	53	15	-
801 – 900	12	7	40	12	-
901 – 1000	9	6	30	11	-
1001 – 1100	8	5	23	9	18
1101 – 1200	7	5	18	8	16
1201 – 1300	6	4	14	8	15
1301 – 1400	6	4	11	6	12
1400+	5	3	8	6	10

Left-Turn Lane Warrants

Peak Hour Traffic Volume on the Highway in Advancing Direction	Minimum Peak Hour Left-turn Traffic Volume			
	# of thru lanes per direction			
	1		2	
			(Undivided)*	
	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed
≤ 200	30	15	-	-
201 – 300	12	12	40	30
301 – 400	12	12	30	25
401 – 500	12	12	25	18
501 – 600	12	12	15	12
601 – 1000	12	12	10	8
1000+	12	8	10	8

*On non-freeway divided highways, left-turn or U-turn lanes should be provided at median breaks.

Volumes and traffic factors utilized should be based on data from ADOT's Multimodal Planning Division, or should be based on current traffic counts as approved by the Regional Traffic Engineer. For encroachment permits, analysis of the relevant through and turning traffic volumes should be completed in the design year as identified in ADOT Traffic Guidelines and Processes (TGP) 240. For new construction and major reconstruction, analysis should be performed based on data for the appropriate design year. Turn lane warrant studies should be reviewed and approved by the Regional Traffic Engineer. In cases where the State Highway section in question intersects a route under other jurisdiction, it is recommended that a turning movement analysis be performed on the intersecting route as well.

When it is determined that a turn lane is warranted, shoulder width should be provided as part of the turn lane design in accordance with the ADOT Roadway Design Guidelines, which should be used to determine the minimum continuous usable width of paved shoulder along the turn lanes. Turn lane design should also conform to the guidance in ADOT TGP430.