

LAKESHORE DRIVE

TRAFFIC IMPACT ANALYSIS

Prepared For:

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Table of Contents

1	EXECUTIVE SUMMARY	1
2	INTRODUCTION.....	3
2.1	Project Description.....	3
2.2	Study Area and Analysis Scenarios	6
2.3	Intersection Analysis Methodology.....	9
2.4	Traffic Signal Warrant Analysis Methodology.....	9
2.5	Significance Criteria	10
3	EXISTING CONDITIONS	11
3.1	Existing Roadway Facilities	11
3.2	Existing Bicycle and Pedestrian Facilities.....	11
3.3	Existing Public Transit Services	11
3.4	Existing Traffic Volumes and Intersection Operations.....	12
4	PROPOSED PROJECT.....	16
4.1	Project Description and Site Access	16
4.2	Project Trip Generation.....	16
4.3	Project Trips.....	16
5	FUTURE CONDITIONS.....	22
5.1	Project Completion Conditions Traffic Volumes and Intersection Operations	22
5.2	Cumulative Traffic Volumes and Intersection Operations	25
6	RECOMMENDED IMPROVEMENTS.....	33
6.1	Peak Hour Signal Warrant Analysis	33
6.2	Recommendation for Project Completion Conditions Improvement	33
6.3	Recommendation for Cumulative Conditions Improvement.....	34
6.4	Fair Share Contributions.....	34
6.5	Intersection Queueing Analysis	35

Figures

FIGURE 1: PROJECT LOCATION	4
FIGURE 2: PROJECT SITE PLAN	5
FIGURE 3: PROJECT STUDY AREA	8
FIGURE 4: PROJECT STUDY AREA LANE GEOMETRY AND TRAFFIC CONTROL.....	13
FIGURE 5: EXISTING AM PEAK HOUR TRAFFIC VOLUMES	14
FIGURE 6: EXISTING PM PEAK HOUR TRAFFIC VOLUMES.....	15
FIGURE 7: LAKESHORE INTERSECTION SIGNAL/STRIPING PLAN	17
FIGURE 8: PROJECT COMPLETION STUDY AREA LANE GEOMETRY AND TRAFFIC CONTROL.....	18
FIGURE 9: PROJECT TRIP DISTRIBUTION	19
FIGURE 10: PROJECT AM PEAK HOUR TRIP ASSIGNMENT	20
FIGURE 11: PROJECT PM PEAK HOUR TRIP ASSIGNMENT.....	21
FIGURE 12: PROJECT COMPLETION AM PEAK HOUR TRAFFIC VOLUMES	23
FIGURE 13: PROJECT COMPLETION PM PEAK HOUR TRAFFIC VOLUMES	24
FIGURE 14: LOCATION OF CUMULATIVE PROJECTS	26
FIGURE 15: CUMULATIVE PROJECTS AM PEAK HOUR TRIP ASSIGNMENT.....	28

FIGURE 16: CUMULATIVE PROJECTS PM PEAK HOUR TRIP ASSIGNMENT	29
FIGURE 17: CUMULATIVE AM PEAK HOUR TRAFFIC VOLUMES	30
FIGURE 18: CUMULATIVE PM PEAK HOUR TRAFFIC VOLUMES.....	31

Tables

TABLE 1.	VOLUME COUNT CONVERSION RATES.....	7
TABLE 2.	RELATIONSHIP BETWEEN CONTROL DELAY AND LOS AT A SIGNALIZED INTERSECTION.....	9
TABLE 3.	RELATIONSHIP BETWEEN DELAY AND LOS AN UNSIGNALIZED INTERSECTION	9
TABLE 4.	EXISTING ROADWAY SYSTEM IN THE STUDY AREA.....	11
TABLE 5.	EXISTING AM AND PM PEAK HOUR LEVELS OF SERVICE	12
TABLE 6.	PROJECT TRIP GENERATION	16
TABLE 7.	PROJECT COMPLETION AM AND PM PEAK HOUR LEVELS OF SERVICE.....	22
TABLE 8.	CUMULATIVE PROJECTS TRIP GENERATION	27
TABLE 9.	CUMULATIVE CONDITIONS AM AND PM PEAK HOUR LEVELS OF SERVICE.....	32
TABLE 10.	TRAFFIC SIGNAL WARRANT ANALYSIS SUMMARY.....	33
TABLE 11.	RECOMMENDED IMPROVEMENTS ON PROJECT COMPLETION AM AND PM PEAK HOUR LEVELS OF SERVICE	36
TABLE 12.	RECOMMENDED IMPROVEMENTS ON CUMULATIVE AM AND PM PEAK HOUR LEVELS OF SERVICE	37
TABLE 13.	PROJECT FAIR SHARE CONTRIBUTION.....	38
TABLE 14.	QUEUEING LENGTH ON INTERSECTION 2 LAKESHORE DR AND GUNNERSON ST-PROJECT DWY.....	38

Appendices

APPENDIX A – TRAFFIC STUDY SCOPING AGREEMENT
APPENDIX B – TRAFFIC COUNTS
APPENDIX C – ROUTE 8 LAKE ELSINORE – WILDOMAR LOOP
APPENDIX D – LEVEL OF SERVICE CALCULATIONS
APPENDIX E – PEAK HOUR TRAFFIC SIGNAL WARRANT ASSESSMENTS

1 EXECUTIVE SUMMARY

This Traffic Impact Analysis (TIA) evaluates the potential traffic impacts of the Lakeshore Drive residential project which proposes to construct 140 duplex townhomes on Lakeshore Drive west of Gunnerson Street. Based on the Institute of Transportation Engineers (ITE), *Trip Generation Manual* 11th Edition trip generation rates, the project would generate 1,008 daily trips including 67 AM peak hour and 80 PM peak hour trips.

The following study area intersections were evaluated during the AM and PM peak hours, which are defined as the hours with the highest traffic volumes during the 7 AM to 9 AM and 4 PM to 6 PM peak commute periods:

1. Lakeshore Dr and Machado St
2. Lakeshore Dr and Gunnerson St-Project Dwy
3. Lakeshore Dr and Viscaya St
4. Lakeshore Dr and SR-74
5. Gunnerson St and SR-74

AM and PM peak hour traffic operations were evaluated for the following scenarios:

- Existing Conditions
- Project Completion (existing + ambient + project) Conditions
- Cumulative (existing + ambient + project + cumulative) Conditions

Existing Conditions Intersection Analysis Results

The following two intersections operate at unsatisfactory LOS in this scenario:

2. Lakeshore Dr and Gunnerson St (LOS F at PM peak hour)
5. Gunnerson St and SR-74 (LOS F at AM/PM peak hour)

Project Access for Project Completion

The proposed project will install a traffic signal at the intersection of Lakeshore Drive and Gunnerson Street-Project Driveway. The project access driveway is designed to be 56 ft wide curb to curb. As per the City of Lake Elsinore Circulation Element, Lakeshore Drive is a six-lane urban arterial, and the proposed project will widen Lakeshore Drive to the ultimate half-width section along the project frontage to provide dedication for three-lane.

Project Completion Conditions Intersection Analysis Results

The following intersection(s) operate at unsatisfactory LOS in this scenario:

5. Gunnerson St and SR-74 (LOS F at AM/PM peak hour)

Cumulative Conditions Intersection Analysis Results

The following intersection(s) operate at unsatisfactory LOS in this scenario:

4. Lakeshore Dr and SR-74 (LOS E at PM peak hour)
5. Gunnerson St and SR-74 (LOS F at AM/PM peak hour)

Recommended Improvements

The following improvements are recommended for satisfactory intersection operations:

Project Completion Conditions:

5. Gunnerson St and SR-74: It is recommended that the intersection be changed from a TWSC to a signalized intersection with permissive left-turn phasing for all intersection approaches.

Cumulative Conditions:

4. Lakeshore Dr and SR-74: It is recommended to change the NBL and SBL on Lakeshore Drive from protected left-turn phasing to protected-permissive left-turn phasing.
5. Gunnerson St and SR-74: It is recommended that the intersection be changed from a TWSC to a signalized intersection with permissive left-turn phasing for all intersection approaches.

Project Fair Share

The fair share percentage for recommended intersection improvements is listed below:

4. Lakeshore Dr and SR-74: 6.83%.
5. Gunnerson St and SR-74: 9.75%.

Intersection Queueing Analysis Results

There are no observed queueing deficiencies on the eastbound left-turn and westbound left-turn in both the Project Completion and Cumulative Conditions at the intersection of Lakeshore Drive and Gunnerson Street-Project Driveway.

2 INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared by EPD Solutions, Inc. (EPD) to analyze the potential transportation-related impacts of the proposed Lakeshore Drive Residential Development project (proposed project). The scope of work for this TIA was reviewed and approved by the City of Lake Elsinore (City) and is provided in *Appendix A*. The TIA was prepared according to the approved scope of work using methodologies and significance criteria consistent with the requirements of the City of Lake Elsinore Traffic Impact Analysis Preparation Guide (May 3, 2022).

2.1 Project Description

The 10.29-acre project site is located at 16540 Lakeshore Drive, which is at the southwest side of the intersection of Lakeshore Drive and Gunnerson Street in the northwestern portion of the City of Lake Elsinore. The project site is located to the west of Interstate 15 (I-15). Local access to the site is provided by Lakeshore Drive and SR-74. The location of the project is shown in Figure 1 - Project Location, and the project site plan is shown in Figure 2 – Project Site Plan. The project proposes to construct 140 duplex townhome residences, including 348 parking, which is more than the 327 parking spaces that are required by the City.

Access to the project site will be provided via one driveway at the intersections of Lakeshore Drive/Gunnerson Street. A signal will be installed at this intersection as a part of the project. The project access driveway is 56 ft wide curb to curb. The total site area is 423,318 sf with 108,029 sf of streets and alleys, 169,756 sf of building area, 808 sf of recreation center building and 144,725 sf of landscape area. Lakeshore Drive is a six-lane urban arterial as per the City of Lake Elsinore Circulation Element, and the proposed project will expand Lakeshore Drive to provide dedication for three-lane along the project frontage. The proposed project is anticipated to be built in 2024.

Figure 1: Project Location



Figure 2: Project Site Plan



2.2 Study Area and Analysis Scenarios

This TIA includes all signalized and unsignalized intersections where the project has the potential to add 50-trips or more during any peak hour. The location of the study area intersections is shown in Figure 3 – Project Study Area. The lane geometry for the study area intersections is shown in Figure 4 – Project Study Area Lane Geometry and Traffic Control. This TIA includes the analysis of the following four off-site intersections, three of which would be signalized intersections and one would be a two-way stop controlled (TWSC) intersection. The project driveway would be signalized as a part of the project. The following intersections were included in the analysis:

1. Lakeshore Dr and Machado St (Existing - Signalized)
2. Lakeshore Dr and Gunnerson St-Project Dwy (Existing - TWSC)
3. Lakeshore Dr and Viscaya St (Existing - Signalized)
4. Lakeshore Dr and SR-74 (Existing - Signalized)
5. Gunnerson St and SR-74 (Existing - TWSC)

Study area intersections were evaluated during the AM and PM peak hours, which are defined as the hour with the highest traffic volumes during the 7 AM to 9 AM and 4 PM to 6 PM peak commute periods. AM and PM peak hour traffic operations were evaluated for the following scenarios:

- Existing Traffic Conditions
- Project Completion (existing + ambient + project) Conditions
- Cumulative (existing + ambient + project + cumulative) Conditions

Because existing traffic volumes were collected on June 21st, 2022, while schools were not in session, traffic count data were factored from the approved Lakeview Plaza TIA¹ traffic counts which were taken while schools were in session in 2018 (Traffic volumes were collected on November 14th, 2018). The traffic counts from intersections of Lakeshore Drive and Machado Street, and Lakeshore Drive and SR-74 were considered from the approved Lakeview Plaza TIA as study intersections, and were used to obtain AM and PM conversion rates to apply to the 2022 counts collected by EPD to account for the absence of school traffic volumes.

The conversion rates were obtained by comparing the 2022 counts for the intersection of Lakeshore Drive and Machado Street, and Lakeshore Drive and SR-74 to their respective 2018 counts. The AM and PM peak hour conversion rates were derived by averaging the conversion rates obtained for each intersection. As shown in Table 1, a factor of 41% was obtained for the AM peak hour and a factor of 15% was obtained for PM peak hour. The final baseline existing traffic volumes utilized in the study are attached in Appendix B for reference. Forecast traffic volumes for the Project Completion (2024) Conditions were developed by applying a growth rate of two percent per year to the obtained 2022 traffic volumes and adding the traffic generated by the project. The growth rate of two percent per year was approved by the City of Lake Elsinore Engineering staff during the scoping process. Cumulative conditions were developed by adding the nearby cumulative (approved and not yet build and those under review) development projects within a two-mile radius to the Project site to the Project Completion Conditions.

¹ The Lakeview Plaza Traffic Impact Analysis (TJW Engineering, Inc., January 7, 2020)

Cumulative projects were provided by the City of Lake Elsinore Planning Department and are included in the Cumulative analysis scenarios.

Table 1. Volume Count Conversion Rates

Intersection		AM Peak Hour Conversion Rate	PM Peak Hour Conversion Rate
1.	Lakeshore Dr/Machado St	49%	15%
4.	Lakeshore Dr/SR-74	33%	16%
Average Conversion Rate ¹		41%	15%

¹The Average Conversion Rate is the average percentage of all included intersections

Figure 3: Project Study Area



2.3 Intersection Analysis Methodology

Intersection operations are evaluated using Level of Service (LOS), which is a measure of the delay experienced by drivers on a roadway facility. LOS A indicates free-flow traffic conditions and is generally the best operating conditions. LOS F is an extremely congested condition and is the worst operating condition from the driver's perspective. In this report, LOS at signalized and unsignalized intersections is calculated using the Highway Capacity Manual (HCM), 7th Edition methodology.

LOS at signalized intersections is defined in terms of the weighted average control delay for the intersection as a whole. Control delay is a measure of the increase in travel time that is experienced due to traffic signal control and is expressed in terms of average control delay per vehicle (in seconds). Control delay is determined based on the intersection geometry and volume, signal cycle length, phasing and coordination along the arterial corridor. Table 2 shows the relationship between control delay and LOS.

Table 2. Relationship between Control Delay and LOS at a Signalized Intersection

LOS	Delay (Seconds per Vehicle)
A	≤ 10
B	>10 – 20
C	>20 – 35
D	>35 – 55
E	>55 – 80
F	>80

Unsignalized intersections are categorized as either all-way stop control (AWSC) or two-way stop control (TWSC). LOS at AWSC intersections is determined by the weighted average control delay of the overall intersection. The HCM TWSC intersection methodology calculates LOS based on the delay experienced by drivers on the minor (stop-controlled) approaches to the intersection. For TWSC intersections, LOS is determined for each minor-street movement, as well as the major-street left-turns. The relationship between delay and LOS at Unsignalized intersections is shown in Table 3.

Table 3. Relationship between Delay and LOS an Unsignalized Intersection

LOS	Delay (seconds)
A	0-10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F	>50

2.4 Traffic Signal Warrant Analysis Methodology

This TIA utilizes the peak hour volume-based warrant (Warrant 3) from the 2014 California Manual on Uniform Traffic Control Devices (CA MUTCD), revision 6, effective March 30, 2021. As per the City's TIA Preparation Guide (May 3, 2022), the signal warrant analysis shall utilize the Caltrans peak-hour warrants (Warrant 3).

2.5 Significance Criteria

The City of Lake Elsinore, in general, requires that peak-hour intersections operate at LOS “D” or better to be considered acceptable. Therefore, any City intersection operating at LOS “E” or LOS “F” will be considered deficient. An addition of Project traffic that degrades operations from LOS D or better to LOS E or worse or increases delay on a facility operating at LOS D or worse will be considered deficient and would need to identify an improvement to return to LOS D or better.

3 EXISTING CONDITIONS

This section discusses the Existing conditions. Existing conditions are those conditions that exist within the study area without the proposed project.

3.1 Existing Roadway Facilities

The Project site is located at 16540 Lakeshore Drive, which is at the southwest side of the intersection of Lakeshore Drive and Gunnerson Street in the northwestern portion of the City of Lake Elsinore. Local access to the site is provided by Lakeshore Drive and SR-74. The characteristics of the roadway system in the study area are described in Table 4 below. The existing traffic control and intersection geometrics at study area intersections are shown in Figure 4 – Project Study Area Lane Geometry and Traffic Control. The project driveway assumes to have a de facto right-turn lane given that the width of the outbound driveway lane is more than 20 feet.

Table 4. Existing Roadway System in the Study Area

Roadway	Classification ¹	Jurisdiction	Direction	Existing Travel Lanes	Median Type ²	Speed Limit (mph)	On-Street Parking
SR-74	Urban Arterial	Caltrans	North-South	2	TWLTL	40	No
Lakeshore Dr	Urban Arterial	City of Lake Elsinore	East-West	2-5	NM-TWLTL	40	No
Machado St	Major	City of Lake Elsinore	North-South	2	TWLTL	40	No
Gunnerson St	Collector	City of Lake Elsinore	North-South	2	NM	40	Yes

1: City of Lake Elsinore General Plan Circulation Element (2011)

2: TWLTL = Two-way Left-Turn Lane, NM = No Median.

3.2 Existing Bicycle and Pedestrian Facilities

Although there is no existing Class II on-Street bicycle lane in the vicinity of the project, there is an existing Class II on street bicycle lane on SR-74 between Lincoln Street and Saint Charles Place. There are existing sidewalks on SR-74 and Lakeshore Drive. There are existing striped crossings at the intersections of Lakeshore Drive and Machado Street, Lakeshore Drive and Viscaya Street, and Lakeshore Drive and SR-74.

3.3 Existing Public Transit Services

The City of Lake Elsinore and Riverside Transit Agency provide local and regional transit services within the study area. Bus Route 8 Lake Elsinore – Wildomar loop starts from Lake Elsinore Outlet Center and includes a stop at Lakeshore Drive and Viscaya Street. This bus stop is within a quarter mile of the Project site. Route 8 operates in loops with headway of around 60 minutes. Appendix C shows the routing and timetables of Bus Route 8.

3.4 Existing Traffic Volumes and Intersection Operations

Traffic counts at the existing study area intersections shown in Figure 3 – Project Study Area, were collected on Tuesday, June 21, 2022, while schools were not in session. As mentioned previously in Section 2.2 *Study Area and Analysis Scenarios*, existing counts were collected while schools were not in session. Therefore, an adjustment was made referencing the approved Lakeview Plaza TIA² which utilized traffic counts collected while school were in session. Intersection turn movement count sheets are provided in Appendix B. Existing AM and PM peak hour traffic volumes are shown in Figure 5 – Existing AM Peak Hour Traffic Volumes and on Figure 6 – Existing PM Peak Hour Traffic Volumes respectively. The existing Levels of Service at the existing study area intersections were determined using the HCM methodology, described previously in Section 2.3 *Intersection Analysis Methodology*. Table 5 shows the existing AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in Appendix D. As shown in Table 5, the following intersection(s) operate at unsatisfactory LOS in this scenario:

2. Lakeshore Dr and Gunnerson St (LOS F at PM peak hour)
5. Gunnerson St and SR-74 (LOS F at AM/PM peak hour)

Recommended improvements for unsatisfactory LOS operations are discussed in Section 6 - *Recommended Improvements*.

Table 5. Existing AM and PM Peak Hour Levels of Service

Intersection	Traffic Control	AM Peak		PM Peak		Threshold of Significance
		Delay ¹	LOS ²	Delay ¹	LOS ²	
1. Lakeshore Dr/Machado St	Signal	16.6	B	19.1	B	D
2. Lakeshore Dr/Gunnerson St-Proj Dwy	TWSC	31.2	D	61.5	F	D
3. Lakeshore Dr/Viscaya St	Signal	9.9	A	14.1	B	D
4. Lakeshore Dr/SR-74	Signal	33.7	C	35.0	D	D
5. Gunnerson St/SR-74	TWSC	693.0	F	537.0	F	D

■ =Unsatisfactory Level of Service

TWSC = Two-Way Stop Control

¹ Delay in Seconds

² Level of Service

² The Lakeview Plaza Traffic Impact Analysis (TJW Engineering, Inc., January 7, 2020)

Figure 4: Project Study Area Lane Geometry and Traffic Control

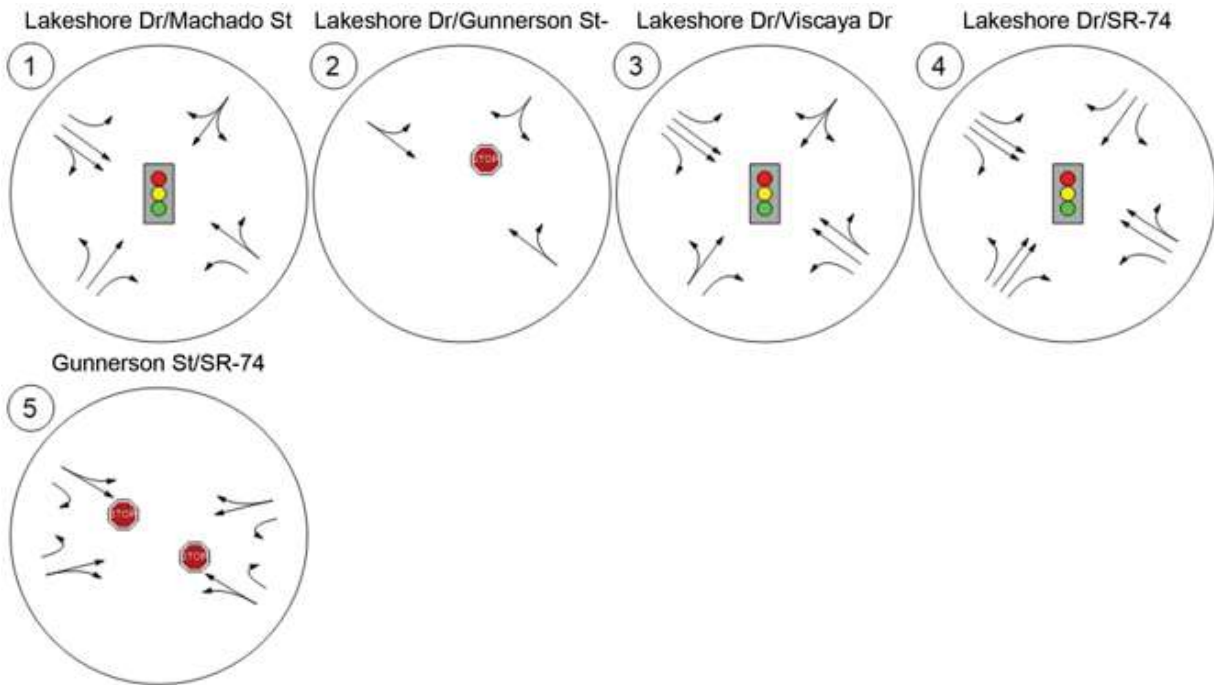


Figure 5: Existing AM Peak Hour Traffic Volumes

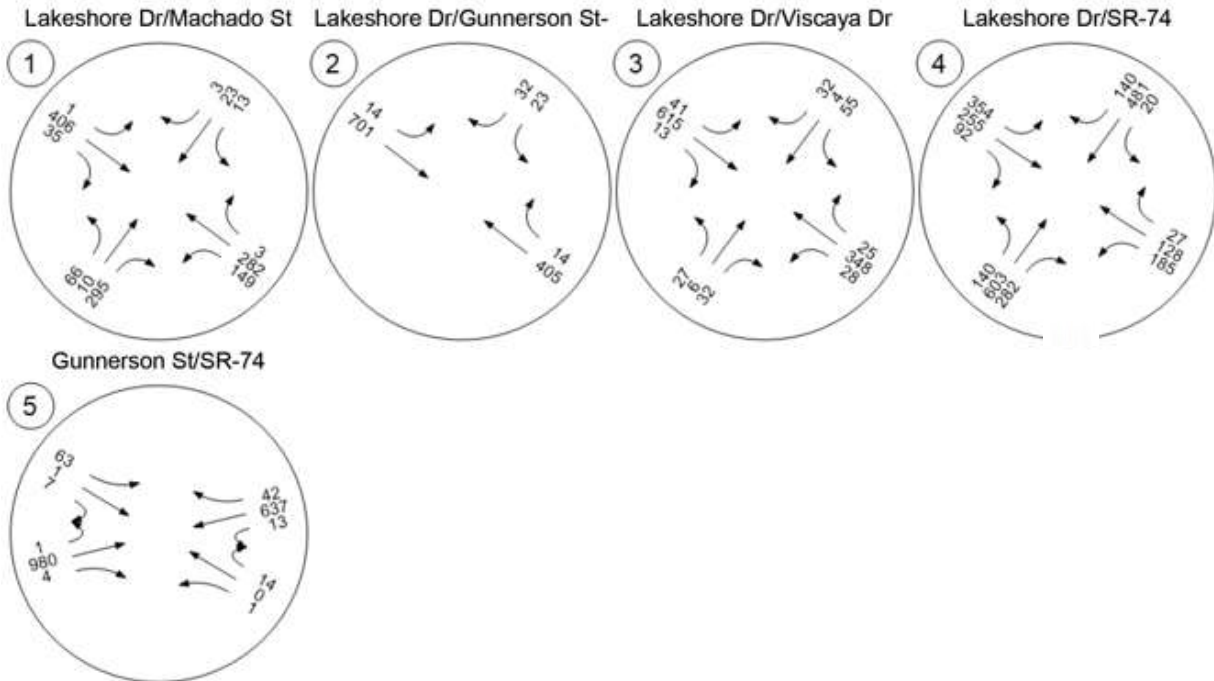
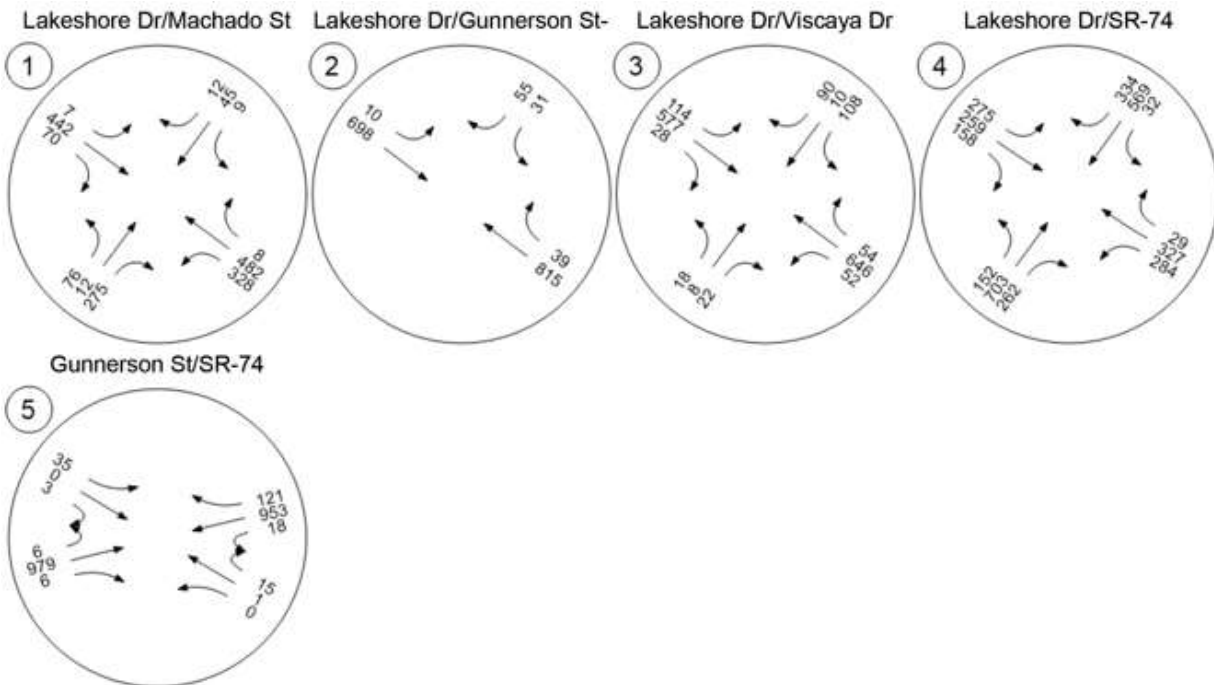


Figure 6: Existing PM Peak Hour Traffic Volumes



4 PROPOSED PROJECT

4.1 Project Description and Site Access

As described in *Section 2.1 – Project Description*, the project proposes to construct 140 duplex townhome units. The project provides gated entry from Lakeshore Drive to the project site at the intersection of Lakeshore Drive and Gunnerson Street. The project access driveway is designed to be 56 ft wide curb to curb. As per the City of Elsinore Circulation Element, Lakeshore Drive is a six-lane urban arterial and the proposed project will expand Lakeshore Drive along the project frontage to be three-lane. The expansion will include dedicated EBL and WBL turn pocket lanes. The project will install a traffic signal at the intersection of Lakeshore Drive and Gunnerson Street-Project Driveway. The preliminary striping plan of the intersection of Lakeshore Drive and Gunnerson Street-Project Driveway is shown in Figure 7 - Lakeshore Intersection Signal/Striping Plan. The project completion traffic control and intersection geometrics at study area intersections are shown in Figure 8 – Project Completion Study Area Lane Geometry and Traffic Control.

4.2 Project Trip Generation

Vehicle trips were generated for the project using trip rates from the ITE, *Trip Generation Manual*, 11th Edition (2021). The trip generation for the project is shown in Table 6. The project would generate 1,008 daily trips, including 67 AM peak hour and 80 PM peak hour trips.

Table 6. Project Trip Generation

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
<u>Trip Rates</u>								
Single-Family Attached Housing ¹	DU	7.20	0.15	0.33	0.48	0.32	0.25	0.57
<u>Project Trip Generation</u>								
Proposed Townhomes	140 DU	1,008	21	46	67	45	35	80

DU = Dwelling Units

¹Trip rates from the Institute of Transportation Engineers, *Trip Generation Manual*, 11th Edition, 2021. Land Use Code 215 - Single-Family Attached Housing

4.3 Project Trips

Project trips were distributed to the five study area intersections based on logical routes of travel. The project trip distribution is shown in Figure 9 – Project Trip Distribution. The project AM and PM trip assignment is shown in Figure 10 – Project AM Peak Hour Trip Assignment and Figure 11 – Project PM Peak Hour Trip Assignment respectively. Project trips were assigned to the study area intersections by multiplying the project trip generation by the trip distribution percent at each location.

Figure 7: Lakeshore Intersection Signal/Striping Plan

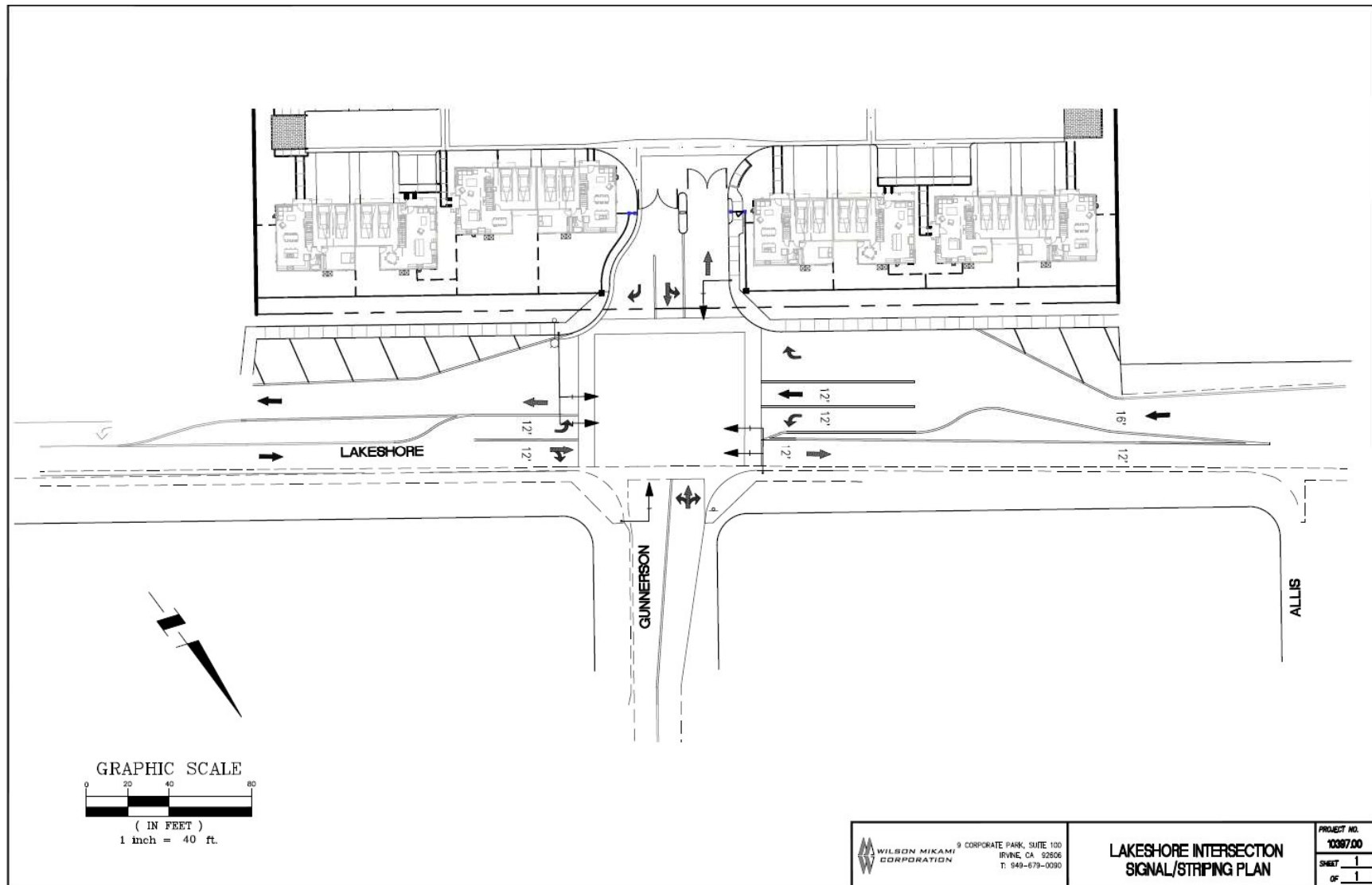


Figure 8: Project Completion Study Area Lane Geometry and Traffic Control

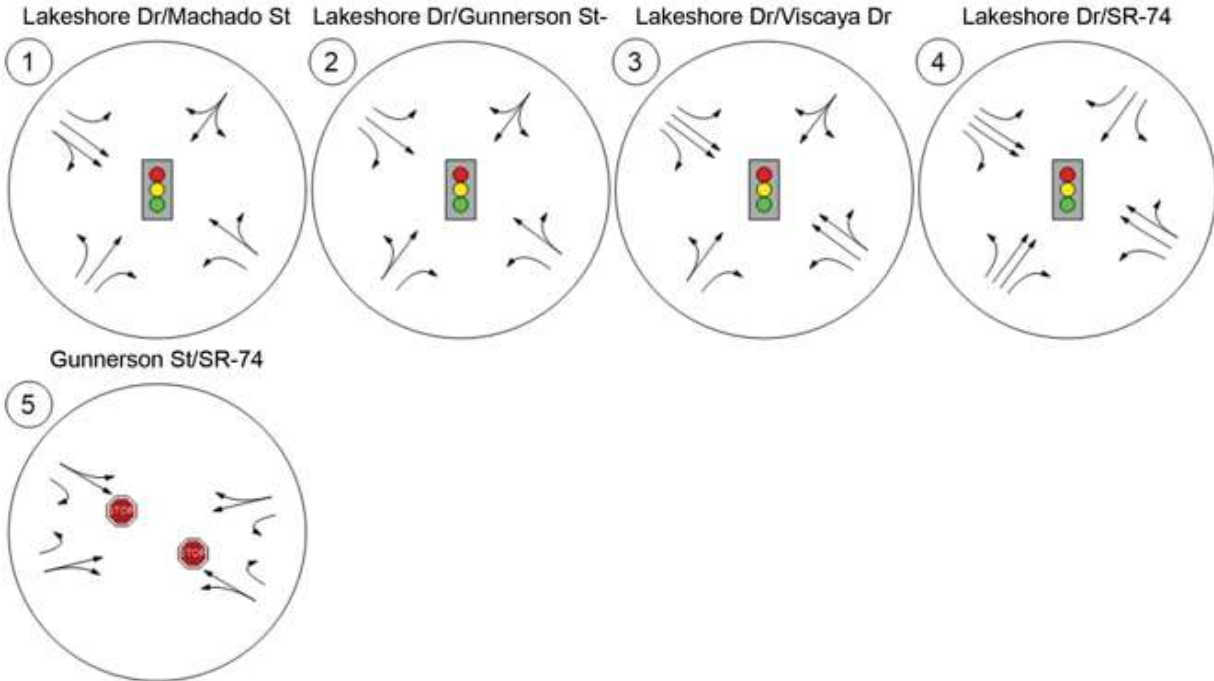


Figure 9: Project Trip Distribution

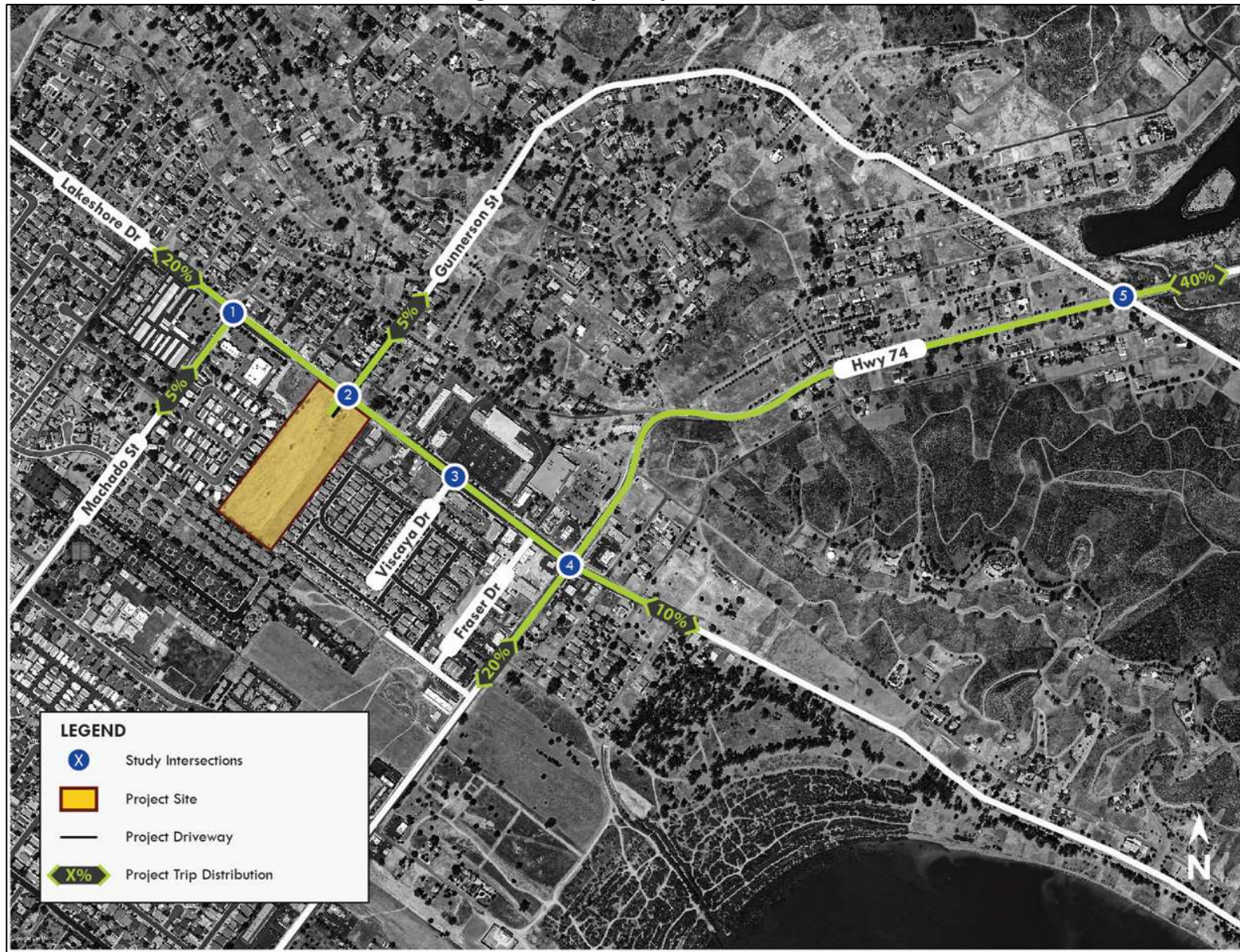


Figure 10: Project AM Peak Hour Trip Assignment

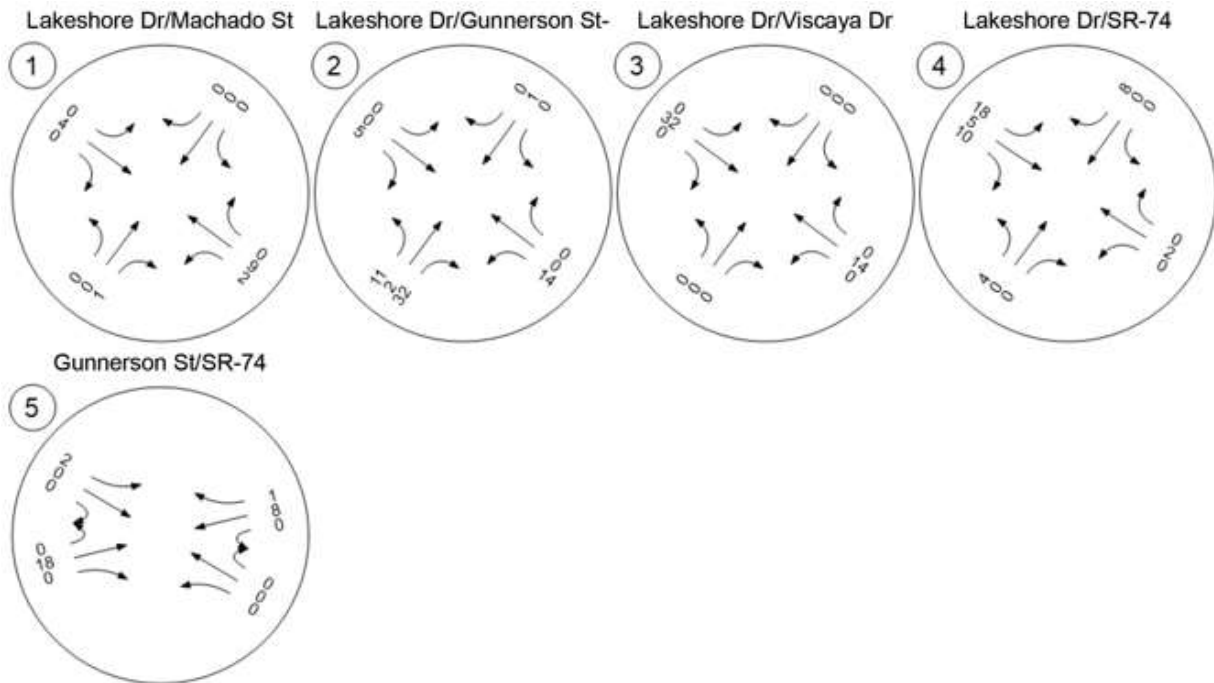
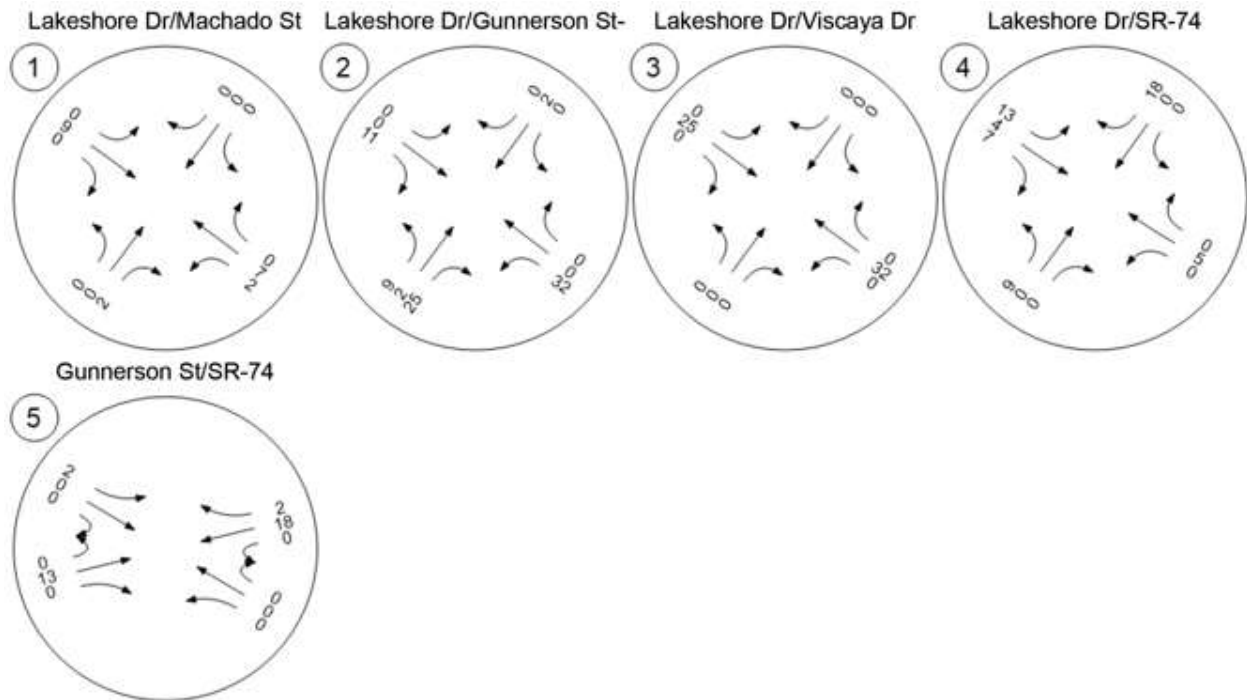


Figure 11: Project PM Peak Hour Trip Assignment



5 FUTURE CONDITIONS

This section discusses the Future conditions in the study area. Future conditions include Project Completion Conditions and Cumulative Conditions.

5.1 Project Completion Conditions Traffic Volumes and Intersection Operations

The traffic volumes of Project Completion Conditions (existing + ambient + project) scenario were developed by applying an ambient growth rate of two percent per year to the existing (2022) traffic volumes and adding traffic generated by the proposed project. The Project Completion Conditions (year 2024) traffic volumes are illustrated in Figure 12 – Project Completion AM Peak Hour Traffic Volumes and Figure 13 – Project Completion PM Peak Hour Traffic Volumes.

The Project Completion Conditions levels of service (LOS) at the five existing study area intersections were determined using the HCM methodology, described previously in *Section 2.3 Intersection Analysis Methodology*. Table 7 shows the Project Completion AM and PM peak hour levels of service at study area intersections. All LOS calculations are provided in *Appendix D*. As shown in Table 7, the following intersection(s) operate at unsatisfactory LOS in this scenario:

5. Gunnerson St and SR-74 (LOS F at AM/PM peak hour)

Recommended improvements for unsatisfactory LOS operations are discussed in the *Section 6 - Recommended Improvements*.

Table 7. Project Completion AM and PM Peak Hour Levels of Service

Intersection	Traffic Control	AM Peak		PM Peak		Threshold of Significance
		Delay ¹	LOS ²	Delay ¹	LOS ²	
1. Lakeshore Dr/Machado St	Signal	16.8	B	20.3	C	D
2. Lakeshore Dr/Gunnerson St-Proj Dwy	Signal ³	6.4	A	8.5	A	D
3. Lakeshore Dr/Viscaya St	Signal	10.0	B	14.5	B	D
4. Lakeshore Dr/SR-74	Signal	37.9	D	40.1	D	D
5. Gunnerson St/SR-74	TWSC	1,013.5	F	820.3	F	D

 =Unsatisfactory Level of Service

TWSC = Two-Way Stop Control

¹ Delay in Seconds

² Level of Service

³ Project to install new signal at Lakeshore Dr/Gunnerson St-Proj Dwy intersection

Figure 12: Project Completion AM Peak Hour Traffic Volumes

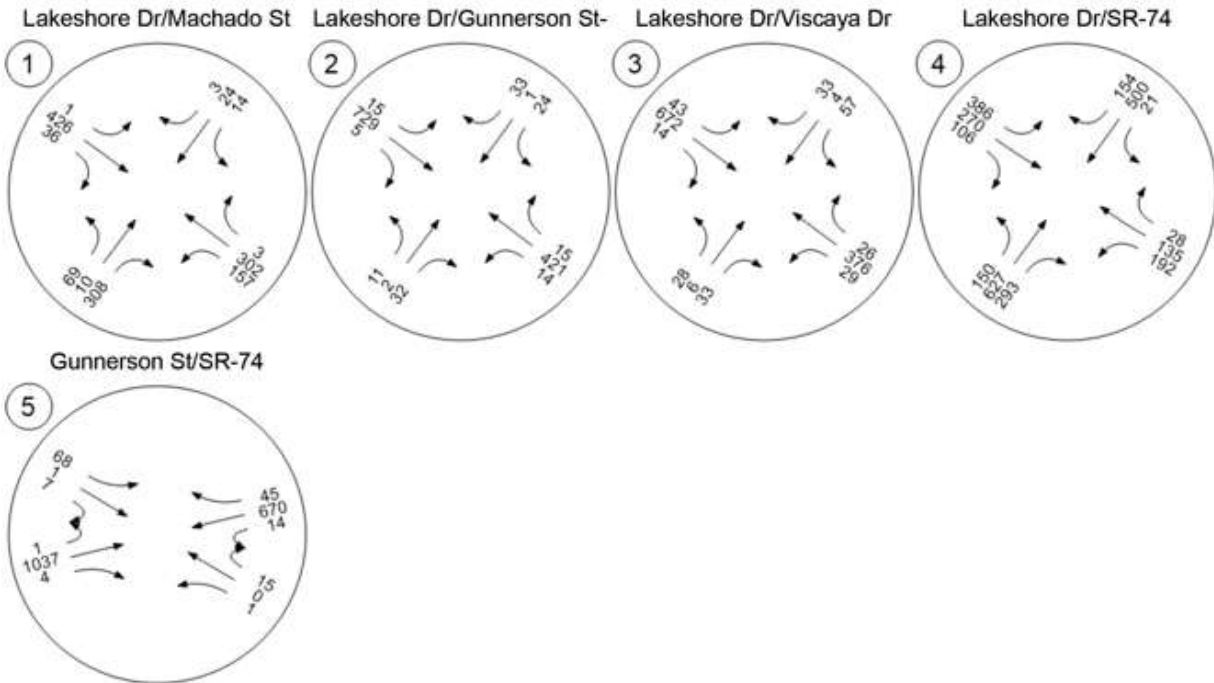
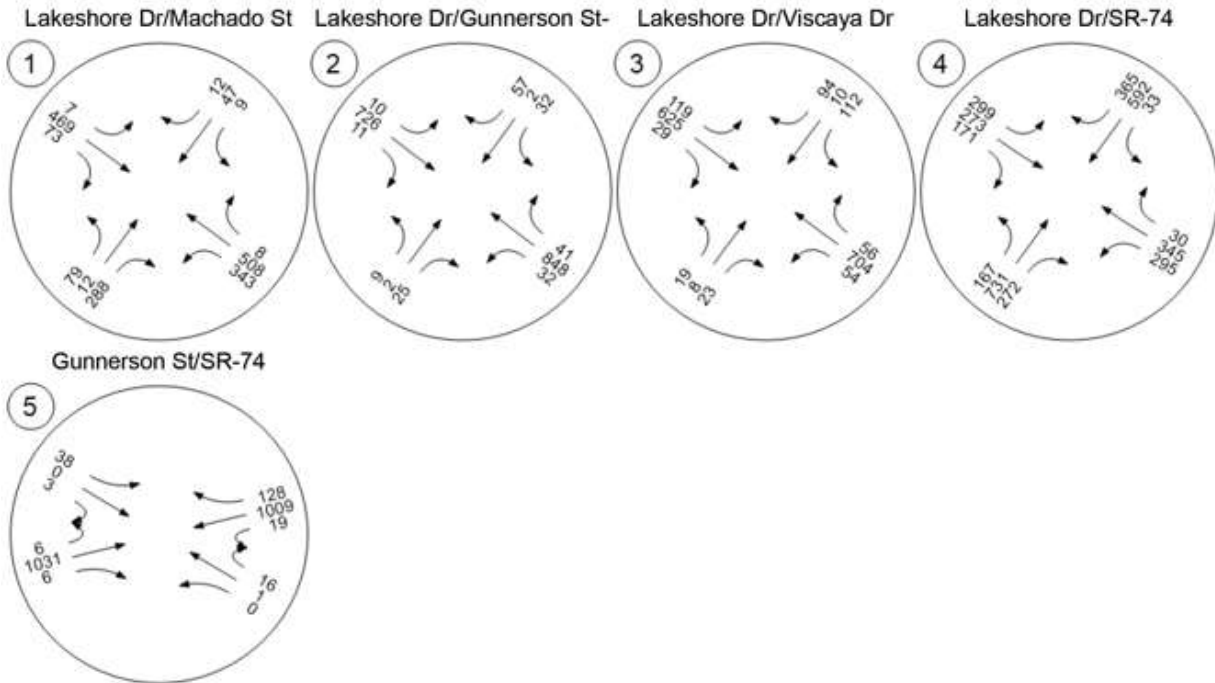


Figure 13: Project Completion PM Peak Hour Traffic Volumes



5.2 Cumulative Traffic Volumes and Intersection Operations

The traffic volumes of Cumulative (existing + ambient + project + cumulative) scenario were developed by applying an ambient growth rate of two percent per year to the existing (2022) traffic volumes, adding traffic generated by the proposed project and also by adding the nearby cumulative (approved and not yet build and those under review) development projects within a two-mile radius to the project site.

A total of 15 projects in the City of Lake Elsinore were included in the Cumulative (Year 2024) condition. The location of the cumulative projects is shown in Figure 14 – Location of Cumulative Projects. Based on availability, previously completed TIAs were used as a source for trip generation and assignment for pending and approved projects. If no sources were available, the cumulative project trip generation was calculated using trip rates from the ITE, *Trip Generation Manual*, 11th Edition (2021). Table 8 shows the trip generation for each of the cumulative project.

The traffic volumes generated by the cumulative projects were distributed to the study area intersections based on logical routes of travel and are illustrated in Figure 15 – Cumulative Projects AM Peak Hour Trip Assignment and Figure 16 – Cumulative Projects PM Peak Hour Trip Assignment. The Cumulative traffic volumes are illustrated in Figure 17 – Cumulative AM Peak Hour Traffic Volumes and Figure 18 – Cumulative PM Peak Hour Traffic Volumes.

The Cumulative levels of service (LOS) at the five existing study area intersections were determined using the HCM methodology, described previously in Section 2.3 - *Intersection Analysis Methodology*. Table 9 shows the Cumulative Conditions AM and PM peak hour levels of service at study area intersections. All LOS calculations are provided in Appendix D. As shown in Table 9, the following intersection(s) operate at unsatisfactory LOS in this scenario:

4. Lakeshore Dr and SR-74 (LOS E at PM peak hour)
5. Gunnerson St and SR-74 (LOS F at AM/PM peak hour)

Recommended improvements for unsatisfactory LOS operations are discussed in the Section 6 - *Recommended Improvements*.

Figure 14: Location of Cumulative Projects

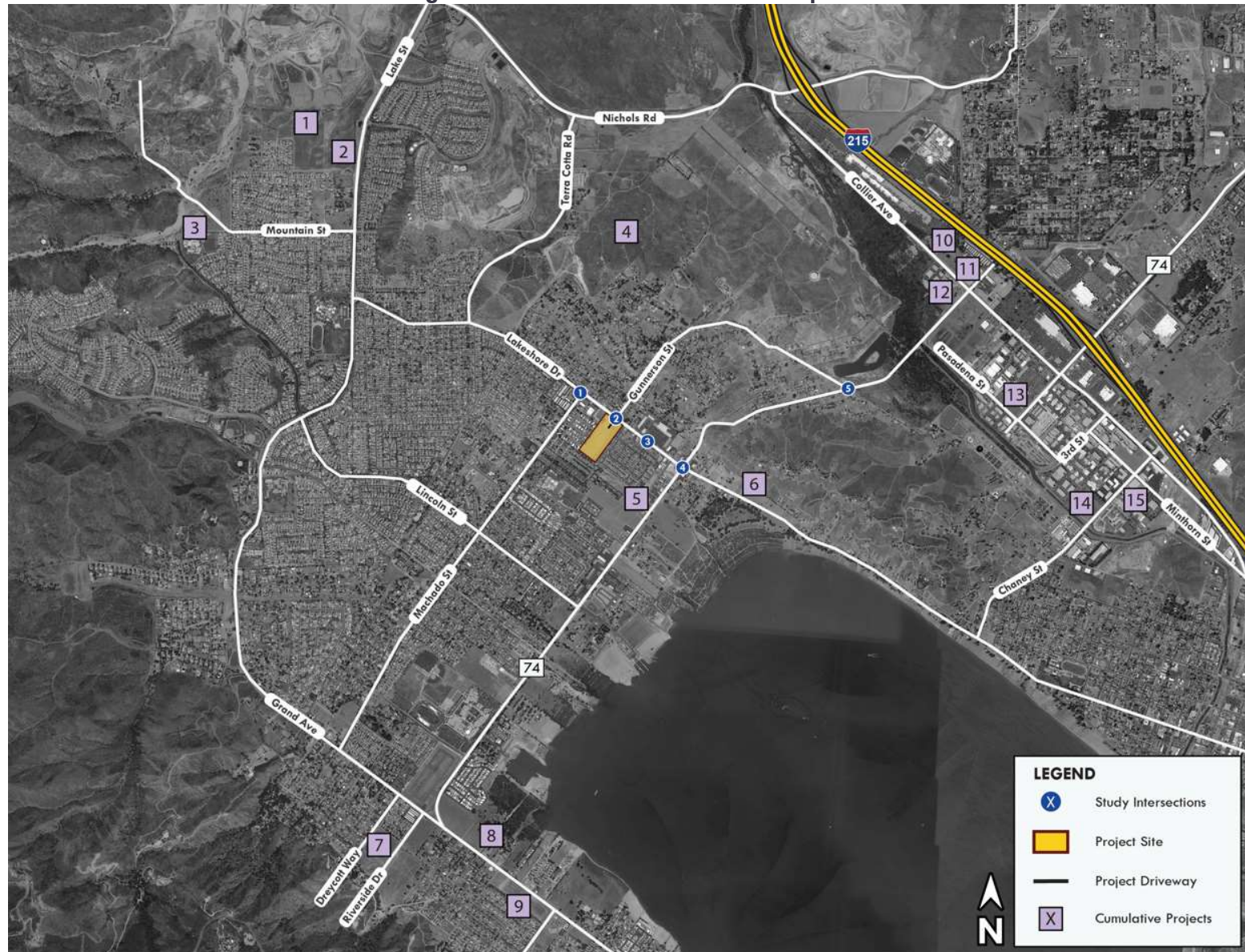


Table 8. Cumulative Projects Trip Generation

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
<u>Cumulative Projects Trip Rate</u>									
Single Family Residential ¹	DU	9.43	0.18	0.52	0.70	0.59	0.35	0.94	
Automated Car Wash ²	TSF	-	-	-	-	7.10	7.10	14.20	
General Light Industrial ³	TSF	4.87	0.65	0.09	0.74	0.09	0.56	0.65	
Manufacturing ⁴	TSF	4.75	0.52	0.16	0.68	0.23	0.51	0.74	
<u>City of Lake Elsinore</u>									
1. Pacific Coral ¹	205 DU	1,933	37	106	143	121	71	192	
2. Lake and Mountain Commercial Center ⁵	17 TSF	3,696	212	168	380	162	157	319	
3. Running Deer ¹	101 DU	952	18	52	70	60	35	95	
4. Terracina ¹	365 DU	3,442	66	189	255	216	127	343	
5. Sunny Express carwash ²	5.4 TSF	-	-	-	-	38	38	76	
6. Lakeview Plaza ⁶	43 TSF	3,335	124	83	207	123	119	242	
7. Village at Lakeshore ¹	163 DU	1,537	30	84	114	97	57	154	
8. Lakeside ¹	140 DU	1,320	25	73	98	83	49	132	
9. Bamiyan Marketplace ⁷	39 TSF								
	80 DU	2,672	140	135	275	155	145	300	
10. North Elsinore Business Park ³	95 TSF	587	79	11	90	11	67	78	
11. Kassab Travel Center ⁸	17.2 TSF	1,919	65	64	129	75	73	148	
12. Tige Watersports ⁴	34.5 TSF	255	28	9	37	12	27	40	
13. Xebec Building Company ³	51 TSF	315	42	6	48	6	37	43	
14. Fairway Business Park ³	217 TSF	1,339	179	24	203	25	154	179	
15. Pennington Industrial Park ³	90 TSF	556	74	10	84	10	64	74	
Total Cumulative Trip Generation			23,859	1,120	1,014	2,134	1,194	1,220	2,414

TSF = Thousand Square Feet

DU = Dwelling Unit

¹ Trip rates from the Institute of Transportation Engineers, Trip Generation Manual, 11th Edition, 2021. Land Use Code 210 - Single Family Detached Housing.² Trip rates from the Institute of Transportation Engineers, Trip Generation Manual, 11th Edition, 2021. Land Use Code 110 - General Light Industrial.³ Trip rates from the Institute of Transportation Engineers, Trip Generation Manual, 11th Edition, 2021. Land Use Code 948 - Automated Car Wash.⁴ Trip rates from the Institute of Transportation Engineers, Trip Generation Manual, 11th Edition, 2021. Land Use Code 140 - Manufacturing.⁵ Trip generation is based on Lake and Mountain Shopping Center Traffic Impact Analysis (Urban Crossroads, Inc., January 17, 2020).⁶ Trip generation is based on The Lakeview Plaza Traffic Impact Analysis (TJW Engineering, Inc., January 7, 2020).⁷ Trip generation is based on Bamiyan Marketplace Traffic Analysis (Urban Crossroads, Inc., June 22, 2021).⁸ Trip generation is based on Kassab Travel Center Traffic Impact Study (DUDEK, April, 2020).

Figure 15: Cumulative Projects AM Peak Hour Trip Assignment

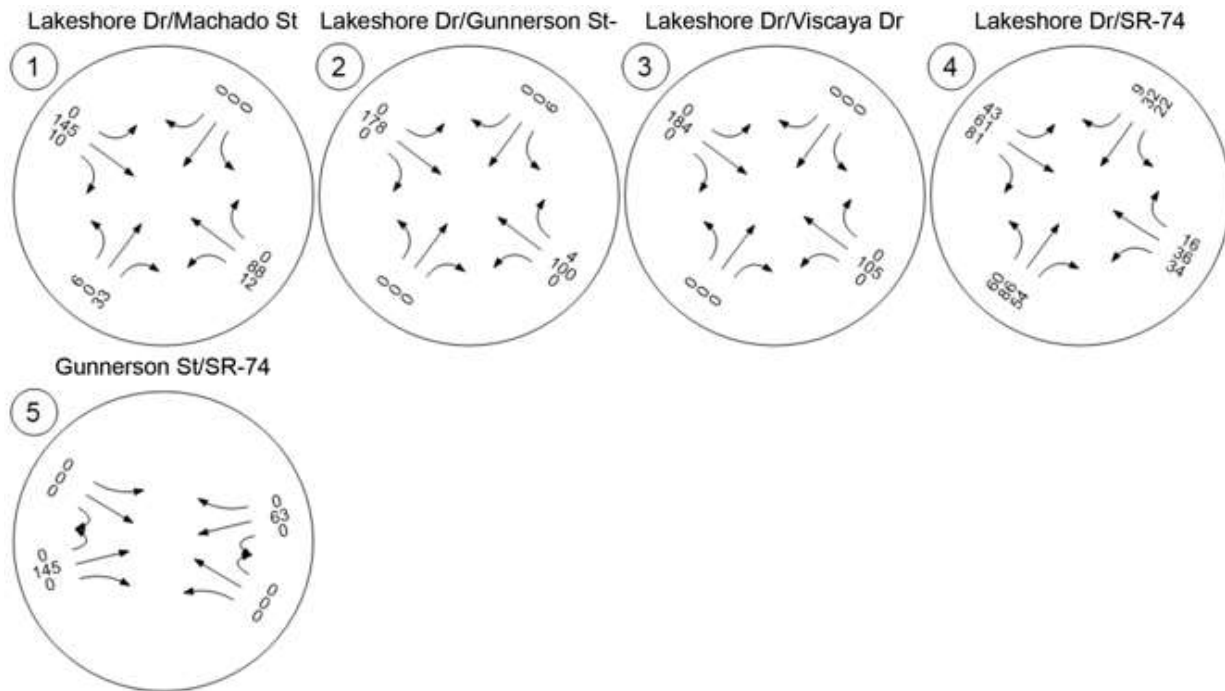


Figure 16: Cumulative Projects PM Peak Hour Trip Assignment

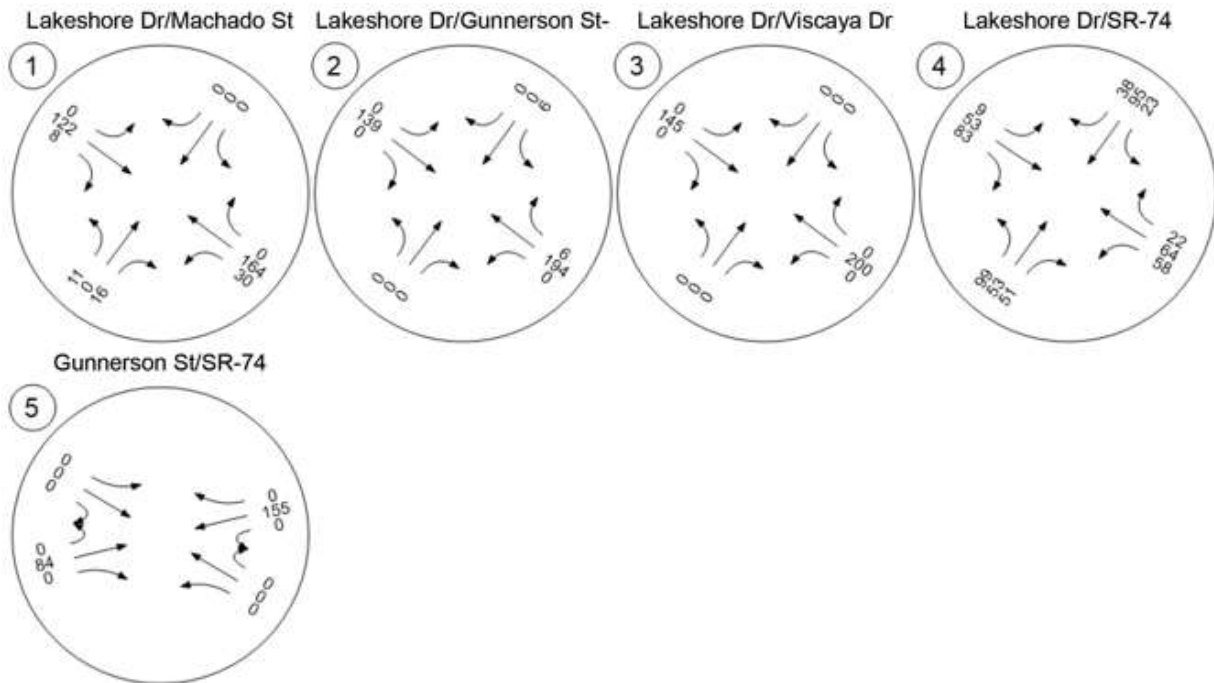


Figure 17: Cumulative AM Peak Hour Traffic Volumes

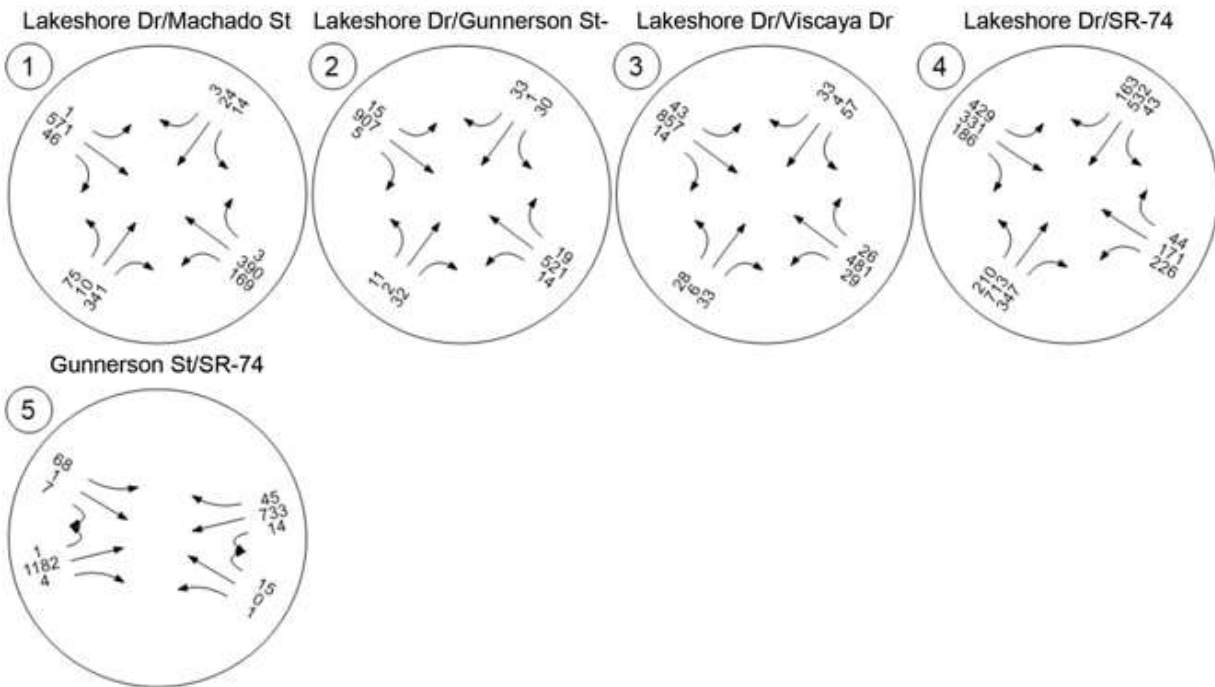


Figure 18: Cumulative PM Peak Hour Traffic Volumes

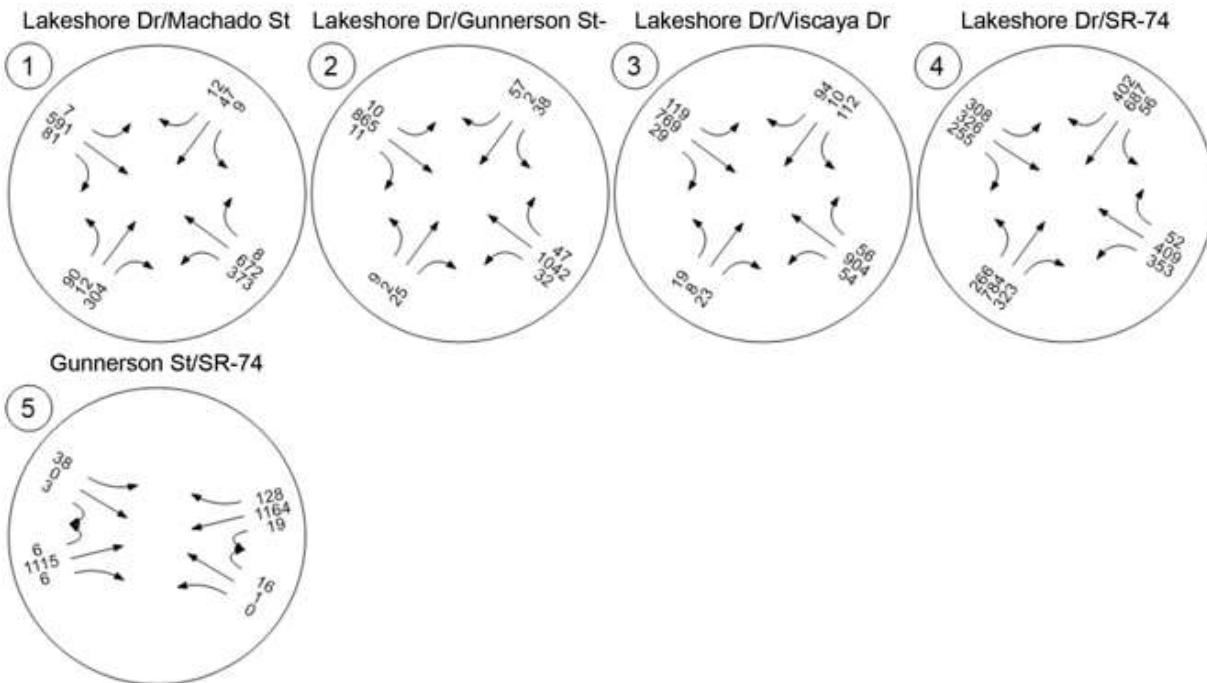


Table 9. Cumulative Conditions AM and PM Peak Hour Levels of Service

Intersection	Traffic Control	AM Peak		PM Peak		Threshold of Significance
		Delay ¹	LOS ²	Delay ¹	LOS ²	
1. Lakeshore Dr/Machado St	Signal	17.2	B	21.6	C	D
2. Lakeshore Dr/Gunnerson St-Proj Dwy	Signal ³	6.8	A	9.1	A	D
3. Lakeshore Dr/Viscaya St	Signal	9.9	A	15.0	B	D
4. Lakeshore Dr/SR-74	Signal	46.2	D	63.7	E	D
5. Gunnerson St/SR-74	TWSC	1,742.6	F	1,528.2	F	D

■ =Unsatisfactory Level of Service

TWSC = Two-Way Stop Control

¹ Delay in Seconds

² Level of Service

³ Project to install new signal at Lakeshore Dr/Gunnerson St-Proj Dwy intersection

6 RECOMMENDED IMPROVEMENTS

This section discusses recommended improvements for Project Completion Conditions and Cumulative Conditions.

6.1 Peak Hour Signal Warrant Analysis

A peak hour signal warrant analysis (Caltrans Warrant 3) was prepared to analyze the applicability of modifying the intersections from a stop control to a signal control. The CA MUTCD Figure 4C-4 (70% factor) was used for the intersection of Lakeshore Dr and Gunnerson Street-Project Driveway as well as the intersection of Gunnerson Street and SR-74. All detailed warrant analysis sheets are provided in *Appendix E*. Table 10 summarizes the results of signal warrant for every scenario. As seen in Table 10, the intersection of Lakeshore Dr and Gunnerson Street-Project Driveway meets the signal warrant at Existing PM Peak hour, Project Completion PM Peak hour, and Cumulative PM Peak hour scenarios. The intersection of Gunnerson Street and SR-74 meets the signal warrant at Project Completion AM Peak hour and Cumulative AM Peak hour scenarios.

Table 10. Traffic Signal Warrant Analysis Summary

Intersection	Signal Warrant Met?					
	Existing		Project Completion		Cumulative	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
2. Lakeshore Dr/Gunnerson St-Proj Dwy	No	Yes	No	Yes	No	Yes
5. Gunnerson St/SR-74	No	No	Yes	No	Yes	No

6.2 Recommendation for Project Completion Conditions Improvement

The proposed project will install a traffic signal at the intersection of Lakeshore Drive and Gunnerson Street-Project Driveway. The project access driveway is designed to be 56 ft wide curb to curb. As per the City of Lake Elsinore Circulation Element, Lakeshore Drive is a six-lane urban arterial, and the proposed project will widen Lakeshore Drive to the ultimate half-width section along the project frontage to provide dedication for three-lane.

As shown in Table 7 previously under Project Completion scenario, the following intersection(s) operate at unsatisfactory LOS in this scenario:

5. Gunnerson St and SR-74 (LOS F at AM/PM peak hour)

The following improvements are recommended for satisfactory intersection operations:

5. Gunnerson St and SR-74: The intersection meets the signal warrant at Project Completion AM Peak hour and Cumulative AM Peak hour scenarios. It is recommended that the intersection be changed from a TWSC to a signalized intersection with permissive left-turn phasing for all intersection approaches. The project will be required to pay fair share

contributions towards the future signal installation at this intersection as discussed in *Section 6.4 - Fair Share Contributions*.

All proposed improvement LOS calculations are provided in *Appendix D*. Table 11 shows the LOS during AM and PM peak hours with recommended improvements.

6.3 Recommendation for Cumulative Conditions Improvement

As shown in Table 9 previously under Cumulative scenario, the following intersection(s) operate at unsatisfactory LOS in this scenario:

4. Lakeshore Dr and SR-74 (LOS E at PM peak hour)
5. Gunnerson St and SR-74 (LOS F at AM/PM peak hour)

The following improvements are recommended for satisfactory intersection operations:

4. Lakeshore Dr and SR-74: It is recommended to change the NBL and SBL on Lakeshore Drive from protected left-turn phasing to protected-permissive left-turn phasing. The project will be required to pay fair share contributions towards the future signal phasing modifications at this intersection as discussed in *Section 6.4 - Fair Share Contributions*.
5. Gunnerson St and SR-74: The intersection meets the signal warrant at Project Completion AM Peak hour and Cumulative AM peak hour scenarios. It is recommended that the intersection be changed from a TWSC to a signalized intersection with permissive left-turn phasing for all intersection approaches. The project will be required to pay fair share contributions towards the future signal installation at this intersection as discussed in *Section 6.4 - Fair Share Contributions*.

All proposed improvement LOS calculations are provided in *Appendix D*. Table 12 shows the LOS during AM and PM peak hours with recommended improvements for these intersections.

6.4 Fair Share Contributions

The project would be responsible for paying fair share contribution for the recommended intersection improvements for intersections of Lakeshore Drive and SR-74, and Gunnerson Street and SR-74. The calculation of fair share contribution follows the City's TIA Preparation Guide (May 3, 2022). As shown in Table 13, the fair share percentage for recommended intersection improvements is listed below:

4. Lakeshore Dr and SR-74: 6.83%.
5. Gunnerson St and SR-74: 9.75%.

6.5 Intersection Queueing Analysis

A queuing analysis was prepared for the intersection of Lakeshore Drive and Gunnerson Street-Project Driveway, analyzing the eastbound left-turn and westbound left-turn queue length in relation to the proposed available vehicle storage. The queue was determined from the 95th Percentile Queue shown on the LOS Sheets in *Appendix D*. The queuing results are shown in Table 14 Project Completion and Cumulative scenarios. An impact would occur if the project caused an existing queue to increase past the storage length, or the project adds one vehicle length (25ft) to an already deficient queue.

As shown in Table 14, there is no queueing impact on the eastbound left-turn and westbound left-turn in the Project Completion and Cumulative Conditions at this intersection.

Table 11. Recommended Improvements on Project Completion AM and PM Peak Hour Levels of Service

Intersection	Existing				Project Completion				AM Delay	PM Delay	Recommended Improvements	Project Completion IMP					Significant?
	AM Peak		PM Peak		AM Peak		PM Peak					AM Peak		PM Peak		Threshold of Significance	
	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²				Delay ¹	LOS ²				
2. Lakeshore Dr/Gunnerson St-Proj Dwy	31.2	D	61.5	F	6.4	A	8.5	A	-24.8	-53.0	³ Signalized intersection with permissive left-turn phasing for all intersection approaches. Widen Lakeshore Drive to the ultimate half-width section along the project frontage to provide dedication for three-lane.	6.4	A	8.5	A	D	No
5. Gunnerson St/SR-74	693.0	F	537.0	F	1,013.5	F	820.3	F	320.5	283.3	⁴ Signalized intersection with permissive left-turn phasing for all intersection approaches.	13.3	B	9.1	A	D	No

■ =Unsatisfactory Level of Service

¹ Delay in Seconds

² Level of Service

³ Project to install new signal at Lakeshore Dr/Gunnerson St-Proj Dwy intersection

⁴ Project to provide fair share contribution towards future recommended improvements.

Table 12. Recommended Improvements on Cumulative AM and PM Peak Hour Levels of Service

Intersection	Existing				Cumulative				AM Delay	PM Delay	Recommended Improvements	Cumulative IMP					Significant?
	AM Peak		PM Peak		AM Peak		PM Peak					AM Peak		PM Peak		Threshold of	
	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Difference	Difference	Delay ¹	LOS ²	Delay ¹	LOS ²	Significance		
2. Lakeshore Dr/Gunnerson St-Proj Dwy	31.2	D	61.5	F	6.8	A	9.1	A	-24.4	-52.4	³ Signalized intersection with permissive left-turn phasing for all intersection approaches. Widen Lakeshore Drive to the ultimate half-width section along the project frontage to provide dedication for three-lane.	6.8	A	9.1	A	D	No
4. Lakeshore Dr/SR-74	33.7	C	35.0	D	46.2	D	63.7	E	12.5	28.7	⁴ Change NBL/SBL on Lakeshore Drive from protected left-turn phasing to protected-permissive left-turn phasing	33.2	C	44.8	D	D	No
5. Gunnerson St/SR-74	693.0	F	537.0	F	1,742.6	F	1,528.2	F	1,049.6	991.2	⁵ Signalized intersection with permissive left-turn phasing for all intersection approaches.	21.6	C	14.8	B	D	No

■ =Unsatisfactory Level of Service

¹ Delay in Seconds

² Level of Service

³ Project to install new signal at Lakeshore Dr/Gunnerson St-Proj Dwy intersection

⁴ Project to provide fair share contribution towards future recommended improvements.

⁵ Project to provide fair share contribution towards future recommended improvements.

NB= Northbound, SB=Southbound, EB=Eastbound, WB=Westbound

Table 13. Project Fair Share Contribution

Intersection		AM Peak			PM Peak		
		Project Trips	Project Trips + Future Development Trips	Fair Share ¹	Project Trips	Project Trips + Future Development Trips	Fair Share ¹
4.	Lakeshore Dr/SR-74	47	688	6.83%	56	837	6.69%
5.	Gunnerson St/SR-74	29	308	9.42%	35	359	9.75%

¹Fair share contribution percentage for improvements where the project is not directly responsible is calculated by the formula: Fair share percentage = Project trips/(Project trips + Future development trips)

Table 14. Queueing length on Intersection 2 Lakeshore Dr and Gunnerson St-Project Dwy

	EBL	WBL
Project Completion		
Storage Length	100	100
Queue Length	3/5	5/11
Exceeds?	No	No
Cumulative		
Storage Length	100	100
Queue Length	4/6	6/13
Exceeds?	No	No

Note: EBL = Eastbound Left-Turn, WBL = Westbound Left-Turn

Queue length reported in feet for the AM/PM peak periods

APPENDIX A – TRAFFIC STUDY SCOPING AGREEMENT

SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This letter acknowledges the City of Lake Elsinore requirements for traffic impact analysis of the following project. The analysis must follow the City of Lake Elsinore Traffic Study Guidelines dated May 2020.

Case No. PA 2021-38 (TTM 38271 and RDR 2021-05)

Related Cases -

SP No. _____

EIR No. _____

GPA No. _____

CZ No. _____

Project Name: Lakeshore Drive Residential

Project Address: Vacant parcel on Lakeshore Drive West of Gunnerson Street (APNs 379-230-001, 379-230-002)

Project Description: Development of 140 duplex townhomes on a vacant parcel on Lakeshore Drive west of Gunnerson Street

Consultant

Name: EPD Solutions

Address: 2355 Main Street Suite #100

Irvine CA 92614

Telephone: 949-794-1186

Fax: _____

Developer

Brett Crowder

Coastal Commercial Properties

1020 Second St, Suite C

Encinitas, CA 92024

A. Trip Generation Source: ITE Trip Generation Manual; 11th edition

Current GP Land Use: Lakeshore Village Specific Plan

Proposed Land Use: Lakeshore Village Specific Plan

Current Zoning: Attached Residential, Commercial Residential Flex

Proposed Zoning: Attached Residential, Commercial Residential Flex

Current Trip Generation			Proposed Trip Generation			
	In	Out	Total	In	Out	Total
AM Trips				21	46	67
PM Trips				45	35	80

Internal Trip Allowance ☐ Yes ☒ No _____ % Trip Discount

Pass-By Trip Allowance ☐ Yes ☒ No _____ % Trip Discount

B. Trip Geographic Distribution: N 20 % S 10 % E 45 % W 25 % (Attached exhibit for detailed assignment)

C. Background Traffic

Project Build-out Year: 2024 Annual Ambient Growth Rate: 2 %

Phase Year(s): _____

Other area projects to be analyzed: Cumulative development projects will be obtained from the city of Lake Elsinore.

To be provided by Planning Department.

Model/Forecast methodology: Annual ambient growth applied over existing volumes for the project opening

Year. _____

Scoping Agreement – Page 2

D. Study intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)

1. <u>Lakeshore Dr/Machado St</u>	18. _____
2. <u>Lakeshore Dr/Gunnerson St-Proj Dwy</u>	19. _____
3. <u>Lakeshore Dr/Viscaya Dr</u>	20. _____
4. <u>Lakeshore Dr/SR-74</u>	21. _____
5. <u>Gunnerson St/SR-74</u>	22. _____
6. _____	23. _____
7. _____	24. _____
8. _____	25. _____
9. _____	26. _____
10. _____	27. _____
11. _____	28. _____
12. _____	29. _____
13. _____	30. _____
14. _____	31. _____
15. _____	32. _____
16. _____	33. _____
17. _____	34. _____
	35. _____

E. Study Roadway Segments: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)

1. _____	12. _____
2. _____	13. _____
3. _____	14. _____
4. _____	15. _____
5. _____	16. _____
6. _____	17. _____
7. _____	18. _____
8. _____	19. _____
9. _____	20. _____
10. _____	21. _____
11. _____	22. _____

E. Other Jurisdictional Impacts

Is this project within a one-mile radius of another jurisdiction or State Highway?

☒ Yes ☐ No

If so, name of Agency:

Caltrans

F. Site Plan (please attach figure)

G. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by City)

- 1) Offset driveway at Lakeshore Dr/Project Dwy-Gunnerson St: The project entry is 56 ft wide curb to curb and Gunnerson across the street is 30 ft. The result is the two outbound lanes from each side are closely aligned although the centerlines for each are offset due to the difference in width. Minor adjustments can be accommodated if recommended by the City. Please note that this would be a full-access driveway. See exhibit attached. The TIA will address and remark on any approach/departure alignment issues to and from Gunnerson St.
- 2) Left turn lanes on Lakeshore Dr to enter project and to enter Gunnerson St will be studied.

H. Existing Conditions

Traffic count data must be new or recent within 1 calendar year. Provide traffic count dates if using other than new counts. Date of counts: New counts will be collected at the study area intersections once this scoping agreement is approved. New counts will be compared to count data from approved Lake Elsinore TIA to account for schools not being in session.

I. Traffic Study Requirements

Traffic Study Required: X _____

Focused Study Required: _____

Scoping Agreement – Page 3

Except from Analysis: _____

Recommended by:

Approved Scoping Agreement:

Meghen Macias

6/07/2022

Nicholas Lowe

6/21/2022

Consultant's Representative

Date

City of Lake Elsinore Engineering Department

Scoping Agreement Submitted on 4/07/2022, 5/03/2022, 6/07/22

Revised on 6/07/2022

Table 1: Project Trip Distribution

				AM Peak Hour			PM Peak Hour		
Land Use	Units		Daily	In	Out	Total	In	Out	Total
<u>Trip Rates</u>									
Single-Family Attached Housing ¹	DU		7.20	0.15	0.33	0.48	0.32	0.25	0.57
<u>Project Trip Generation</u>									
Proposed Townhomes	140	DU	1008	21	46	67	45	35	80
DU = Dwelling Units									
¹ Trip rates from the Institute of Transportation Engineers, <i>Trip Generation, 11th Edition</i> , 2021. Land Use Code 215 - Single-Family Attached Housing									

Figure 1: Project Location



Figure 2: Site Plan



Figure 3: Project Driveway Offset

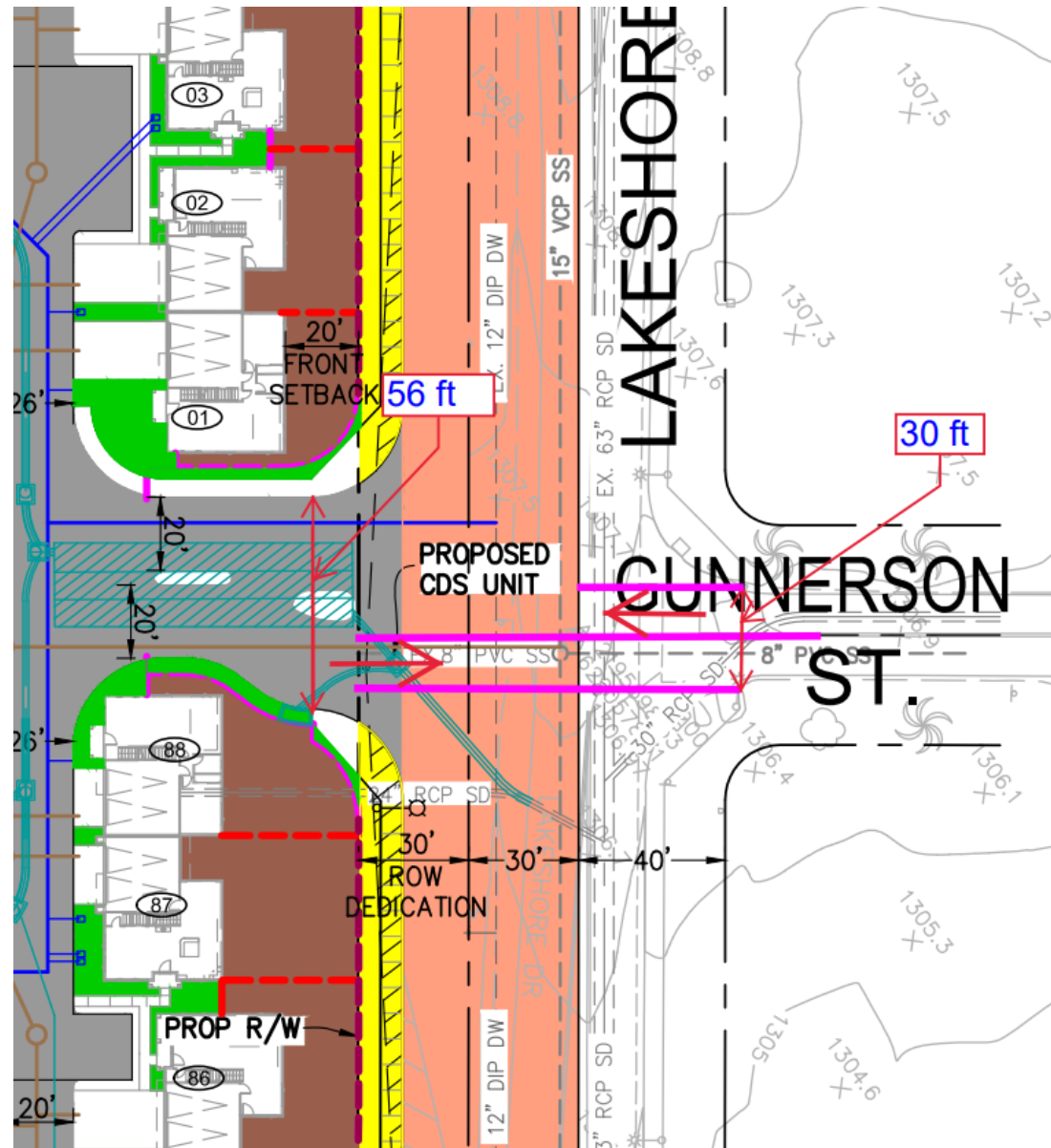


Figure 3: Project Trip Distribution



APPENDIX B – TRAFFIC COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

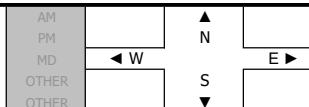
PROJECT #: SC3501
LOCATION #: 1
CONTROL: SIGNAL

DATE:
Tue, Jun 21, 22

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Lake Elsinore
Lakeshore
Machado

NOTES:

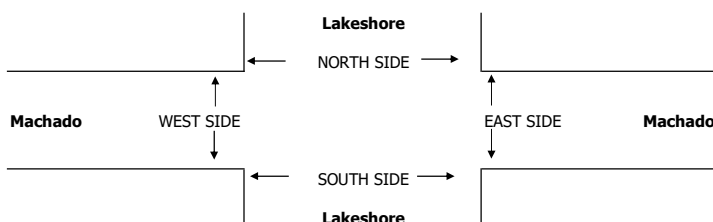
☒ Add U-Turns to Left Turns

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

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	

AM	7:00 AM	20	40	0	0	69	8	5	3	44	6	0	3	198
	7:15 AM	25	49	0	0	64	7	16	1	48	2	3	0	215
	7:30 AM	22	40	0	0	75	9	7	3	70	2	6	1	235
	7:45 AM	30	49	1	1	84	5	18	0	50	4	3	0	245
	8:00 AM	29	62	1	0	65	4	6	3	41	1	4	1	217
	8:15 AM	17	46	0	0	71	1	10	0	37	3	1	1	187
	8:30 AM	18	54	2	0	82	5	4	0	33	0	2	0	200
	8:45 AM	30	48	0	3	59	9	14	0	42	0	3	3	211
	VOLUMES	191	388	4	4	569	48	80	10	365	18	22	9	1,708
	APPROACH %	33%	67%	1%	1%	92%	8%	18%	2%	80%	37%	45%	18%	
APP/DEPART	583	/	477	621	/	953	455	/	18	49	/	260	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	106	200	2	1	288	25	47	7	209	9	16	2	912	
APPROACH %	34%	65%	1%	0%	92%	8%	18%	3%	79%	33%	59%	7%		
PEAK HR FACTOR	0.837													0.931
APP/DEPART	308	/	249	314	/	506	263	/	10	27	/	147	0	
PM	4:00 PM	87	94	4	2	88	9	12	1	44	1	13	0	355
	4:15 PM	73	103	2	1	93	16	12	3	59	1	4	1	368
	4:30 PM	85	100	0	1	94	15	17	5	63	0	10	1	391
	4:45 PM	90	107	0	1	81	7	9	5	48	3	11	2	364
	5:00 PM	54	92	2	2	71	19	19	3	52	0	12	2	328
	5:15 PM	76	107	1	1	101	13	15	2	56	2	10	1	385
	5:30 PM	75	109	2	3	118	17	14	2	76	2	11	4	433
	5:45 PM	80	111	2	0	94	12	18	3	55	4	6	3	388
	VOLUMES	620	823	13	11	740	108	116	24	453	13	77	14	3,012
	APPROACH %	43%	57%	1%	1%	86%	13%	20%	4%	76%	13%	74%	13%	
APP/DEPART	1,456	/	953	859	/	1,206	593	/	48	104	/	805	0	
BEGIN PEAK HR	5:00 PM													
VOLUMES	285	419	7	6	384	61	66	10	239	8	39	10	1,534	
APPROACH %	40%	59%	1%	1%	85%	14%	21%	3%	76%	14%	68%	18%		
PEAK HR FACTOR	0.921													0.886
APP/DEPART	711	/	495	451	/	631	315	/	23	57	/	385	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
1	0	0	0	1

[illegible]

AM	7:00 AM
	7:15 AM
	7:30 AM
	7:45 AM
	8:00 AM
	8:15 AM
	8:30 AM
	8:45 AM
TOTAL	
AM BEGIN PEAK HR	
PM	4:00 PM
	4:15 PM
	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
TOTAL	
PM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	2	2
0	0	0	2	2
0	0	1	0	1
1	0	1	0	2
0	1	0	0	1
1	1	2	5	9
7:15 AM				
0	1	0	0	1
1	0	1	0	2
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
1	2	2	0	5
5:00 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	2	2
0	0	0	2	2
0	0	1	0	1
1	0	1	0	2
0	1	0	0	1
1	1	2	5	9
0	0	0	5	5
0	1	0	0	1
1	0	1	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
1	1	2	0	4
0	0	1	0	1

[illegible]

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Tue, Jun 21, 22LOCATION:
NORTH & SOUTH:
EAST & WEST:Lake Elsinore
Lakeshore
GunnersonPROJECT #:
LOCATION #:
CONTROL:SC3501
2
STOP W

NOTES:

AM	▲ N ◀ W E ▶ ▼ S
PM	
MD	
OTHER	

☒ Add U-Turns to Left Turns

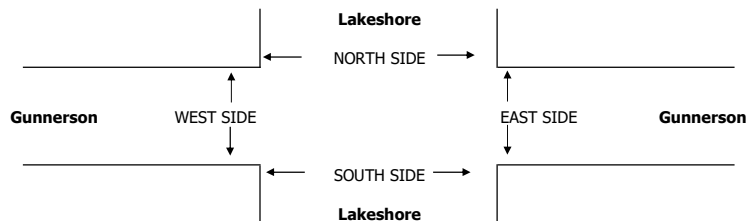
	NORTHBOUND Lakeshore			SOUTHBOUND Lakeshore			EASTBOUND Gunnerson			WESTBOUND Gunnerson			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	X	1	0	0	1	X	X	X	X	0	X	0	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

AM	7:00 AM	0	51	0	2	114	0	0	0	0	3	0	8	178
	7:15 AM	0	71	0	3	115	0	0	0	0	3	0	4	196
	7:30 AM	0	59	3	3	148	0	0	0	0	6	0	5	224
	7:45 AM	0	72	6	1	142	0	0	0	0	4	0	5	230
	8:00 AM	0	85	1	3	92	0	0	0	0	3	0	9	193
	8:15 AM	0	58	1	2	119	0	0	0	0	5	0	6	191
	8:30 AM	0	69	2	0	117	0	0	0	0	2	0	5	195
	8:45 AM	0	75	3	0	99	0	0	0	0	3	0	5	185
	VOLUMES	0	540	16	14	946	0	0	0	29	0	47		1,592
	APPROACH %	0%	97%	3%	1%	99%	0%	0%	0%	38%	0%	62%		
	APP/DEPART	556	/	587	960	/	975	0	/	30	76	/	0	0
PM	BEGIN PEAK HR	7:15 AM												
	VOLUMES	0	287	10	10	497	0	0	0	16	0	23		843
	APPROACH %	0%	97%	3%	2%	98%	0%	0%	0%	41%	0%	59%		
	PEAK HR FACTOR	0.863												0.916
	APP/DEPART	297	/	310	507	/	513	0	/	20	39	/	0	0
	4:00 PM	0	171	9	2	152	0	0	0	0	4	0	14	352
	4:15 PM	0	168	3	1	152	0	0	0	0	7	0	11	342
	4:30 PM	0	186	13	3	161	0	0	0	0	8	0	8	379
	4:45 PM	0	184	9	3	142	0	0	0	0	8	0	15	361
	5:00 PM	0	147	9	1	117	0	0	0	0	4	0	10	288
	5:15 PM	0	184	8	2	147	0	0	0	0	1	0	10	352
	5:30 PM	0	180	8	3	192	0	0	0	0	4	0	8	395
	5:45 PM	0	172	7	6	172	0	0	0	0	8	0	13	378
	VOLUMES	0	1,392	66	21	1,235	0	0	0	44	0	89		2,847
	APPROACH %	0%	95%	5%	2%	98%	0%	0%	0%	33%	0%	67%		
	APP/DEPART	1,458	/	1,481	1,256	/	1,279	0	/	87	133	/	0	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	0	709	34	9	607	0	0	0	27	0	48		1,434
	APPROACH %	0%	95%	5%	1%	99%	0%	0%	0%	36%	0%	64%		
	PEAK HR FACTOR	0.933												0.946
	APP/DEPART	743	/	757	616	/	634	0	/	43	75	/	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	2	2
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	1	0	1
	8:15 AM	0	0	0	1	1
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	2	0	2
	TOTAL	0	0	3	3	6
	AM BEGIN PEAK HR	7:15 AM				
PM	4:00 PM	0	0	2	0	2
	4:15 PM	0	0	1	1	2
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	1	0	1	1	3
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	1	0	1
	TOTAL	1	0	5	2	8
	PM BEGIN PEAK HR	4:00 PM				

PEDESTRIAN + BIKE CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	2	2	
0	0	0	0	0	
0	0	1	0	1	
0	0	0	1	1	
0	0	0	0	0	
0	0	2	0	2	
0	0	3	3	6	
7:15 AM					
0	0	2	0	2	
0	0	1	1	2	
0	0	0	0	0	
0	0	0	0	0	
1	0	1	1	3	
0	0	0	0	0	
0	0	0	0	0	
0	0	1	0	1	
1	0	5	2	8	
4:00 PM					

PEDESTRIAN CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	1	0	1	
0	0	0	0	0	
0	0	0	0	0	
0	0	2	0	2	
0	0	3	0	3	
0	0	1	0	1	
0	0	2	0	2	
0	0	1	0	1	
0	0	0	0	0	
1	0	1	0	2	
0	0	0	0	0	
0	0	0	0	0	
0	0	1	0	1	
1	0	5	0	6	
0	0	3	0	3	

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	2	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	2	2

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Tue, Jun 21, 22LOCATION:
NORTH & SOUTH:
EAST & WEST:Lake Elsinore
Lakeshore
ViscayaPROJECT #:
LOCATION #:
CONTROL:SC3501
3
SIGNAL

NOTES:

AM	▲ N ◀ W ▶ E ▼ S
PM	
MD	
OTHER	

☒ Add U-Turns to Left Turns

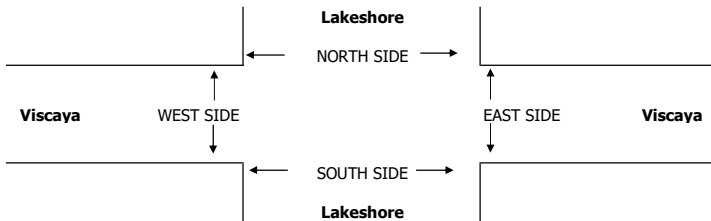
	NORTHBOUND Lakeshore			SOUTHBOUND Lakeshore			EASTBOUND Viscaya			WESTBOUND Viscaya			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 1	EL 0	ET 1	ER 1	WL 0	WT 1	WR 0	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	0	45	2	7	104	2	5	0	8	7	1	5	186
	7:15 AM	1	60	1	10	102	2	5	1	2	3	1	2	190
	7:30 AM	0	47	2	9	134	1	5	2	10	3	1	5	219
	7:45 AM	3	61	6	11	130	4	5	1	6	12	1	9	249
	8:00 AM	6	67	2	5	90	0	8	0	9	8	1	8	204
	8:15 AM	4	51	4	7	109	1	1	0	3	10	0	1	191
	8:30 AM	7	68	6	6	107	4	5	3	5	9	1	5	226
	8:45 AM	5	73	4	11	84	3	2	1	5	10	1	4	203
	VOLUMES	26	472	27	66	860	17	36	8	48	62	7	39	1,668
	APPROACH %	5%	90%	5%	7%	91%	2%	39%	9%	52%	57%	6%	36%	
APP/DEPART														0
BEGIN PEAK HR														
PM	4:00 PM	11	125	7	26	101	3	2	0	8	24	3	22	332
	4:15 PM	5	139	10	16	126	8	5	1	3	19	2	20	354
	4:30 PM	5	165	8	25	125	9	4	4	8	22	1	19	395
	4:45 PM	5	156	8	16	113	8	2	1	10	37	1	16	373
	5:00 PM	9	126	9	25	92	3	7	3	5	23	2	22	326
	5:15 PM	12	148	12	23	121	4	2	2	7	28	3	22	384
	5:30 PM	11	146	9	30	143	10	2	1	5	19	2	18	396
	5:45 PM	13	142	17	21	146	7	5	1	2	24	2	16	396
	VOLUMES	71	1,147	80	182	967	52	29	13	48	196	16	155	2,956
	APPROACH %	5%	88%	6%	15%	81%	4%	32%	14%	53%	53%	4%	42%	
APP/DEPART														0
BEGIN PEAK HR														
	VOLUMES	45	562	47	99	502	24	16	7	19	94	9	78	1,502
	APPROACH %	7%	86%	7%	16%	80%	4%	38%	17%	45%	52%	5%	43%	
	PEAK HR FACTOR		0.880			0.817			0.676			0.739		0.873
	APP/DEPART	285	/	288	474	/	501	46	/	51	65	/	30	0
BEGIN PEAK HR														
APP/DEPART														0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	1	0	2
0	0	0	0	0
2	0	0	0	2
1	0	0	0	1
4	0	1	0	5

1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
3	0	0	0	3
0	0	0	0	0
0	0	0	0	0
5	0	0	0	5



AM	7:00 AM	
	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	TOTAL	
	AM BEGIN PEAK HR	
PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	
	PM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	1	1	0	2
0	1	2	0	3
0	0	0	2	2
0	1	1	0	2
0	1	1	0	2
0	1	0	2	3
0	0	0	0	0
0	0	1	1	2
0	5	6	5	16
7:45 AM				
0	1	0	0	1
0	1	0	1	2
0	0	0	0	0
0	0	0	0	0
0	3	0	1	4
0	2	1	0	3
0	2	0	0	2
0	0	1	0	1
0	9	2	2	13
5:00 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	1	1	0	2
0	1	2	0	3
0	0	0	1	1
0	1	1	0	2
0	1	1	0	2
0	0	0	1	1
0	0	0	0	0
0	0	1	1	2
0	4	6	3	13
0	2	2	1	5
0	1	0	0	1
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	3	0	1	4
0	2	1	0	3
0	2	0	0	2
0	0	1	0	1
0	9	2	1	12
0	7	2	1	10

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	1	0	1	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	2	3
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Tue, Jun 21, 22LOCATION:
NORTH & SOUTH:
EAST & WEST:Lake Elsinore
Lakeshore
RiversidePROJECT #:
LOCATION #:
CONTROL:SC3501
4
SIGNAL

NOTES:

AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

☒ Add U-Turns to Left Turns

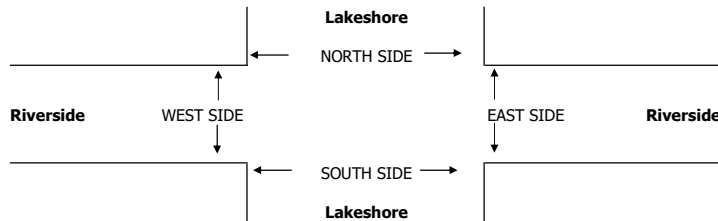
	NORTHBOUND Lakeshore			SOUTHBOUND Lakeshore			EASTBOUND Riverside			WESTBOUND Riverside			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 1	EL 1	ET 2	ER 1	WL 1	WT 1	WR 1	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	22	11	9	55	43	12	24	105	30	4	89	15	419
	7:15 AM	29	8	5	54	42	20	27	107	46	5	95	24	462
	7:30 AM	35	25	5	72	54	12	23	105	51	4	83	15	484
	7:45 AM	27	30	4	65	54	21	27	130	69	4	89	33	553
	8:00 AM	40	28	5	60	31	12	22	86	34	1	74	27	420
	8:15 AM	17	21	5	57	50	16	18	95	47	5	95	29	455
	8:30 AM	30	26	6	65	35	10	24	98	51	2	83	32	462
	8:45 AM	26	32	4	46	43	9	29	76	52	5	72	26	420
	VOLUMES	226	181	43	474	352	112	194	802	380	30	680	201	3,675
	APPROACH %	50%	40%	10%	51%	38%	12%	14%	58%	28%	3%	75%	22%	
PM	APP/DEPART	450	/	576	938	/	762	1,376	/	1,319	911	/	1,018	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	131	91	19	251	181	65	99	428	200	14	341	99	1,919
	APPROACH %	54%	38%	8%	51%	36%	13%	14%	59%	28%	3%	75%	22%	
	PEAK HR FACTOR	0.825			0.888			0.804			0.901			0.868
	APP/DEPART	241	/	289	497	/	395	727	/	698	454	/	537	0
	4:00 PM	78	73	10	66	57	27	27	143	51	6	134	72	744
	4:15 PM	45	53	7	59	51	43	32	143	46	8	117	80	684
	4:30 PM	69	89	1	49	66	31	41	150	63	7	124	62	752
	4:45 PM	55	69	7	65	51	36	32	175	68	7	120	76	761
PM	5:00 PM	78	81	6	63	49	26	22	127	50	11	116	55	684
	5:15 PM	78	83	9	66	47	31	25	130	75	9	134	53	740
	5:30 PM	47	62	2	53	59	26	45	183	55	11	132	78	753
	5:45 PM	67	72	3	70	55	42	32	126	61	15	117	70	730
	VOLUMES	517	582	45	491	435	262	256	1,177	469	74	994	546	5,848
	APPROACH %	45%	51%	4%	41%	37%	22%	13%	62%	25%	5%	62%	34%	
	APP/DEPART	1,144	/	1,386	1,188	/	978	1,902	/	1,711	1,614	/	1,773	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	247	284	25	239	225	137	132	611	228	28	495	290	2,941
	APPROACH %	44%	51%	4%	40%	37%	23%	14%	63%	23%	3%	61%	36%	
PM	PEAK HR FACTOR	0.863			0.982			0.883			0.959			0.966
	APP/DEPART	556	/	706	601	/	481	971	/	875	813	/	879	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	2	0	0	2



AM	7:00 AM	
	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	TOTAL	
	AM BEGIN PEAK HR	
PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	
	PM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
1	0	1	0	2
1	0	0	0	1
1	1	1	0	3
0	0	0	0	0
0	0	0	2	2
1	0	0	1	2
1	2	0	1	4
5	3	2	4	14
7:15 AM				
3	0	0	2	5
0	0	0	0	0
2	0	0	0	2
0	2	2	0	4
1	0	1	0	2
0	0	0	0	0
0	0	0	0	0
2	1	2	2	7
8	3	5	4	20
4:00 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	1	1	0	3
0	0	0	0	0
0	0	0	1	1
1	0	0	0	1
1	2	0	1	4
3	3	1	2	9
1	1	1	0	3
3	0	0	2	5
0	0	0	0	0
2	0	0	0	2
0	2	2	0	4
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
2	1	2	2	7
7	3	4	4	18
5	2	2	2	11

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
1	0	1	0	2
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
2	0	1	2	5
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	1	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	1	0	2

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

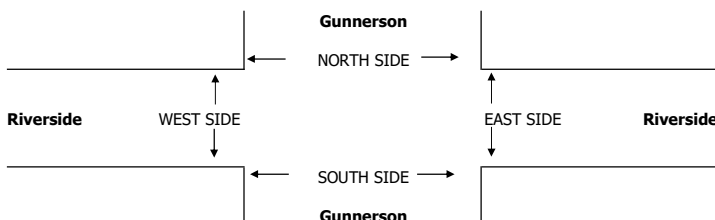
DATE: Tue, Jun 21, 22	LOCATION: NORTH & SOUTH: EAST & WEST:	Lake Elsinore Gunnerson Riverside	PROJECT #: LOCATION #: CONTROL:	SC3501 5 STOP N/S	
NOTES:			AM PM MD OTHER OTHER	▲ N ◀ W S ▼	E ▶

☒ Add U-Turns to Left Turns

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

U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL

AM	7:00 AM	0	0	3	8	0	0	0	173	3	6	100	3	296
	7:15 AM	0	0	1	17	1	2	0	158	0	0	135	9	323
	7:30 AM	0	0	0	12	0	1	1	179	0	1	93	10	297
	7:45 AM	1	0	6	8	0	2	0	185	0	2	124	8	336
	8:00 AM	0	0	3	9	1	0	1	163	2	1	95	10	285
	8:15 AM	0	0	4	7	0	2	0	167	1	0	119	11	311
	8:30 AM	2	0	0	8	0	0	1	162	0	0	118	5	296
	8:45 AM	0	0	6	6	0	0	0	131	2	0	101	12	258
	VOLUMES	3	0	23	75	2	7	3	1,318	8	10	885	68	2,402
	APPROACH %	12%	0%	88%	89%	2%	8%	0%	99%	1%	1%	92%	7%	
APP/DEPART	26	/	71	84	/	20	1,329	/	1,416	963	/	895	0	
BEGIN PEAK HR	7:00 AM													
VOLUMES	1	0	10	45	1	5	1	695	3	9	452	30	1,252	
APPROACH %	9%	0%	91%	88%	2%	10%	0%	99%	0%	2%	92%	6%		
PEAK HR FACTOR	0.393													0.932
APP/DEPART	11	/	31	51	/	13	699	/	750	491	/	458	0	
PM	4:00 PM	0	1	2	9	0	0	0	210	1	3	226	26	478
	4:15 PM	0	0	2	7	0	0	2	211	2	2	209	24	459
	4:30 PM	0	0	8	7	0	2	2	209	0	4	198	30	460
	4:45 PM	0	0	1	7	0	1	1	221	2	7	196	25	461
	5:00 PM	0	1	3	7	1	0	2	175	0	2	194	27	412
	5:15 PM	0	0	3	6	1	2	1	211	1	1	187	30	443
	5:30 PM	0	0	4	5	0	0	2	216	1	0	228	30	486
	5:45 PM	0	0	0	4	1	1	0	207	0	1	203	39	456
	VOLUMES	0	2	23	52	3	6	10	1,660	7	20	1,641	231	3,655
	APPROACH %	0%	8%	92%	85%	5%	10%	1%	99%	0%	1%	87%	12%	
APP/DEPART	25	/	243	61	/	29	1,677	/	1,736	1,892	/	1,647	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	0	1	13	30	0	3	5	851	5	16	829	105	1,858	
APPROACH %	0%	7%	93%	91%	0%	9%	1%	99%	1%	2%	87%	11%		
PEAK HR FACTOR	0.438													0.972
APP/DEPART	14	/	111	33	/	20	861	/	895	950	/	832	0	

[illegible][illegible]

AM	7:00 AM
	7:15 AM
	7:30 AM
	7:45 AM
	8:00 AM
	8:15 AM
	8:30 AM
	8:45 AM
TOTAL	
AM BEGIN PEAK HR	
PM	4:00 PM
	4:15 PM
	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
TOTAL	
PM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
7:00 AM				
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	1	0	0	1
0	0	0	0	0
0	1	0	0	1
0	3	0	0	3
4:00 PM				

[illegible]

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

PROJECT #: SC1938

LOCATION #: 4

CONTROL: SIGNAL

DATE:
Wed, Nov 14, 18

LOCATION: Lake Elsinore
NORTH & SOUTH: Machado
EAST & WEST: Lakeshore

NOTES:

AM

▲

N

§

▼

☐ Add U-Turns to Left Turns

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

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	

AM	7:00 AM	55	1	58	1	2	1	0	96	25	27	73	0	339
	7:15 AM	78	2	52	4	5	8	2	131	41	37	93	0	453
	7:30 AM	42	13	79	3	11	4	4	141	44	32	64	1	438
	7:45 AM	40	8	98	1	11	3	2	106	31	37	50	1	388
	8:00 AM	26	7	78	2	9	1	0	120	26	37	52	1	359
	8:15 AM	27	4	70	4	11	3	0	72	19	30	69	1	310
	8:30 AM	19	2	56	0	4	2	0	72	9	36	79	1	280
	8:45 AM	9	1	42	2	4	0	1	77	8	14	61	0	219
	VOLUMES	296	38	533	17	57	22	9	815	203	250	541	5	2,786
	APPROACH %	34%	4%	61%	18%	59%	23%	1%	79%	20%	31%	68%	1%	
APP/DEPART	867	/	52	96	/	510	1,027	/	1,365	796	/	859	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	186	30	307	10	36	16	8	498	142	143	259	3	1,638	
APPROACH %	36%	6%	59%	16%	58%	26%	1%	77%	22%	35%	64%	1%		
PEAK HR FACTOR	0.896			0.861			0.857			0.779			0.904	
APP/DEPART	523	/	41	62	/	321	648	/	815	405	/	461	0	
PM	4:00 PM	14	0	63	3	13	2	0	93	28	70	101	2	389
	4:15 PM	32	5	60	1	8	4	1	98	26	71	129	2	437
	4:30 PM	21	3	52	4	8	0	2	113	12	72	124	0	411
	4:45 PM	18	6	55	1	6	2	1	114	21	67	101	3	395
	5:00 PM	28	3	53	3	10	3	0	116	17	74	111	1	419
	5:15 PM	23	1	44	0	12	1	1	98	20	77	107	1	385
	5:30 PM	14	5	64	3	10	3	1	128	20	63	115	1	427
	5:45 PM	19	5	48	6	10	1	0	113	15	92	116	7	432
	VOLUMES	169	28	439	21	77	16	6	873	159	586	904	17	3,295
	APPROACH %	27%	4%	69%	18%	68%	14%	1%	84%	15%	39%	60%	1%	
	APP/DEPART	636	/	51	114	/	822	1,038	/	1,333	1,507	/	1,089	0
	BEGIN PEAK HR	5:00 PM												
	VOLUMES	84	14	209	12	42	8	2	455	72	306	449	10	1,663
APPROACH %	27%	5%	68%	19%	68%	13%	0%	86%	14%	40%	59%	1%		
PEAK HR FACTOR	0.914			0.912			0.888			0.890			0.962	
APP/DEPART	307	/	26	62	/	420	529	/	676	765	/	541	0	

[illegible][illegible]

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

Lake Elsinore PROJECT

CONTROL: SIGNAL

LOCATION: Lake Elsinore
NORTH & SOUTH: Riverside
EAST & WEST: Lakeshore

AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

☐ Add U-Turns to Left Turns

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	

[illegible]

CONVERSION of INTERSECTION TURNING MOVEMENT COUNTS

LOCATION: Lake Elsinore
NORTH & SOUTH: Machado
EAST & WEST: Lakeshore
CONTROL: SIGNAL

NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
Machado			Machado			Lakeshore			Lakeshore		
2018 Counts AM ¹											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
186	30	307	10	36	16	8	498	142	143	259	3
2018 + Ambient Growth Rate to 2022 Counts AM											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
201	33	332	11	39	18	9	538	154	155	280	4
2022 June Counts AM ²											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
47	7	209	9	16	2	1	288	25	106	200	2
Percentage Decrease											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
77%	79%	37%	18%	59%	89%	89%	46%	84%	32%	29%	50%
2018 Counts PM ¹											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
84	14	209	12	42	8	2	455	72	306	449	10
2018 + Ambient Growth Rate to 2022 Counts PM											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
91	16	226	13	46	9	3	492	78	331	485	11
2022 June Counts PM ²											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
66	10	239	8	39	10	6	384	61	285	419	7
Percentage Decrease											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
27%	38%	-6%	38%	15%	-11%	-100%	22%	22%	14%	14%	36%

¹The Lakeview Plaza Traffic Impact Analysis (TJW Engineering, Inc., January 7, 2020)

²Traffic counts were taken on June 21, 2022

AM Peak Hour conversion rate: 49%

PM Peak Hour conversion rate: 15%

The conversion factors are calculated by the formula: Conversion rate = 1-(2022 counts/(2018 counts *1.08))

CONVERSION of INTERSECTION TURNING MOVEMENT COUNTS

LOCATION: Lake Elsinore
NORTH & SOUTH: Riverside
EAST & WEST: Lakeshore
CONTROL: SIGNAL

NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
Riverside			Riverside			Lakeshore			Lakeshore		
2018 Counts AM ¹											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
137	507	338	30	470	123	266	321	119	199	130	19

2018 + Ambient Growth Rate to 2022 Counts AM											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
148	548	366	33	508	133	288	347	129	215	141	21

2022 June Counts AM ²											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
99	428	200	14	341	99	251	181	65	131	91	19

Percentage Decrease											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
33%	22%	45%	58%	33%	26%	13%	48%	50%	39%	35%	10%

2018 Counts PM ¹											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
148	645	316	33	515	309	212	256	168	289	307	24

2018 + Ambient Growth Rate to 2022 Counts PM											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
160	697	342	36	557	334	229	277	182	313	332	26

2022 June Counts PM ²											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
132	611	228	28	495	290	239	225	137	247	284	25

Percentage Decrease											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
18%	12%	33%	22%	11%	13%	-4%	19%	25%	21%	14%	4%

¹The Lakeview Plaza Traffic Impact Analysis (TJW Engineering, Inc., January 7, 2020)

²Traffic counts were taken on June 21, 2022

AM Peak Hour conversion rate: 33%

PM Peak Hour conversion rate: 16%

The conversion factors are calculated by the formula: Conversion rate = 1-(2022 counts/(2018 counts *1.08))

APPENDIX C – ROUTE 8 LAKE ELSINORE – WILDOMAR LOOP

8

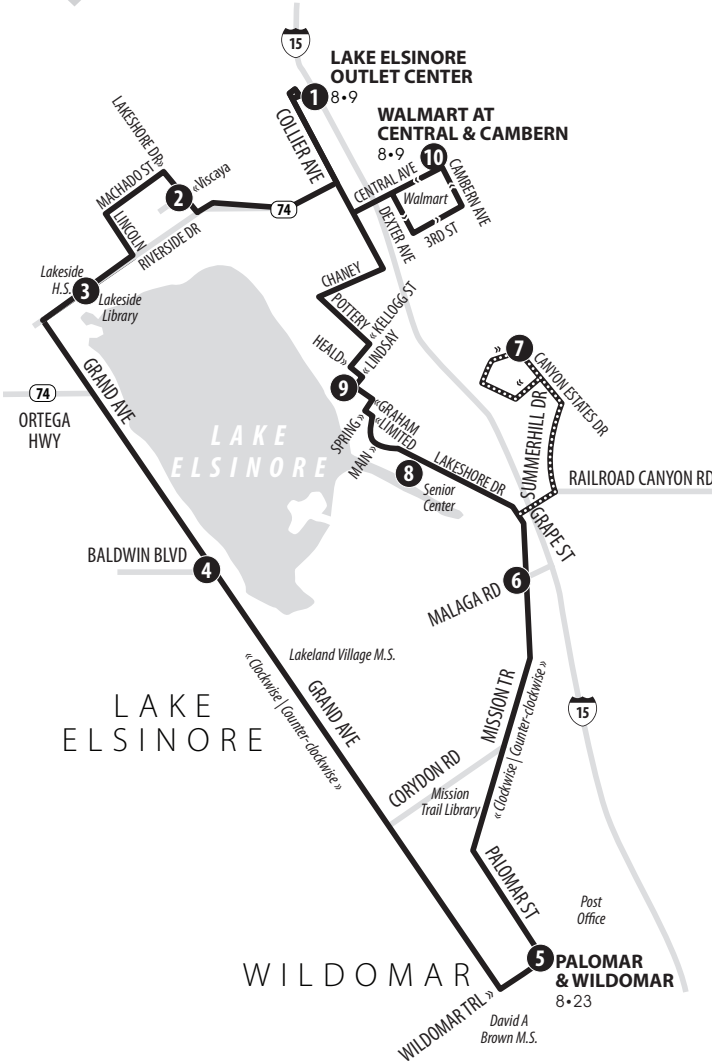
LAKE ELSINORE - WILDOMAR LOOP

Routing and timetables
subject to change.
Rutas designadas y horarios
son sujetos a cambios.



Legend | Map not to scale

- 1 Time and/or Transfer Point
- Alternate Routing



A.M. times are in PLAIN, P.M. times are in BOLD | Times are approximate

* Inside Senior Center ** At Central and Cambern

LAKE ELSINORE OUTLET CENTER	LAKESHORE & VISCAYA	LAKESIDE HIGH SCHOOL	GRAND & BALDWIN	PALOMAR & WILDOMAR	MISSION TRAIL & MALAGA	CANYON ESTATE & SADDLE RIDGE	*LAKEPOINT PARK	GRAHAM & LANGSTAFF	**WALMART	LAKE ELSINORE OUTLET CENTER
1	2	3	4	5	6	7	8	9	10	1
6:25	6:33	6:41	6:49	7:06	7:16	7:24	7:29	7:36	7:49	7:59
7:30	7:38	7:46	7:54	8:11	8:21	—	8:27	8:34	8:47	8:57
8:42	8:50	8:58	9:06	9:23	9:33	—	9:39	9:46	9:59	10:09
9:52	10:00	10:10	10:19	10:36	10:46	—	10:53	11:00	11:15	11:25
11:02	11:11	11:21	11:30	11:47	11:57	—	12:04	12:11	12:26	12:36
12:12	12:21	12:31	12:40	12:57	1:07	—	1:14	1:21	1:36	1:46
1:22	1:31	1:41	1:50	2:07	2:17	—	2:24	2:31	2:46	2:59
2:32	2:41	2:52	3:01	3:18	3:28	—	3:35	3:42	3:57	4:10
3:46	3:55	4:04	4:13	4:30	4:40	—	4:47	4:54	5:09	5:22
5:00	5:09	5:18	5:27	5:45	5:55	6:05	6:12	6:19	6:34	6:44
6:10	6:19	6:28	6:37	6:55	—	—	—	—	—	—
7:31	7:40	7:49	7:58	8:16	—	—	—	—	—	—

A.M. times are in PLAIN, P.M. times are in BOLD | Times are approximate

** At Central and Cambern

LAKE ELSINORE OUTLET CENTER	**WALMART	GRAHAM & LANGSTAFF	CANYON ESTATE & SADDLE RIDGE	MISSION TRAIL & MALAGA	PALOMAR & WILDOMAR	GRAND & BALDWIN	LAKESIDE HIGH SCHOOL	LAKESHORE & VISCAYA	LAKE ELSINORE OUTLET CENTER
1	10	9	7	6	5	4	3	2	1
5:55	6:08	6:17	—	6:23	6:40	6:52	6:59	7:10	7:17
6:53	7:06	7:15	7:27	7:33	7:50	8:02	8:09	8:20	8:27
8:05	8:18	8:29	—	8:37	8:53	9:05	9:12	9:23	9:31
9:15	9:28	9:39	—	9:47	10:03	10:15	10:22	10:33	10:41
10:25	10:40	10:52	—	11:00	11:16	11:28	11:35	11:46	11:54
11:35	11:51	12:04	—	12:12	12:28	12:40	12:48	12:59	1:07
12:45	1:01	1:14	—	1:22	1:38	1:50	1:58	2:09	2:17
1:55	2:11	2:24	—	2:32	2:48	3:00	3:08	3:19	3:27
3:05	3:21	3:34	—	3:42	3:58	4:10	4:18	4:29	4:37
4:15	4:31	4:44	—	4:52	5:08	5:20	5:28	5:39	5:47
5:36	5:52	6:05	6:19	6:27	6:43	6:55	7:03	7:14	7:22
6:50	7:06	7:19	—	7:27	7:43	7:55	8:03	8:14	8:22

A.M. times are in PLAIN, P.M. times are in BOLD | Times are approximate

** At Central and Cambern

LAKE ELSINORE OUTLET CENTER	LAKESHORE & VISCAYA	LAKESIDE HIGH SCHOOL	GRAND & BALDWIN	PALOMAR & WILDOMAR	MISSION TRAIL & MALAGA	GRAHAM & LANGSTAFF	**WALMART	LAKE ELSINORE OUTLET CENTER
1	2	3	4	5	6	9	10	1
6:30	6:38	6:45	6:52	7:08	7:18	7:25	7:37	7:47
7:57	8:05	8:13	8:20	8:36	8:46	8:54	9:06	9:17
9:00	9:08	9:16	9:23	9:39	9:49	9:57	10:10	10:21
10:03	10:11	10:21	10:29	10:45	10:55	11:03	11:18	11:31
11:06	11:15	11:25	11:33	11:49	11:59	12:07	12:22	12:36
12:20	12:29	12:38	12:46	1:02	1:12	1:20	1:35	1:49
1:31	1:40	1:49	1:57	2:14	2:24	2:32	2:47	3:01
2:46	2:55	3:04	3:12	3:29	3:39	3:47	4:02	4:15
4:01	4:10	4:18	4:26	4:43	4:53	5:01	5:16	5:29
5:03	5:12	5:20	5:28	5:45	5:55	6:03	6:18	6:29
6:18	6:27	6:35	6:43	7:00	—	—	—	—

A.M. times are in PLAIN, P.M. times are in BOLD | Times are approximate

** At Central and Cambern

LAKE ELSINORE OUTLET CENTER	**WALMART	GRAHAM & LANGSTAFF	MISSION TRAIL & MALAGA	PALOMAR & WILDOMAR	GRAND & BALDWIN	LAKESIDE HIGH SCHOOL	LAKESHORE & VISCAYA	LAKE ELSINORE OUTLET CENTER
1	10	9	6	5	4	3	2	1
6:20	6:32	6:40	6:46	7:03	7:14	7:21	7:31	7:41
7:18	7:30	7:40	7:46	8:03	8:14	8:21	8:31	8:43
8:23	8:35	8:45	8:53	9:10	9:21	9:28	9:38	9:53
9:27	9:39	9:49	9:57	10:13	10:24	10:31	10:41	10:56
10:37	10:51	11:02	11:10	11:26	11:37	11:45	11:56	12:10
11:48	12:03	12:15	12:23	12:39	12:50	12:58	1:09	1:21
1:03	1:18	1:30	1:38	1:54	2:05	2:13	2:24	2:36
2:18	2:33	2:45	2:53	3:09	3:20	3:28	3:39	3:51
3:21	3:36	3:48	3:56	4:12	4:23	4:31	4:41	4:53
4:37	4:52	5:04	5:12	5:28	5:39	5:47	5:57	6:08
5:37	5:52	6:04	6:12	6:28	6:39	6:47	6:57	7:07

APPENDIX D – LEVEL OF SERVICE CALCULATIONS

Table of Contents

Intersection Analysis Summary	2
Intersection Level Of Service Report	3
Intersection 1: Lakeshore Dr/Machado St	3
Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy	8
Intersection 3: Lakeshore Dr/Viscaya Dr	10
Intersection 4: Lakeshore Dr/SR-74	15
Intersection 5: Gunnerson St/SR-74	20
Turning Movement Volume: Summary	22

Lakeshore Drive Residential

Vistro File: C:\...\Lakeshore Drive Residential_12-12.vistro

Scenario 1 Existing AM

Report File: C:\...\Existing AM.pdf

12/13/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Lakeshore Dr/Machado St	Signalized	HCM 7th Edition	SB Left	0.403	16.6	B
2	Lakeshore Dr/Gunnerson St- Proj Dwy	Two-way stop	HCM 7th Edition	SB Left	0.173	31.2	D
3	Lakeshore Dr/Viscaya Dr	Signalized	HCM 7th Edition	NB Left	0.346	9.9	A
4	Lakeshore Dr/SR-74	Signalized	HCM 7th Edition	EB Left	0.657	33.7	C
5	Gunnerson St/SR-74	Two-way stop	HCM 7th Edition	SB Left	2.076	693.0	F

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

Intersection Level Of Service Report

Intersection 1: Lakeshore Dr/Machado St

Control Type:	Signalized	Delay (sec / veh):	16.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.403

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			Machado St			Machado St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	180.00	100.00	110.00	90.00	100.00	195.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			Machado St			Machado St		
Base Volume Input [veh/h]	149	282	3	1	406	35	66	10	295	13	23	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	9	0	0	74	0	0	1
Total Hourly Volume [veh/h]	149	282	2	1	406	26	66	10	221	13	23	2
Peak Hour Factor	0.8370	0.8370	0.8370	0.8722	0.8722	0.8722	0.8219	0.8219	0.8219	0.7500	0.7500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	84	1	0	116	7	20	3	67	4	8	1
Total Analysis Volume [veh/h]	178	337	2	1	465	30	80	12	269	17	31	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	13	24	0	12	23	0	0	24	0	0	24	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	14	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	36	0	28	28	12	12	12	12
g / C, Green / Cycle	0.13	0.59	0.00	0.47	0.47	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.10	0.18	0.00	0.13	0.13	0.06	0.01	0.17	0.03
s, saturation flow rate [veh/h]	1781	1868	1781	1870	1831	1374	1870	1589	1605
c, Capacity [veh/h]	225	1101	7	873	854	335	388	330	413
d1, Uniform Delay [s]	25.50	6.20	29.86	9.87	9.88	20.13	19.02	22.75	19.44
k, delay calibration	0.11	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.08	0.73	9.20	0.82	0.85	0.36	0.03	4.95	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.31	0.14	0.29	0.29	0.24	0.03	0.82	0.12
d, Delay for Lane Group [s/veh]	31.58	6.92	39.06	10.70	10.73	20.50	19.06	27.70	19.57
Lane Group LOS	C	A	D	B	B	C	B	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.61	1.67	0.03	1.73	1.71	0.92	0.13	3.81	0.56
50th-Percentile Queue Length [ft/ln]	65.17	41.68	0.77	43.21	42.66	22.91	3.21	95.19	13.96
95th-Percentile Queue Length [veh/ln]	4.69	3.00	0.06	3.11	3.07	1.65	0.23	6.85	1.01
95th-Percentile Queue Length [ft/ln]	117.31	75.03	1.39	77.79	76.79	41.24	5.79	171.34	25.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.58	6.92	6.92	39.06	10.71	10.73	20.50	19.06	27.70	19.57	19.57	19.57
Movement LOS	C	A	A	D	B	B	C	B	C	B	B	B
d_A, Approach Delay [s/veh]	15.41			10.77			25.82			19.57		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	16.58											
Intersection LOS	B											
Intersection V/C	0.403											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.574			2.577			2.384			1.730		
Crosswalk LOS	B			B			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	666			632			666			666		
d_b, Bicycle Delay [s]	13.37			14.05			13.37			13.37		
I_b,int, Bicycle LOS Score for Intersection	2.414			1.976			2.277			1.645		
Bicycle LOS	B			A			B			A		

Sequence

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



Intersection Level Of Service Report
Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy

Control Type:	Two-way stop	Delay (sec / veh):	31.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.173

Intersection Setup

Name	Gunnerson St		Lakeshore Dr		Lakeshore Dr	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Gunnerson St		Lakeshore Dr		Lakeshore Dr	
Base Volume Input [veh/h]	23	32	14	701	405	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	32	14	701	405	14
Peak Hour Factor	0.8125	0.8125	0.8394	0.8394	0.8634	0.8634
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	10	4	209	117	4
Total Analysis Volume [veh/h]	28	39	17	835	469	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.07	0.02	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	31.23	15.12	8.36	0.00	0.00	0.00
Movement LOS	D	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.91	0.91	0.03	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	22.80	22.80	0.71	0.71	0.00	0.00
d_A, Approach Delay [s/veh]	21.85		0.17		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.14					
Intersection LOS	D					

Intersection Level Of Service Report

Intersection 3: Lakeshore Dr/Viscaya Dr

Control Type:	Signalized	Delay (sec / veh):	9.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.346

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			Viscaya Dr			Viscaya Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	170.00	100.00	100.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	370.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			Viscaya Dr			Viscaya Dr		
Base Volume Input [veh/h]	28	348	25	41	615	13	27	6	32	55	4	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	3	0	0	8	0	0	8
Total Hourly Volume [veh/h]	28	348	19	41	615	10	27	6	24	55	4	24
Peak Hour Factor	0.8796	0.8796	0.8796	0.8172	0.8172	0.8172	0.6765	0.6765	0.6765	0.7386	0.7386	0.7386
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	99	5	13	188	3	10	2	9	19	1	8
Total Analysis Volume [veh/h]	32	396	22	50	753	12	40	9	35	74	5	32
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-10)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	19	0	11	19	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	21	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	36	36	4	37	37	8	8	8
g / C, Green / Cycle	0.05	0.60	0.60	0.07	0.62	0.62	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.02	0.11	0.11	0.03	0.21	0.01	0.03	0.02	0.12
s, saturation flow rate [veh/h]	1781	1870	1836	1781	3560	1589	1488	1589	954
c, Capacity [veh/h]	86	1127	1107	118	2210	986	304	208	225
d1, Uniform Delay [s]	27.67	5.33	5.33	26.92	5.48	4.35	23.34	23.16	26.40
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.65	0.37	0.38	2.42	0.42	0.02	0.25	0.38	1.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.19	0.19	0.42	0.34	0.01	0.16	0.17	0.49
d, Delay for Lane Group [s/veh]	30.31	5.70	5.71	29.34	5.90	4.37	23.59	23.54	28.07
Lane Group LOS	C	A	A	C	A	A	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.47	0.90	0.89	0.71	1.57	0.04	0.61	0.44	1.59
50th-Percentile Queue Length [ft/ln]	11.78	22.44	22.21	17.70	39.13	1.06	15.15	10.90	39.63
95th-Percentile Queue Length [veh/ln]	0.85	1.62	1.60	1.27	2.82	0.08	1.09	0.78	2.85
95th-Percentile Queue Length [ft/ln]	21.21	40.39	39.98	31.87	70.43	1.91	27.26	19.62	71.34

Movement, Approach, & Intersection Results

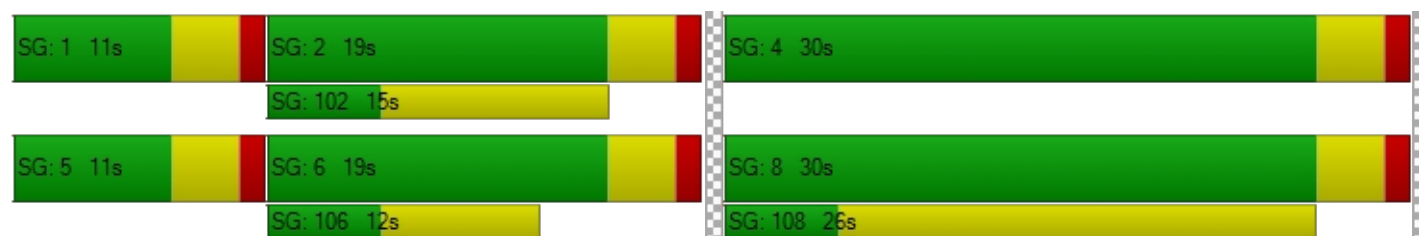
d_M, Delay for Movement [s/veh]	30.31	5.70	5.71	29.34	5.90	4.37	23.59	23.59	23.54	28.07	28.07	28.07
Movement LOS	C	A	A	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	7.45			7.31			23.57			28.07		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	9.87											
Intersection LOS	A											
Intersection V/C	0.346											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			0.00			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.835			0.000			1.979			1.807		
Crosswalk LOS	C			F			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	500			500			867			867		
d_b, Bicycle Delay [s]	16.88			16.88			9.63			9.63		
I_b,int, Bicycle LOS Score for Intersection	1.936			2.234			1.711			1.756		
Bicycle LOS	A			B			A			A		

Sequence

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



Intersection Level Of Service Report

Intersection 4: Lakeshore Dr/SR-74

Control Type:	Signalized	Delay (sec / veh):	33.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.657

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	230.00	100.00	270.00	160.00	100.00	100.00	150.00	100.00	160.00	130.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	410.00	0.00	0.00	0.00	0.00	0.00	210.00	0.00	0.00	250.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			SR-74			SR-74		
Base Volume Input [veh/h]	185	128	27	354	255	92	140	603	282	20	481	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	7	0	0	23	0	0	71	0	0	35
Total Hourly Volume [veh/h]	185	128	20	354	255	69	140	603	211	20	481	105
Peak Hour Factor	0.8253	0.8253	0.8253	0.8875	0.8875	0.8875	0.8042	0.8042	0.8042	0.9008	0.9008	0.9008
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	39	6	100	72	19	44	187	66	6	133	29
Total Analysis Volume [veh/h]	224	155	24	399	287	78	174	750	262	22	534	117
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	25	26	0	29	30	0	15	34	0	11	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	21	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	7	7	24	17	17	11	50	50	3	42	42
g / C, Green / Cycle	0.15	0.07	0.07	0.24	0.17	0.17	0.11	0.50	0.50	0.03	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.13	0.05	0.05	0.22	0.08	0.05	0.10	0.21	0.16	0.01	0.29	0.07
s, saturation flow rate [veh/h]	1781	1870	1784	1781	3560	1589	1781	3560	1589	1781	1870	1589
c, Capacity [veh/h]	259	134	128	429	594	265	196	1764	787	58	781	664
d1, Uniform Delay [s]	41.75	45.28	45.32	37.16	37.75	36.50	43.89	16.13	15.25	47.41	23.74	18.31
k, delay calibration	0.11	0.11	0.11	0.26	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.38	5.85	6.42	18.74	0.61	0.61	12.61	0.75	1.14	4.12	4.82	0.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.68	0.69	0.93	0.48	0.29	0.89	0.43	0.33	0.38	0.68	0.18
d, Delay for Lane Group [s/veh]	50.14	51.14	51.74	55.89	38.36	37.11	56.50	16.89	16.38	51.53	28.56	18.88
Lane Group LOS	D	D	D	E	D	D	E	B	B	D	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.83	2.36	2.31	11.36	3.14	1.67	4.81	5.25	3.59	0.59	10.63	1.73
50th-Percentile Queue Length [ft/ln]	145.77	59.10	57.75	284.01	78.59	41.76	120.25	131.26	89.85	14.76	265.82	43.17
95th-Percentile Queue Length [veh/ln]	9.79	4.25	4.16	16.89	5.66	3.01	8.41	9.01	6.47	1.06	15.98	3.11
95th-Percentile Queue Length [ft/ln]	244.77	106.37	103.95	422.20	141.45	75.17	210.17	225.21	161.72	26.57	399.51	77.70

Movement, Approach, & Intersection Results

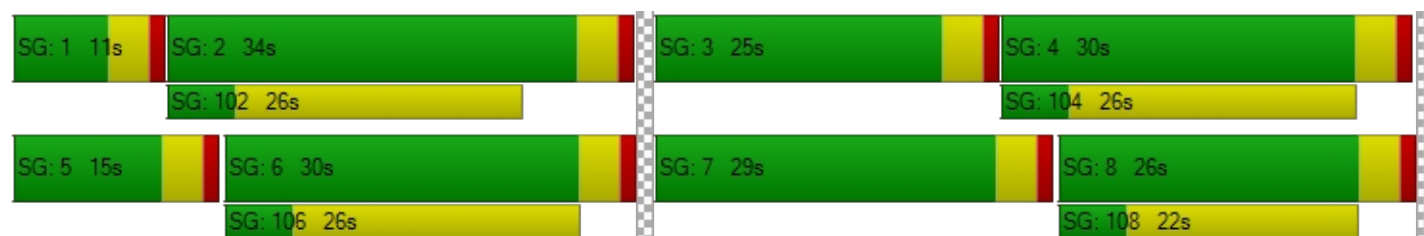
d_M, Delay for Movement [s/veh]	50.14	51.39	51.74	55.89	38.36	37.11	56.50	16.89	16.38	51.53	28.56	18.88
Movement LOS	D	D	D	E	D	D	E	B	B	D	C	B
d_A, Approach Delay [s/veh]	50.71			47.39			22.59			27.63		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	33.72											
Intersection LOS	C											
Intersection V/C	0.657											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	41.41			41.41			41.41			41.41		
I_p,int, Pedestrian LOS Score for Intersection	2.697			2.767			3.019			2.847		
Crosswalk LOS	B			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	440			520			600			520		
d_b, Bicycle Delay [s]	30.42			27.38			24.50			27.38		
I_b,int, Bicycle LOS Score for Intersection	1.898			2.209			2.597			2.728		
Bicycle LOS	A			B			B			B		

Sequence

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



Intersection Level Of Service Report

Intersection 5: Gunnerson St/SR-74

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 693.0
 Level Of Service: F
 Volume to Capacity (v/c): 2.076

Intersection Setup

Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	25.00	100.00	100.00	40.00	370.00	100.00	100.00	290.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Base Volume Input [veh/h]	1	0	14	63	1	7	1	980	4	13	637	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	14	63	1	7	1	980	4	13	637	42
Peak Hour Factor	0.3929	0.3929	0.3929	0.6375	0.6375	0.6375	0.9446	0.9446	0.9446	0.8524	0.8524	0.8524
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	9	25	0	3	0	259	1	4	187	12
Total Analysis Volume [veh/h]	3	0	36	99	2	11	1	1037	4	15	747	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.13	2.08	0.03	0.03	0.00	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	77.30	59.93	19.74	692.99	666.73	14.26	9.36	0.00	0.00	10.51	0.00	0.00
Movement LOS	F	F	C	F	F	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.18	0.18	0.44	10.30	10.30	0.08	0.00	0.00	0.00	0.07	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.40	4.40	10.91	257.51	257.51	2.12	0.09	0.00	0.00	1.72	0.00	0.00
d_A, Approach Delay [s/veh]	24.17			625.86			0.01			0.19		
Approach LOS	C			F			A			A		
d_I, Intersection Delay [s/veh]	35.53											
Intersection LOS	F											

Lakeshore Drive Residential

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Scenario 1 Existing AM

Report File: C:\...\Existing AM.pdf

12/13/2022

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Lakeshore Dr/Machado St	149	282	3	1	406	35	66	10	295	13	23	3	1286

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
2	Lakeshore Dr/Gunnerson St- Proj Dwy	23	32	14	701	405	14	1189

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Lakeshore Dr/Viscaya Dr	28	348	25	41	615	13	27	6	32	55	4	32	1226

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Lakeshore Dr/SR-74	185	128	27	354	255	92	140	603	282	20	481	140	2707

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Gunnerson St/SR-74	1	0	14	63	1	7	1	980	4	13	637	42	1763

Table of Contents

Intersection Analysis Summary	2
Intersection Level Of Service Report	3
Intersection 1: Lakeshore Dr/Machado St	3
Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy	8
Intersection 3: Lakeshore Dr/Viscaya Dr	10
Intersection 4: Lakeshore Dr/SR-74	15
Intersection 5: Gunnerson St/SR-74	20
Turning Movement Volume: Summary	22

Lakeshore Drive Residential

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Scenario 2 Existing PM

Report File: C:\...\Existing PM.pdf

12/13/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Lakeshore Dr/Machado St	Signalized	HCM 7th Edition	SB Left	0.517	19.1	B
2	Lakeshore Dr/Gunnerson St- Proj Dwy	Two-way stop	HCM 7th Edition	SB Left	0.363	61.5	F
3	Lakeshore Dr/Viscaya Dr	Signalized	HCM 7th Edition	SB Left	0.444	14.1	B
4	Lakeshore Dr/SR-74	Signalized	HCM 7th Edition	NB Left	0.680	35.0	D
5	Gunnerson St/SR-74	Two-way stop	HCM 7th Edition	SB Left	1.411	537.0	F

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

Intersection Level Of Service Report

Intersection 1: Lakeshore Dr/Machado St

Control Type:	Signalized	Delay (sec / veh):	19.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.517

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			Machado St			Machado St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	180.00	100.00	110.00	90.00	100.00	195.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			Machado St			Machado St		
Base Volume Input [veh/h]	328	482	8	7	442	70	76	12	275	9	45	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	18	0	0	69	0	0	3
Total Hourly Volume [veh/h]	328	482	6	7	442	52	76	12	206	9	45	9
Peak Hour Factor	0.9210	0.9210	0.9210	0.8170	0.8170	0.8170	0.8560	0.8560	0.8560	0.8382	0.8382	0.8382
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	131	2	2	135	16	22	4	60	3	13	3
Total Analysis Volume [veh/h]	356	523	7	9	541	64	89	14	241	11	54	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-10)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	19	30	0	12	23	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	14	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	40	1	26	26	12	12	12	12
g / C, Green / Cycle	0.23	0.61	0.02	0.40	0.40	0.19	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.20	0.28	0.01	0.16	0.17	0.07	0.01	0.15	0.04
s, saturation flow rate [veh/h]	1781	1866	1781	1870	1802	1336	1870	1589	1756
c, Capacity [veh/h]	403	1140	32	754	726	277	349	296	391
d1, Uniform Delay [s]	24.38	6.88	31.56	13.88	13.90	23.27	21.72	25.41	22.50
k, delay calibration	0.11	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.53	1.36	4.62	1.63	1.71	0.66	0.05	5.37	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.46	0.28	0.41	0.41	0.32	0.04	0.81	0.19
d, Delay for Lane Group [s/veh]	30.91	8.24	36.18	15.52	15.61	23.93	21.77	30.78	22.74
Lane Group LOS	C	A	D	B	B	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.47	3.14	0.17	2.99	2.91	1.19	0.17	3.80	0.96
50th-Percentile Queue Length [ft/ln]	136.86	78.58	4.24	74.78	72.81	29.70	4.29	95.10	24.12
95th-Percentile Queue Length [veh/ln]	9.31	5.66	0.31	5.38	5.24	2.14	0.31	6.85	1.74
95th-Percentile Queue Length [ft/ln]	232.78	141.44	7.64	134.61	131.06	53.46	7.72	171.17	43.41

Movement, Approach, & Intersection Results

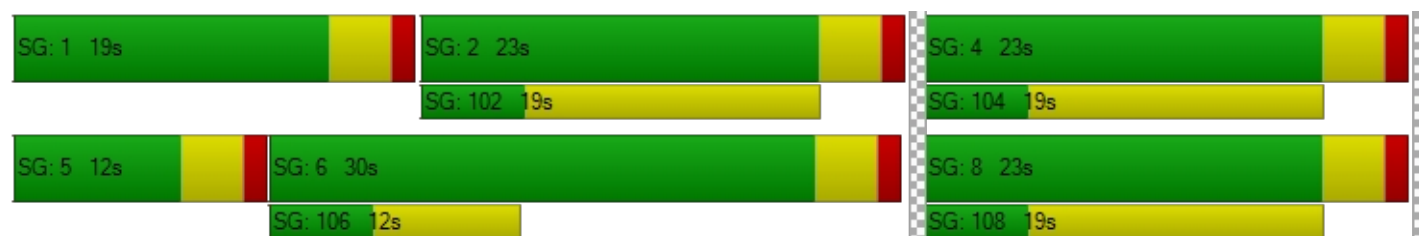
d_M, Delay for Movement [s/veh]	30.91	8.24	8.24	36.18	15.56	15.61	23.93	21.77	30.78	22.74	22.74	22.74
Movement LOS	C	A	A	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	17.35			15.86			28.64			22.74		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	19.11											
Intersection LOS	B											
Intersection V/C	0.517											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	24.16			24.16			24.16			24.16		
I_p,int, Pedestrian LOS Score for Intersection	2.703			2.728			2.435			1.758		
Crosswalk LOS	B			B			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	799			584			584			584		
d_b, Bicycle Delay [s]	11.73			16.31			16.31			16.31		
I_b,int, Bicycle LOS Score for Intersection	3.025			2.081			2.241			1.690		
Bicycle LOS	C			B			B			A		

Sequence

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



Intersection Level Of Service Report
Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy

Control Type:	Two-way stop	Delay (sec / veh):	61.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.363

Intersection Setup

Name	Gunnerson St		Lakeshore Dr		Lakeshore Dr	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Gunnerson St		Lakeshore Dr		Lakeshore Dr	
Base Volume Input [veh/h]	31	55	10	698	815	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	55	10	698	815	39
Peak Hour Factor	0.8152	0.8152	0.9390	0.9390	0.9334	0.9334
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	17	3	186	218	10
Total Analysis Volume [veh/h]	38	67	11	743	873	42
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.36	0.20	0.01	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	61.46	37.63	9.84	0.00	0.00	0.00
Movement LOS	F	E	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.97	2.97	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	74.21	74.21	0.46	0.46	0.00	0.00
d_A, Approach Delay [s/veh]	46.25		0.14		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	2.80					
Intersection LOS	F					

Intersection Level Of Service Report

Intersection 3: Lakeshore Dr/Viscaya Dr

Control Type:	Signalized	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.444

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			Viscaya Dr			Viscaya Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	170.00	100.00	100.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	370.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			Viscaya Dr			Viscaya Dr		
Base Volume Input [veh/h]	52	646	54	114	577	28	18	8	22	108	10	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	7	0	0	6	0	0	23
Total Hourly Volume [veh/h]	52	646	40	114	577	21	18	8	16	108	10	67
Peak Hour Factor	0.9506	0.9506	0.9506	0.8538	0.8538	0.8538	0.7000	0.7000	0.7000	0.8538	0.8538	0.8538
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	170	11	33	169	6	6	3	6	32	3	20
Total Analysis Volume [veh/h]	55	680	42	134	676	25	26	11	23	126	12	78
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	16	0	14	19	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	21	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	29	29	6	31	31	12	12	12
g / C, Green / Cycle	0.07	0.49	0.49	0.10	0.52	0.52	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.03	0.19	0.20	0.08	0.19	0.02	0.03	0.01	0.17
s, saturation flow rate [veh/h]	1781	1870	1832	1781	3560	1589	1352	1589	1242
c, Capacity [veh/h]	125	915	896	186	1864	832	381	328	351
d1, Uniform Delay [s]	26.76	9.72	9.72	26.02	8.41	6.92	19.28	19.18	23.65
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.42	1.30	1.33	5.18	0.55	0.07	0.11	0.09	1.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.40	0.40	0.72	0.36	0.03	0.10	0.07	0.61
d, Delay for Lane Group [s/veh]	29.18	11.02	11.05	31.20	8.96	6.99	19.39	19.27	25.41
Lane Group LOS	C	B	B	C	A	A	B	B	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.77	2.68	2.64	1.95	2.07	0.13	0.40	0.25	2.92
50th-Percentile Queue Length [ft/ln]	19.35	67.07	65.95	48.68	51.81	3.33	10.03	6.22	72.96
95th-Percentile Queue Length [veh/ln]	1.39	4.83	4.75	3.50	3.73	0.24	0.72	0.45	5.25
95th-Percentile Queue Length [ft/ln]	34.84	120.73	118.70	87.62	93.26	5.99	18.05	11.20	131.32

Movement, Approach, & Intersection Results

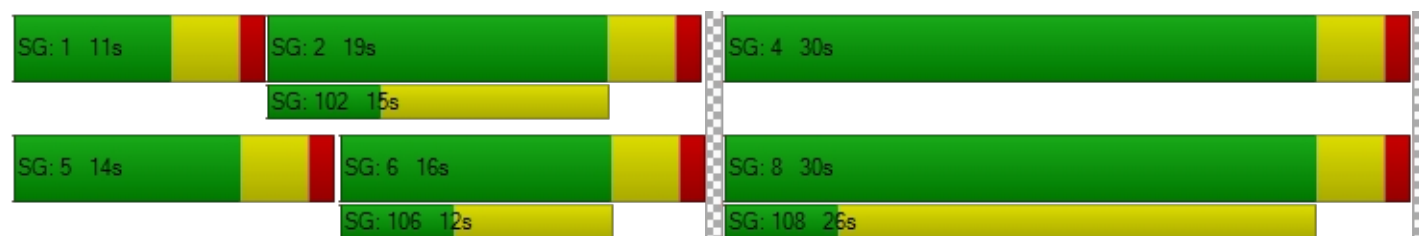
d_M, Delay for Movement [s/veh]	29.18	11.03	11.05	31.20	8.96	6.99	19.39	19.39	19.27	25.41	25.41	25.41
Movement LOS	C	B	B	C	A	A	B	B	B	C	C	C
d_A, Approach Delay [s/veh]	12.32			12.47			19.34			25.41		
Approach LOS	B			B			B			C		
d_I, Intersection Delay [s/veh]	14.10											
Intersection LOS	B											
Intersection V/C	0.444											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			0.00			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.984			0.000			1.983			1.943		
Crosswalk LOS	C			F			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	400			500			867			867		
d_b, Bicycle Delay [s]	19.20			16.88			9.63			9.63		
I_b,int, Bicycle LOS Score for Intersection	2.212			2.254			1.669			1.954		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report

Intersection 4: Lakeshore Dr/SR-74

Control Type:	Signalized	Delay (sec / veh):	35.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.680

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	230.00	100.00	270.00	160.00	100.00	100.00	150.00	100.00	160.00	130.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	410.00	0.00	0.00	0.00	0.00	0.00	210.00	0.00	0.00	250.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			SR-74			SR-74		
Base Volume Input [veh/h]	284	327	29	275	259	158	152	703	262	32	569	334
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	7	0	0	40	0	0	66	0	0	84
Total Hourly Volume [veh/h]	284	327	22	275	259	118	152	703	196	32	569	250
Peak Hour Factor	0.8634	0.8634	0.8634	0.9820	0.9820	0.9820	0.8827	0.8827	0.8827	0.9587	0.9587	0.9587
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	82	95	6	70	66	30	43	199	56	8	148	65
Total Analysis Volume [veh/h]	329	379	25	280	264	120	172	796	222	33	593	261
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	24	28	0	26	30	0	16	35	0	11	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	21	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	13	13	18	11	11	11	49	49	4	42	42
g / C, Green / Cycle	0.20	0.13	0.13	0.18	0.11	0.11	0.11	0.49	0.49	0.04	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.18	0.11	0.11	0.16	0.07	0.08	0.10	0.22	0.14	0.02	0.32	0.16
s, saturation flow rate [veh/h]	1781	1870	1830	1781	3560	1589	1781	3560	1589	1781	1870	1589
c, Capacity [veh/h]	356	252	247	315	397	177	203	1730	773	76	775	659
d1, Uniform Delay [s]	39.25	42.01	42.01	40.22	42.63	42.69	43.45	17.01	15.35	46.71	25.10	20.51
k, delay calibration	0.17	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.50	6.10	6.27	8.53	1.92	4.46	9.35	0.88	0.94	3.92	7.09	1.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.81	0.81	0.89	0.66	0.68	0.85	0.46	0.29	0.44	0.77	0.40
d, Delay for Lane Group [s/veh]	53.75	48.11	48.28	48.75	44.55	47.15	52.79	17.89	16.29	50.64	32.19	22.29
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	9.06	5.17	5.08	7.24	3.15	2.99	4.58	5.81	3.02	0.86	12.74	4.36
50th-Percentile Queue Length [ft/ln]	226.39	129.26	126.92	180.91	78.77	74.79	114.44	145.22	75.46	21.62	318.45	108.95
95th-Percentile Queue Length [veh/ln]	13.99	8.90	8.77	11.65	5.67	5.39	8.09	9.76	5.43	1.56	18.59	7.78
95th-Percentile Queue Length [ft/ln]	349.77	222.49	219.30	291.21	141.78	134.63	202.16	244.04	135.83	38.91	464.78	194.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.75	48.19	48.28	48.75	44.55	47.15	52.79	17.89	16.29	50.64	32.19	22.29
Movement LOS	D	D	D	D	D	D	D	B	B	D	C	C
d_A, Approach Delay [s/veh]	50.69			46.79			22.64			29.96		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	35.04											
Intersection LOS	D											
Intersection V/C	0.680											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	41.41			41.41			41.41			41.41		
I_p,int, Pedestrian LOS Score for Intersection	2.757			2.863			3.060			2.967		
Crosswalk LOS	C			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	480			520			620			520		
d_b, Bicycle Delay [s]	28.88			27.38			23.81			27.38		
I_b,int, Bicycle LOS Score for Intersection	2.170			2.140			2.596			3.162		
Bicycle LOS	B			B			B			C		

Sequence

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



Intersection Level Of Service Report
Intersection 5: Gunnerson St/SR-74

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 537.0
 Level Of Service: F
 Volume to Capacity (v/c): 1.411

Intersection Setup

Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	25.00	100.00	100.00	40.00	370.00	100.00	100.00	290.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Base Volume Input [veh/h]	0	1	15	35	0	3	6	979	6	18	953	121
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	15	35	0	3	6	979	6	18	953	121
Peak Hour Factor	0.4375	0.4375	0.4375	0.9167	0.9167	0.9167	0.9609	0.9609	0.9609	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	9	10	0	1	2	255	2	5	256	32
Total Analysis Volume [veh/h]	0	2	34	38	0	3	6	1019	6	19	1023	130
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.12	1.41	0.00	0.01	0.01	0.01	0.00	0.03	0.01	0.00
d_M, Delay for Movement [s/veh]	119.96	96.01	19.25	537.02	482.48	18.89	11.00	0.00	0.00	10.47	0.00	0.00
Movement LOS	F	F	C	F	F	C	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.40	4.53	4.53	0.03	0.03	0.00	0.00	0.09	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.68	3.68	9.97	113.25	113.25	0.87	0.75	0.00	0.00	2.16	0.00	0.00
d_A, Approach Delay [s/veh]	23.51			499.11			0.06			0.17		
Approach LOS	C			F			A			A		
d_I, Intersection Delay [s/veh]	9.46											
Intersection LOS	F											

Lakeshore Drive Residential

Vistro File: C:\...\Lakeshore Drive Residential_12-12.vistro

Scenario 2 Existing PM

Report File: C:\...\Existing PM.pdf

12/13/2022

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Lakeshore Dr/Machado St	328	482	8	7	442	70	76	12	275	9	45	12	1766

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
2	Lakeshore Dr/Gunnerson St- Proj Dwy	31	55	10	698	815	39	1648

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Lakeshore Dr/Viscaya Dr	52	646	54	114	577	28	18	8	22	108	10	90	1727

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Lakeshore Dr/SR-74	284	327	29	275	259	158	152	703	262	32	569	334	3384

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Gunnerson St/SR-74	0	1	15	35	0	3	6	979	6	18	953	121	2137

Table of Contents

Intersection Analysis Summary	2
Intersection Level Of Service Report	3
Intersection 1: Lakeshore Dr/Machado St	3
Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy	8
Intersection 3: Lakeshore Dr/Viscaya Dr	13
Intersection 4: Lakeshore Dr/SR-74	18
Intersection 5: Gunnerson St/SR-74	23
Turning Movement Volume: Summary	25

Lakeshore Drive Residential

Vistro File: C:\...\Lakeshore Drive Residential_12-16.vistro

Scenario 3 Project Completion AM

Report File: C:\...\Project Completion AM.pdf

12/16/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Lakeshore Dr/Machado St	Signalized	HCM 7th Edition	SB Left	0.423	16.8	B
2	Lakeshore Dr/Gunnerson St- Proj Dwy	Signalized	HCM 7th Edition	SB Right	0.584	6.4	A
3	Lakeshore Dr/Viscaya Dr	Signalized	HCM 7th Edition	NB Left	0.369	10.0	B
4	Lakeshore Dr/SR-74	Signalized	HCM 7th Edition	SB Left	0.698	37.9	D
5	Gunnerson St/SR-74	Two-way stop	HCM 7th Edition	SB Left	2.730	1,013.5	F

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

Intersection Level Of Service Report
Intersection 1: Lakeshore Dr/Machado St

Control Type:	Signalized	Delay (sec / veh):	16.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.423

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			Machado St			Machado St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	180.00	100.00	110.00	90.00	100.00	195.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			Machado St			Machado St		
Base Volume Input [veh/h]	149	282	3	1	406	35	66	10	295	13	23	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	9	0	0	4	0	0	0	1	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	9	0	0	77	0	0	1
Total Hourly Volume [veh/h]	157	302	2	1	426	27	69	10	231	14	24	2
Peak Hour Factor	0.8370	0.8370	0.8370	0.8722	0.8722	0.8722	0.8219	0.8219	0.8219	0.7500	0.7500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	90	1	0	122	8	21	3	70	5	8	1
Total Analysis Volume [veh/h]	188	361	2	1	488	31	84	12	281	19	32	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	25	0	12	23	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	14	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	35	0	27	27	13	13	13	13
g / C, Green / Cycle	0.13	0.58	0.00	0.45	0.45	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.11	0.19	0.00	0.14	0.14	0.06	0.01	0.18	0.03
s, saturation flow rate [veh/h]	1781	1868	1781	1870	1831	1373	1870	1589	1580
c, Capacity [veh/h]	237	1088	7	848	830	343	400	340	419
d1, Uniform Delay [s]	25.27	6.51	29.86	10.46	10.46	19.85	18.70	22.57	19.14
k, delay calibration	0.11	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.90	0.83	9.20	0.95	0.97	0.37	0.03	5.08	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.33	0.14	0.31	0.31	0.25	0.03	0.83	0.13
d, Delay for Lane Group [s/veh]	31.17	7.33	39.06	11.40	11.44	20.22	18.73	27.65	19.27
Lane Group LOS	C	A	D	B	B	C	B	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.73	1.87	0.03	1.91	1.88	0.95	0.13	3.98	0.59
50th-Percentile Queue Length [ft/ln]	68.28	46.83	0.77	47.65	47.03	23.87	3.18	99.44	14.65
95th-Percentile Queue Length [veh/ln]	4.92	3.37	0.06	3.43	3.39	1.72	0.23	7.16	1.05
95th-Percentile Queue Length [ft/ln]	122.91	84.29	1.39	85.77	84.65	42.97	5.72	178.99	26.36

Movement, Approach, & Intersection Results

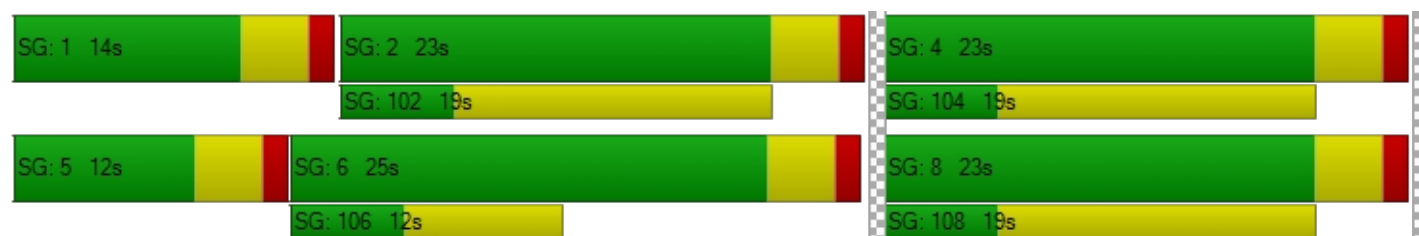
d_M, Delay for Movement [s/veh]	31.17	7.33	7.33	39.06	11.42	11.44	20.22	18.73	27.65	19.27	19.27	19.27
Movement LOS	C	A	A	D	B	B	C	B	C	B	B	B
d_A, Approach Delay [s/veh]	15.47			11.47			25.71			19.27		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	16.79											
Intersection LOS	B											
Intersection V/C	0.423											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.601			2.602			2.395			1.732		
Crosswalk LOS	B			B			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	699			632			632			632		
d_b, Bicycle Delay [s]	12.71			14.05			14.05			14.05		
I_b,int, Bicycle LOS Score for Intersection	2.470			1.996			2.309			1.650		
Bicycle LOS	B			A			B			A		

Sequence

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



Intersection Level Of Service Report
Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy

Control Type:	Signalized	Delay (sec / veh):	6.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.584

Intersection Setup

Name	Project Dwy			Gunnerson St			Lakeshore Dr			Lakeshore Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	30.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	2
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	Project Dwy			Gunnerson St			Lakeshore Dr			Lakeshore Dr		
Base Volume Input [veh/h]	0	0	0	23	0	32	14	701	0	0	405	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	2	32	0	1	0	0	0	5	14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	2	32	24	1	33	15	729	5	14	421	15
Peak Hour Factor	0.9500	0.9500	0.9500	0.8125	0.8125	0.8125	0.8394	0.8394	0.8394	0.8634	0.8634	0.8634
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	8	7	0	10	4	217	1	4	122	4
Total Analysis Volume [veh/h]	12	2	34	30	1	41	18	868	6	16	488	17
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	39	0	0	39	0	0	36	0	0	36	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	7	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	C	L	C	R	L	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	6	6	61	61	61	61	61
g / C, Green / Cycle	0.08	0.08	0.08	0.82	0.82	0.82	0.82	0.82
(v / s)_i Volume / Saturation Flow Rate	0.01	0.02	0.07	0.02	0.52	0.00	0.03	0.30
s, saturation flow rate [veh/h]	1409	1431	1059	804	1683	1431	571	1673
c, Capacity [veh/h]	193	106	146	662	1379	1172	428	1371
d1, Uniform Delay [s]	32.43	32.93	34.81	3.38	2.53	1.23	6.73	1.75
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.16	1.73	2.54	0.08	2.19	0.01	0.16	0.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.07	0.32	0.49	0.03	0.63	0.01	0.04	0.37
d, Delay for Lane Group [s/veh]	32.59	34.66	37.35	3.46	4.72	1.24	6.89	2.52
Lane Group LOS	C	C	D	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.24	0.62	1.34	0.07	1.64	0.01	0.11	0.62
50th-Percentile Queue Length [ft/ln]	6.00	15.54	33.51	1.67	41.06	0.13	2.70	15.38
95th-Percentile Queue Length [veh/ln]	0.43	1.12	2.41	0.12	2.96	0.01	0.19	1.11
95th-Percentile Queue Length [ft/ln]	10.79	27.96	60.31	3.01	73.90	0.24	4.86	27.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.59	32.59	34.66	37.35	37.35	37.35	3.46	4.72	1.24	6.89	2.52	2.52
Movement LOS	C	C	C	D	D	D	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	34.06			37.35			4.67			2.65		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	6.44											
Intersection LOS	A											
Intersection V/C	0.584											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	29.04			29.04			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	1.978			1.804			0.000			0.000		
Crosswalk LOS	A			A			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	933			933			853			853		
d_b, Bicycle Delay [s]	10.67			10.67			12.33			12.33		
I_b,int, Bicycle LOS Score for Intersection	1.639			1.678			3.031			2.419		
Bicycle LOS	A			A			C			B		

Sequence

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



Intersection Level Of Service Report

Intersection 3: Lakeshore Dr/Viscaya Dr

Control Type:	Signalized	Delay (sec / veh):	10.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.369

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			Viscaya Dr			Viscaya Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	170.00	100.00	100.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	370.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			Viscaya Dr			Viscaya Dr		
Base Volume Input [veh/h]	28	348	25	41	615	13	27	6	32	55	4	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	0	0	32	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	7	0	0	4	0	0	8	0	0	8
Total Hourly Volume [veh/h]	29	376	19	43	672	10	28	6	25	57	4	25
Peak Hour Factor	0.8796	0.8796	0.8796	0.8172	0.8172	0.8172	0.6765	0.6765	0.6765	0.7386	0.7386	0.7386
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	107	5	13	206	3	10	2	9	19	1	8
Total Analysis Volume [veh/h]	33	427	22	53	822	12	41	9	37	77	5	34
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	19	0	11	19	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	21	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	36	36	4	37	37	8	8	8
g / C, Green / Cycle	0.05	0.59	0.59	0.07	0.61	0.61	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.02	0.12	0.12	0.03	0.23	0.01	0.03	0.02	0.12
s, saturation flow rate [veh/h]	1781	1870	1838	1781	3560	1589	1469	1589	972
c, Capacity [veh/h]	88	1113	1094	122	2186	976	310	217	232
d1, Uniform Delay [s]	27.62	5.60	5.60	26.83	5.81	4.50	23.08	22.90	26.19
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.62	0.41	0.42	2.42	0.50	0.02	0.24	0.37	1.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.20	0.20	0.43	0.38	0.01	0.16	0.17	0.50
d, Delay for Lane Group [s/veh]	30.23	6.01	6.02	29.25	6.30	4.53	23.32	23.27	27.84
Lane Group LOS	C	A	A	C	A	A	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.48	1.01	1.00	0.75	1.81	0.04	0.61	0.46	1.65
50th-Percentile Queue Length [ft/ln]	12.11	25.22	24.97	18.70	45.35	1.10	15.35	11.44	41.24
95th-Percentile Queue Length [veh/ln]	0.87	1.82	1.80	1.35	3.26	0.08	1.11	0.82	2.97
95th-Percentile Queue Length [ft/ln]	21.80	45.40	44.95	33.66	81.62	1.97	27.63	20.58	74.23

Movement, Approach, & Intersection Results

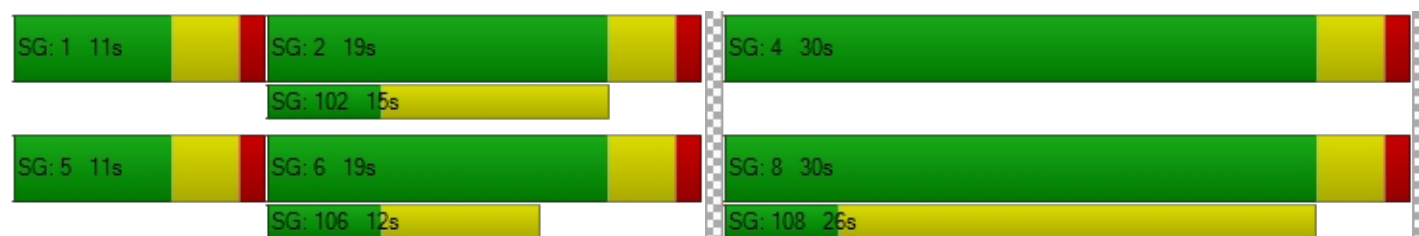
d_M, Delay for Movement [s/veh]	30.23	6.01	6.02	29.25	6.30	4.53	23.32	23.32	23.27	27.84	27.84	27.84
Movement LOS	C	A	A	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	7.67			7.65			23.30			27.84		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	10.01											
Intersection LOS	B											
Intersection V/C	0.369											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			0.00			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.864			0.000			1.981			1.812		
Crosswalk LOS	C			F			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	500			500			867			867		
d_b, Bicycle Delay [s]	16.88			16.88			9.63			9.63		
I_b,int, Bicycle LOS Score for Intersection	1.963			2.295			1.716			1.764		
Bicycle LOS	A			B			A			A		

Sequence

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



Intersection Level Of Service Report

Intersection 4: Lakeshore Dr/SR-74

Control Type:	Signalized	Delay (sec / veh):	37.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.698

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	230.00	100.00	270.00	160.00	100.00	100.00	150.00	100.00	160.00	130.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	410.00	0.00	0.00	0.00	0.00	0.00	210.00	0.00	0.00	250.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			SR-74			SR-74		
Base Volume Input [veh/h]	185	128	27	354	255	92	140	603	282	20	481	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	18	5	10	4	0	0	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	7	0	0	27	0	0	73	0	0	39
Total Hourly Volume [veh/h]	192	135	21	386	270	79	150	627	220	21	500	115
Peak Hour Factor	0.8253	0.8253	0.8253	0.8875	0.8875	0.8875	0.8042	0.8042	0.8042	0.9008	0.9008	0.9008
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	41	6	109	76	22	47	195	68	6	139	32
Total Analysis Volume [veh/h]	233	164	25	435	304	89	187	780	274	23	555	128
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	30	26	0	34	30	0	20	39	0	11	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	21	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	8	8	29	20	20	13	54	54	4	44	44
g / C, Green / Cycle	0.15	0.07	0.07	0.26	0.18	0.18	0.12	0.49	0.49	0.03	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.13	0.05	0.05	0.24	0.09	0.06	0.11	0.22	0.17	0.01	0.30	0.08
s, saturation flow rate [veh/h]	1781	1870	1785	1781	3560	1589	1781	3560	1589	1781	1870	1589
c, Capacity [veh/h]	266	136	130	462	650	290	217	1744	779	58	749	637
d1, Uniform Delay [s]	45.76	49.86	49.90	39.89	40.18	38.93	47.39	18.32	17.29	52.17	28.11	21.50
k, delay calibration	0.11	0.11	0.11	0.37	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.79	6.58	7.21	24.26	0.52	0.59	9.68	0.83	1.25	4.41	6.51	0.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.71	0.72	0.94	0.47	0.31	0.86	0.45	0.35	0.40	0.74	0.20
d, Delay for Lane Group [s/veh]	54.55	56.45	57.11	64.15	40.70	39.52	57.07	19.15	18.54	56.58	34.62	22.21
Lane Group LOS	D	E	E	E	D	D	E	B	B	E	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.72	2.78	2.71	14.22	3.64	2.09	5.49	6.31	4.32	0.68	13.17	2.21
50th-Percentile Queue Length [ft/ln]	168.06	69.48	67.83	355.40	91.12	52.21	137.32	157.76	108.00	17.05	329.20	55.23
95th-Percentile Queue Length [veh/ln]	10.97	5.00	4.88	20.40	6.56	3.76	9.34	10.43	7.73	1.23	19.12	3.98
95th-Percentile Queue Length [ft/ln]	274.36	125.06	122.10	509.99	164.01	93.98	233.41	260.75	193.21	30.68	477.99	99.42

Movement, Approach, & Intersection Results

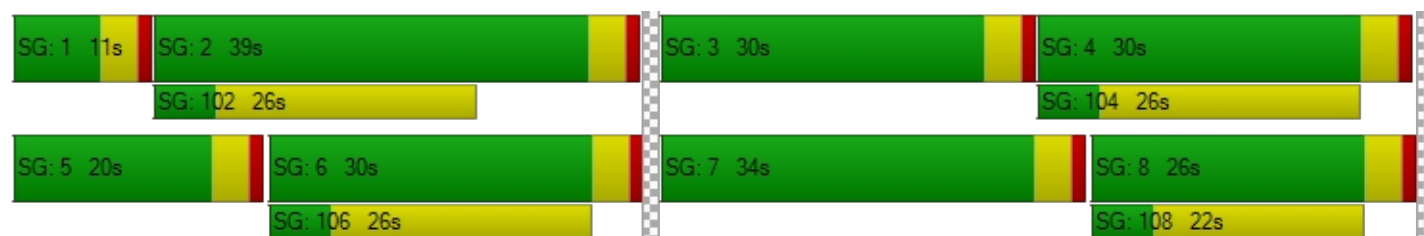
d_M, Delay for Movement [s/veh]	54.55	56.72	57.11	64.15	40.70	39.52	57.07	19.15	18.54	56.58	34.62	22.21
Movement LOS	D	E	E	E	D	D	E	B	B	E	C	C
d_A, Approach Delay [s/veh]	55.54			52.90			24.73			33.09		
Approach LOS	E			D			C			C		
d_I, Intersection Delay [s/veh]	37.94											
Intersection LOS	D											
Intersection V/C	0.698											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	46.37			46.37			46.37			46.37		
I_p,int, Pedestrian LOS Score for Intersection	2.713			2.800			3.048			2.884		
Crosswalk LOS	B			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	400			473			636			473		
d_b, Bicycle Delay [s]	35.20			32.07			25.57			32.07		
I_b,int, Bicycle LOS Score for Intersection	1.914			2.265			2.644			2.789		
Bicycle LOS	A			B			B			C		

Sequence

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



Intersection Level Of Service Report

Intersection 5: Gunnerson St/SR-74

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 1,013.5
 Level Of Service: F
 Volume to Capacity (v/c): 2.730

Intersection Setup

Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	25.00	100.00	100.00	40.00	370.00	100.00	100.00	290.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Base Volume Input [veh/h]	1	0	14	63	1	7	1	980	4	13	637	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	2	0	0	0	18	0	0	8	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	15	68	1	7	1	1037	4	14	670	45
Peak Hour Factor	0.3929	0.3929	0.3929	0.6375	0.6375	0.6375	0.9446	0.9446	0.9446	0.8524	0.8524	0.8524
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	10	27	0	3	0	274	1	4	196	13
Total Analysis Volume [veh/h]	3	0	38	107	2	11	1	1098	4	16	786	53
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.00	0.15	2.73	0.03	0.03	0.00	0.01	0.00	0.03	0.01	0.00
d_M, Delay for Movement [s/veh]	92.44	70.27	21.34	1013.47	978.95	14.79	9.53	0.00	0.00	10.83	0.00	0.00
Movement LOS	F	F	C	F	F	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.21	0.21	0.51	12.08	12.08	0.09	0.00	0.00	0.00	0.08	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.26	5.26	12.72	301.92	301.92	2.24	0.09	0.00	0.00	1.94	0.00	0.00
d_A, Approach Delay [s/veh]	26.55			921.35			0.01			0.20		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	52.78											
Intersection LOS	F											

Lakeshore Drive Residential

Vistro File: C:\...\Lakeshore Drive Residential_12-16.vistro

Scenario 3 Project Completion AM

Report File: C:\...\Project Completion AM.pdf

12/16/2022

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Lakeshore Dr/Machado St	157	302	3	1	426	36	69	10	308	14	24	3	1353

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Lakeshore Dr/Gunnerson St- Proj Dwy	11	2	32	24	1	33	15	729	5	14	421	15	1302

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Lakeshore Dr/Viscaya Dr	29	376	26	43	672	14	28	6	33	57	4	33	1321

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Lakeshore Dr/SR-74	192	135	28	386	270	106	150	627	293	21	500	154	2862

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Gunnerson St/SR-74	1	0	15	68	1	7	1	1037	4	14	670	45	1863

Table of Contents

Intersection Analysis Summary	2
Intersection Level Of Service Report	3
Intersection 1: Lakeshore Dr/Machado St	3
Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy	8
Intersection 3: Lakeshore Dr/Viscaya Dr	13
Intersection 4: Lakeshore Dr/SR-74	18
Intersection 5: Gunnerson St/SR-74	23
Turning Movement Volume: Summary	25

Lakeshore Drive Residential

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Scenario 4 Project Completion PM

Report File: C:\...\Project Completion PM.pdf

12/16/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Lakeshore Dr/Machado St	Signalized	HCM 7th Edition	SB Left	0.542	20.3	C
2	Lakeshore Dr/Gunnerson St- Proj Dwy	Signalized	HCM 7th Edition	SB Right	0.658	8.5	A
3	Lakeshore Dr/Viscaya Dr	Signalized	HCM 7th Edition	SB Left	0.471	14.5	B
4	Lakeshore Dr/SR-74	Signalized	HCM 7th Edition	NB Left	0.722	40.1	D
5	Gunnerson St/SR-74	Two-way stop	HCM 7th Edition	SB Left	1.929	820.3	F

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

Intersection Level Of Service Report
Intersection 1: Lakeshore Dr/Machado St

Control Type:	Signalized	Delay (sec / veh):	20.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.542

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			Machado St			Machado St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	180.00	100.00	110.00	90.00	100.00	195.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			Machado St			Machado St		
Base Volume Input [veh/h]	328	482	8	7	442	70	76	12	275	9	45	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	7	0	0	9	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	18	0	0	72	0	0	3
Total Hourly Volume [veh/h]	343	508	6	7	469	55	79	12	216	9	47	9
Peak Hour Factor	0.9210	0.9210	0.9210	0.8170	0.8170	0.8170	0.8560	0.8560	0.8560	0.8382	0.8382	0.8382
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	93	138	2	2	144	17	23	4	63	3	14	3
Total Analysis Volume [veh/h]	372	552	7	9	574	67	92	14	252	11	56	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	24	35	0	12	23	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	14	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	44	1	28	28	13	13	13	13
g / C, Green / Cycle	0.24	0.62	0.02	0.40	0.40	0.19	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.21	0.30	0.01	0.17	0.17	0.07	0.01	0.16	0.04
s, saturation flow rate [veh/h]	1781	1866	1781	1870	1802	1334	1870	1589	1758
c, Capacity [veh/h]	422	1158	32	752	724	275	356	302	393
d1, Uniform Delay [s]	25.82	7.20	34.00	15.19	15.20	25.01	23.17	27.32	24.02
k, delay calibration	0.11	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.18	1.44	4.78	1.82	1.90	0.71	0.04	5.96	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.48	0.28	0.43	0.44	0.33	0.04	0.83	0.20
d, Delay for Lane Group [s/veh]	32.00	8.64	38.78	17.01	17.10	25.71	23.21	33.29	24.26
Lane Group LOS	C	A	D	B	B	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.14	3.67	0.18	3.56	3.46	1.34	0.19	4.36	1.08
50th-Percentile Queue Length [ft/ln]	153.62	91.71	4.57	88.94	86.50	33.60	4.66	109.01	26.92
95th-Percentile Queue Length [veh/ln]	10.21	6.60	0.33	6.40	6.23	2.42	0.34	7.78	1.94
95th-Percentile Queue Length [ft/ln]	255.25	165.09	8.23	160.09	155.71	60.48	8.38	194.62	48.46

Movement, Approach, & Intersection Results

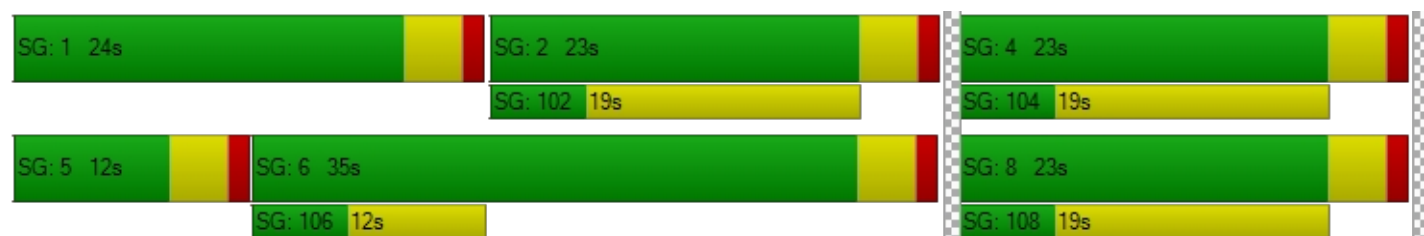
d_M, Delay for Movement [s/veh]	32.00	8.64	8.64	38.78	17.05	17.10	25.71	23.21	33.29	24.26	24.26	24.26
Movement LOS	C	A	A	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	17.97			17.36			30.95			24.26		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	20.32											
Intersection LOS	C											
Intersection V/C	0.542											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	26.61			26.61			26.61			26.61		
I_p,int, Pedestrian LOS Score for Intersection	2.737			2.761			2.452			1.763		
Crosswalk LOS	B			C			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	885			542			542			542		
d_b, Bicycle Delay [s]	10.89			18.61			18.61			18.61		
I_b,int, Bicycle LOS Score for Intersection	3.099			2.111			2.269			1.693		
Bicycle LOS	C			B			B			A		

Sequence

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



Intersection Level Of Service Report
Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy

Control Type:	Signalized	Delay (sec / veh):	8.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.658

Intersection Setup

Name	Project Dwy			Gunnerson St			Lakeshore Dr			Lakeshore Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	30.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	2
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	Project Dwy			Gunnerson St			Lakeshore Dr			Lakeshore Dr		
Base Volume Input [veh/h]	0	0	0	31	0	55	10	698	0	0	815	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	2	25	0	2	0	0	0	11	32	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	2	25	32	2	57	10	726	11	32	848	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.8152	0.8152	0.8152	0.9390	0.9390	0.9390	0.9334	0.9334	0.9334
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	7	10	1	17	3	193	3	9	227	11
Total Analysis Volume [veh/h]	9	2	26	39	2	70	11	773	12	34	908	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	49	0	0	49	0	0	31	0	0	31	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	7	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	C	L	C	R	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	8	8	64	64	64	64	64
g / C, Green / Cycle	0.10	0.10	0.10	0.80	0.80	0.80	0.80	0.80
(v / s)_i Volume / Saturation Flow Rate	0.01	0.02	0.09	0.02	0.46	0.01	0.05	0.57
s, saturation flow rate [veh/h]	1090	1431	1271	530	1683	1431	620	1669
c, Capacity [veh/h]	195	149	193	356	1340	1139	461	1329
d1, Uniform Delay [s]	32.33	32.71	35.31	10.12	3.08	1.68	6.81	3.87
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	0.55	2.69	0.16	1.82	0.02	0.31	3.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.06	0.17	0.58	0.03	0.58	0.01	0.07	0.72
d, Delay for Lane Group [s/veh]	32.45	33.26	38.00	10.28	4.89	1.70	7.12	7.21
Lane Group LOS	C	C	D	B	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.19	0.47	2.16	0.10	2.41	0.02	0.24	3.92
50th-Percentile Queue Length [ft/ln]	4.87	11.83	54.09	2.57	60.28	0.50	6.02	98.01
95th-Percentile Queue Length [veh/ln]	0.35	0.85	3.89	0.19	4.34	0.04	0.43	7.06
95th-Percentile Queue Length [ft/ln]	8.76	21.30	97.37	4.63	108.51	0.90	10.84	176.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.45	32.45	33.26	38.00	38.00	38.00	10.28	4.89	1.70	7.12	7.21	7.21
Movement LOS	C	C	C	D	D	D	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	33.02			38.00			4.92			7.20		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	8.53											
Intersection LOS	A											
Intersection V/C	0.658											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	31.51			31.51			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	2.012			1.835			0.000			0.000		
Crosswalk LOS	B			A			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1125			1125			675			675		
d_b, Bicycle Delay [s]	7.66			7.66			17.56			17.56		
I_b,int, Bicycle LOS Score for Intersection	1.621			1.743			2.873			3.187		
Bicycle LOS	A			A			C			C		

Sequence

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



Intersection Level Of Service Report

Intersection 3: Lakeshore Dr/Viscaya Dr

Control Type:	Signalized	Delay (sec / veh):	14.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.471

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			Viscaya Dr			Viscaya Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	170.00	100.00	100.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	370.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			Viscaya Dr			Viscaya Dr		
Base Volume Input [veh/h]	52	646	54	114	577	28	18	8	22	108	10	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	32	0	0	25	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	7	0	0	6	0	0	24
Total Hourly Volume [veh/h]	54	704	42	119	625	22	19	8	17	112	10	70
Peak Hour Factor	0.9506	0.9506	0.9506	0.8538	0.8538	0.8538	0.7000	0.7000	0.7000	0.8538	0.8538	0.8538
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	185	11	35	183	6	7	3	6	33	3	20
Total Analysis Volume [veh/h]	57	741	44	139	732	26	27	11	24	131	12	82
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	16	0	14	19	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	21	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	29	29	6	31	31	13	13	13
g / C, Green / Cycle	0.07	0.48	0.48	0.11	0.51	0.51	0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.03	0.21	0.21	0.08	0.21	0.02	0.03	0.02	0.18
s, saturation flow rate [veh/h]	1781	1870	1833	1781	3560	1589	1336	1589	1245
c, Capacity [veh/h]	128	899	881	188	1831	817	389	340	361
d1, Uniform Delay [s]	26.71	10.27	10.27	26.04	8.91	7.19	18.92	18.82	23.43
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.43	1.57	1.60	5.64	0.65	0.07	0.11	0.09	1.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.44	0.44	0.74	0.40	0.03	0.10	0.07	0.62
d, Delay for Lane Group [s/veh]	29.14	11.84	11.87	31.68	9.56	7.27	19.03	18.91	25.18
Lane Group LOS	C	B	B	C	A	A	B	B	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.80	3.08	3.03	2.04	2.37	0.14	0.41	0.26	3.03
50th-Percentile Queue Length [ft/ln]	20.02	76.93	75.65	50.98	59.20	3.57	10.18	6.41	75.72
95th-Percentile Queue Length [veh/ln]	1.44	5.54	5.45	3.67	4.26	0.26	0.73	0.46	5.45
95th-Percentile Queue Length [ft/ln]	36.04	138.48	136.17	91.76	106.55	6.42	18.32	11.55	136.30

Movement, Approach, & Intersection Results

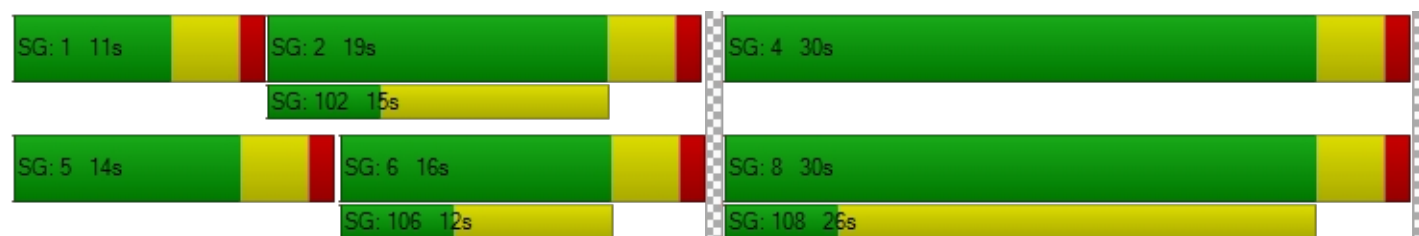
d_M, Delay for Movement [s/veh]	29.14	11.85	11.87	31.68	9.56	7.27	19.03	19.03	18.91	25.18	25.18	25.18
Movement LOS	C	B	B	C	A	A	B	B	B	C	C	C
d_A, Approach Delay [s/veh]	13.03			12.92			18.98			25.18		
Approach LOS	B			B			B			C		
d_I, Intersection Delay [s/veh]	14.51											
Intersection LOS	B											
Intersection V/C	0.471											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			0.00			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	3.019			0.000			1.985			1.952		
Crosswalk LOS	C			F			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	400			500			867			867		
d_b, Bicycle Delay [s]	19.20			16.88			9.63			9.63		
I_b,int, Bicycle LOS Score for Intersection	2.266			2.305			1.672			1.970		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report

Intersection 4: Lakeshore Dr/SR-74

Control Type: Signalized
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 40.1
 Level Of Service: D
 Volume to Capacity (v/c): 0.722

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	230.00	100.00	270.00	160.00	100.00	100.00	150.00	100.00	160.00	130.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	410.00	0.00	0.00	0.00	0.00	0.00	210.00	0.00	0.00	250.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			SR-74			SR-74		
Base Volume Input [veh/h]	284	327	29	275	259	158	152	703	262	32	569	334
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	0	13	4	7	9	0	0	0	0	18
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	43	0	0	68	0	0	91
Total Hourly Volume [veh/h]	295	345	22	299	273	128	167	731	204	33	592	274
Peak Hour Factor	0.8634	0.8634	0.8634	0.9820	0.9820	0.9820	0.8827	0.8827	0.8827	0.9587	0.9587	0.9587
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	100	6	76	69	33	47	207	58	9	154	71
Total Analysis Volume [veh/h]	342	400	25	304	278	130	189	828	231	34	617	286
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	26	26	0	30	30	0	21	41	0	13	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	21	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	15	15	21	14	14	14	54	54	5	45	45
g / C, Green / Cycle	0.20	0.14	0.14	0.19	0.13	0.13	0.12	0.49	0.49	0.04	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.19	0.11	0.11	0.17	0.08	0.08	0.11	0.23	0.15	0.02	0.33	0.18
s, saturation flow rate [veh/h]	1781	1870	1832	1781	3560	1589	1781	3560	1589	1781	1870	1589
c, Capacity [veh/h]	356	258	252	336	450	201	220	1731	773	74	757	643
d1, Uniform Delay [s]	43.57	46.19	46.20	43.65	45.52	45.70	47.29	18.91	16.98	51.49	29.09	23.77
k, delay calibration	0.23	0.11	0.11	0.18	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	24.21	6.91	7.07	13.56	1.38	3.46	9.48	0.95	0.99	4.33	9.43	2.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.96	0.83	0.83	0.90	0.62	0.65	0.86	0.48	0.30	0.46	0.82	0.44
d, Delay for Lane Group [s/veh]	67.77	53.10	53.27	57.21	46.90	49.17	56.77	19.86	17.97	55.81	38.52	25.99
Lane Group LOS	E	D	D	E	D	D	E	B	B	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	11.33	6.07	5.97	9.13	3.61	3.50	5.54	6.88	3.55	0.99	15.64	5.57
50th-Percentile Queue Length [ft/ln]	283.23	151.84	149.16	228.26	90.22	87.53	138.43	172.11	88.68	24.72	391.11	139.28
95th-Percentile Queue Length [veh/ln]	16.85	10.12	9.97	14.09	6.50	6.30	9.40	11.19	6.39	1.78	22.13	9.44
95th-Percentile Queue Length [ft/ln]	421.24	252.89	249.31	352.15	162.40	157.55	234.91	279.68	159.63	44.50	553.28	236.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	67.77	53.18	53.27	57.21	46.90	49.17	56.77	19.86	17.97	55.81	38.52	25.99
Movement LOS	E	D	D	E	D	D	E	B	B	E	D	C
d_A, Approach Delay [s/veh]	59.69			51.71			25.10			35.32		
Approach LOS	E			D			C			D		
d_I, Intersection Delay [s/veh]	40.13											
Intersection LOS	D											
Intersection V/C	0.722											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	46.37			46.37			46.37			46.37		
I_p,int, Pedestrian LOS Score for Intersection	2.776			2.898			3.091			3.011		
Crosswalk LOS	C			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	400			473			673			527		
d_b, Bicycle Delay [s]	35.20			32.07			24.22			29.82		
I_b,int, Bicycle LOS Score for Intersection	2.199			2.182			2.645			3.256		
Bicycle LOS	B			B			B			C		

Sequence

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



Intersection Level Of Service Report

Intersection 5: Gunnerson St/SR-74

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 820.3
 Level Of Service: F
 Volume to Capacity (v/c): 1.929

Intersection Setup

Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	25.00	100.00	100.00	40.00	370.00	100.00	100.00	290.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Base Volume Input [veh/h]	0	1	15	35	0	3	6	979	6	18	953	121
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	2	0	0	0	13	0	0	18	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	16	38	0	3	6	1031	6	19	1009	128
Peak Hour Factor	0.4375	0.4375	0.4375	0.9167	0.9167	0.9167	0.9609	0.9609	0.9609	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	9	10	0	1	2	268	2	5	271	34
Total Analysis Volume [veh/h]	0	2	37	41	0	3	6	1073	6	20	1083	137
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.06	0.14	1.93	0.00	0.01	0.01	0.01	0.00	0.03	0.01	0.00
d_M, Delay for Movement [s/veh]	146.72	115.51	20.67	820.34	745.56	20.14	11.37	0.00	0.00	10.75	0.00	0.00
Movement LOS	F	F	C	F	F	C	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.18	0.18	0.48	5.35	5.35	0.04	0.03	0.00	0.00	0.10	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.42	4.42	11.89	133.63	133.63	0.94	0.80	0.00	0.00	2.39	0.00	0.00
d_A, Approach Delay [s/veh]	25.54			765.78			0.06			0.17		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	14.52											
Intersection LOS	F											

Lakeshore Drive Residential

Vistro File: C:\...\Lakeshore Drive Residential_12-16.vistro

Scenario 4 Project Completion PM

Report File: C:\...\Project Completion PM.pdf

12/16/2022

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Lakeshore Dr/Machado St	343	508	8	7	469	73	79	12	288	9	47	12	1855

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Lakeshore Dr/Gunnerson St- Proj Dwy	9	2	25	32	2	57	10	726	11	32	848	41	1795

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Lakeshore Dr/Viscaya Dr	54	704	56	119	625	29	19	8	23	112	10	94	1853

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Lakeshore Dr/SR-74	295	345	30	299	273	171	167	731	272	33	592	365	3573

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Gunnerson St/SR-74	0	1	16	38	0	3	6	1031	6	19	1009	128	2257

Table of Contents

Intersection Analysis Summary	2
Intersection Level Of Service Report	3
Intersection 1: Lakeshore Dr/Machado St	3
Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy	8
Intersection 3: Lakeshore Dr/Viscaya Dr	13
Intersection 4: Lakeshore Dr/SR-74	18
Intersection 5: Gunnerson St/SR-74	23
Turning Movement Volume: Summary	25

Lakeshore Drive Residential

Vistro File: C:\...\Lakeshore Drive Residential_12-16.vistro

Scenario 5 Cumulative AM

Report File: C:\...\Cumulative AM.pdf

12/16/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Lakeshore Dr/Machado St	Signalized	HCM 7th Edition	SB Left	0.497	17.2	B
2	Lakeshore Dr/Gunnerson St- Proj Dwy	Signalized	HCM 7th Edition	SB Right	0.642	6.8	A
3	Lakeshore Dr/Viscaya Dr	Signalized	HCM 7th Edition	NB Left	0.433	9.9	A
4	Lakeshore Dr/SR-74	Signalized	HCM 7th Edition	SB Left	0.802	46.2	D
5	Gunnerson St/SR-74	Two-way stop	HCM 7th Edition	SB Left	4.144	1,742.6	F

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

Intersection Level Of Service Report
Intersection 1: Lakeshore Dr/Machado St

Control Type:	Signalized	Delay (sec / veh):	17.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.497

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			Machado St			Machado St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	180.00	100.00	110.00	90.00	100.00	195.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			Machado St			Machado St		
Base Volume Input [veh/h]	149	282	3	1	406	35	66	10	295	13	23	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	97	0	0	149	10	6	0	34	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	12	0	0	85	0	0	1
Total Hourly Volume [veh/h]	169	390	2	1	571	34	75	10	256	14	24	2
Peak Hour Factor	0.8370	0.8370	0.8370	0.8722	0.8722	0.8722	0.8219	0.8219	0.8219	0.7500	0.7500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	116	1	0	164	10	23	3	78	5	8	1
Total Analysis Volume [veh/h]	202	466	2	1	655	39	91	12	311	19	32	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-10)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	25	0	12	23	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	14	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	34	0	26	26	14	14	14	14
g / C, Green / Cycle	0.14	0.57	0.00	0.43	0.43	0.23	0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.11	0.25	0.00	0.19	0.19	0.07	0.01	0.20	0.03
s, saturation flow rate [veh/h]	1781	1869	1781	1870	1833	1373	1870	1589	1558
c, Capacity [veh/h]	252	1054	7	798	782	368	435	369	443
d1, Uniform Delay [s]	25.01	7.62	29.86	12.17	12.17	19.05	17.84	22.03	18.25
k, delay calibration	0.11	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.85	1.36	9.20	1.75	1.79	0.35	0.03	5.22	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.44	0.14	0.44	0.44	0.25	0.03	0.84	0.12
d, Delay for Lane Group [s/veh]	30.86	8.98	39.06	13.92	13.97	19.39	17.86	27.25	18.38
Lane Group LOS	C	A	D	B	B	B	B	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.92	2.84	0.03	2.96	2.92	1.01	0.12	4.38	0.57
50th-Percentile Queue Length [ft/ln]	72.93	70.94	0.77	74.11	72.99	25.19	3.08	109.47	14.20
95th-Percentile Queue Length [veh/ln]	5.25	5.11	0.06	5.34	5.26	1.81	0.22	7.81	1.02
95th-Percentile Queue Length [ft/ln]	131.28	127.70	1.39	133.39	131.39	45.34	5.54	195.27	25.56

Movement, Approach, & Intersection Results

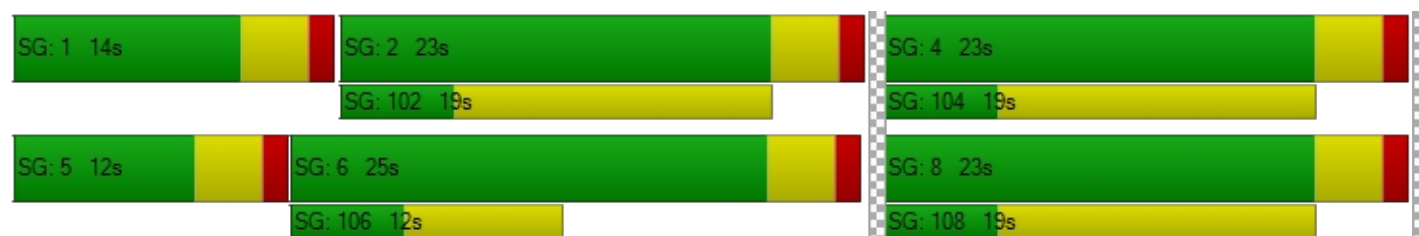
d_M, Delay for Movement [s/veh]	30.86	8.98	8.98	39.06	13.94	13.97	19.39	17.86	27.25	18.38	18.38	18.38
Movement LOS	C	A	A	D	B	B	B	B	C	B	B	B
d_A, Approach Delay [s/veh]	15.57			13.98			25.25			18.38		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	17.24											
Intersection LOS	B											
Intersection V/C	0.497											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.706			2.722			2.424			1.732		
Crosswalk LOS	B			B			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	699			632			632			632		
d_b, Bicycle Delay [s]	12.71			14.05			14.05			14.05		
I_b,int, Bicycle LOS Score for Intersection	2.667			2.143			2.383			1.650		
Bicycle LOS	B			B			B			A		

Sequence

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



Intersection Level Of Service Report
Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy

Control Type:	Signalized	Delay (sec / veh):	6.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.642

Intersection Setup

Name	Project Dwy			Gunnerson St			Lakeshore Dr			Lakeshore Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	30.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	2
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	Project Dwy			Gunnerson St			Lakeshore Dr			Lakeshore Dr		
Base Volume Input [veh/h]	0	0	0	23	0	32	14	701	0	0	405	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	2	32	6	1	0	0	178	5	14	100	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	2	32	30	1	33	15	907	5	14	521	19
Peak Hour Factor	0.9500	0.9500	0.9500	0.8125	0.8125	0.8125	0.8394	0.8394	0.8394	0.8634	0.8634	0.8634
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	8	9	0	10	4	270	1	4	151	6
Total Analysis Volume [veh/h]	12	2	34	37	1	41	18	1081	6	16	603	22
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-10)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	39	0	0	39	0	0	36	0	0	36	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	7	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	C	L	C	R	L	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	6	6	61	61	61	61	61
g / C, Green / Cycle	0.08	0.08	0.08	0.82	0.82	0.82	0.82	0.82
(v / s)_i Volume / Saturation Flow Rate	0.01	0.02	0.06	0.02	0.58	0.00	0.03	0.34
s, saturation flow rate [veh/h]	1594	1589	1244	800	1870	1589	519	1858
c, Capacity [veh/h]	214	125	168	634	1524	1295	356	1515
d1, Uniform Delay [s]	32.10	32.55	34.33	4.10	3.04	1.29	9.65	1.93
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.13	1.17	2.04	0.08	2.82	0.01	0.24	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.07	0.27	0.47	0.03	0.71	0.00	0.04	0.41
d, Delay for Lane Group [s/veh]	32.22	33.71	36.37	4.18	5.87	1.30	9.89	2.77
Lane Group LOS	C	C	D	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.24	0.61	1.44	0.08	2.46	0.01	0.14	0.81
50th-Percentile Queue Length [ft/ln]	5.95	15.20	36.07	1.95	61.42	0.13	3.50	20.35
95th-Percentile Queue Length [veh/ln]	0.43	1.09	2.60	0.14	4.42	0.01	0.25	1.47
95th-Percentile Queue Length [ft/ln]	10.72	27.37	64.93	3.52	110.56	0.24	6.29	36.64

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.22	32.22	33.71	36.37	36.37	36.37	4.18	5.87	1.30	9.89	2.77	2.77
Movement LOS	C	C	C	D	D	D	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	33.28			36.37			5.81			2.95		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	6.82											
Intersection LOS	A											
Intersection V/C	0.642											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	29.04			29.04			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	1.978			1.812			0.000			0.000		
Crosswalk LOS	A			A			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	933			933			853			853		
d_b, Bicycle Delay [s]	10.67			10.67			12.33			12.33		
I_b,int, Bicycle LOS Score for Intersection	1.639			1.690			3.383			2.617		
Bicycle LOS	A			A			C			B		

Sequence

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



Intersection Level Of Service Report

Intersection 3: Lakeshore Dr/Viscaya Dr

Control Type:	Signalized	Delay (sec / veh):	9.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			Viscaya Dr			Viscaya Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	170.00	100.00	100.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	370.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			Viscaya Dr			Viscaya Dr		
Base Volume Input [veh/h]	28	348	25	41	615	13	27	6	32	55	4	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	119	0	0	217	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	7	0	0	4	0	0	8	0	0	8
Total Hourly Volume [veh/h]	29	481	19	43	857	10	28	6	25	57	4	25
Peak Hour Factor	0.8796	0.8796	0.8796	0.8172	0.8172	0.8172	0.6765	0.6765	0.6765	0.7386	0.7386	0.7386
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	137	5	13	262	3	10	2	9	19	1	8
Total Analysis Volume [veh/h]	33	547	22	53	1049	12	41	9	37	77	5	34
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-10)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	19	0	11	19	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	21	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	36	36	4	37	37	8	8	8
g / C, Green / Cycle	0.05	0.59	0.59	0.07	0.61	0.61	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.02	0.15	0.15	0.03	0.29	0.01	0.03	0.02	0.12
s, saturation flow rate [veh/h]	1781	1870	1845	1781	3560	1589	1469	1589	972
c, Capacity [veh/h]	88	1113	1098	122	2186	976	310	217	232
d1, Uniform Delay [s]	27.62	5.81	5.81	26.83	6.33	4.50	23.08	22.90	26.19
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.62	0.56	0.57	2.42	0.76	0.02	0.24	0.37	1.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.26	0.26	0.43	0.48	0.01	0.16	0.17	0.50
d, Delay for Lane Group [s/veh]	30.23	6.37	6.38	29.25	7.09	4.53	23.32	23.27	27.84
Lane Group LOS	C	A	A	C	A	A	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.48	1.33	1.32	0.75	2.54	0.04	0.61	0.46	1.65
50th-Percentile Queue Length [ft/ln]	12.11	33.30	32.98	18.70	63.62	1.10	15.35	11.44	41.24
95th-Percentile Queue Length [veh/ln]	0.87	2.40	2.37	1.35	4.58	0.08	1.11	0.82	2.97
95th-Percentile Queue Length [ft/ln]	21.80	59.94	59.37	33.66	114.51	1.97	27.63	20.58	74.23

Movement, Approach, & Intersection Results

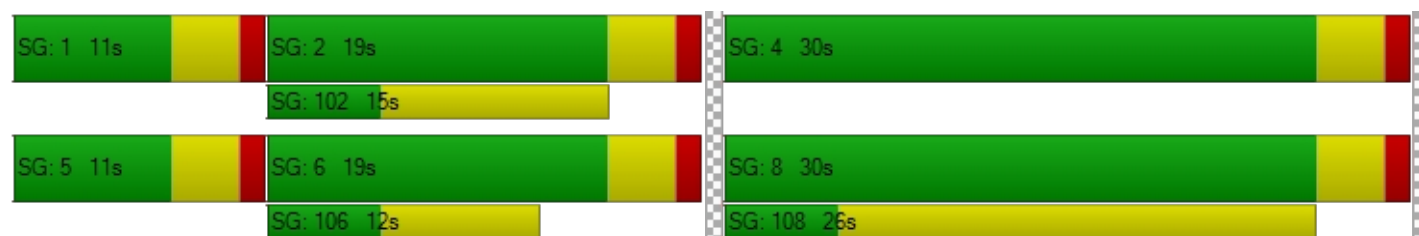
d_M, Delay for Movement [s/veh]	30.23	6.37	6.38	29.25	7.09	4.53	23.32	23.32	23.27	27.84	27.84	27.84
Movement LOS	C	A	A	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	7.68			8.12			23.30			27.84		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	9.86											
Intersection LOS	A											
Intersection V/C	0.433											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			0.00			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.939			0.000			1.981			1.812		
Crosswalk LOS	C			F			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	500			500			867			867		
d_b, Bicycle Delay [s]	16.88			16.88			9.63			9.63		
I_b,int, Bicycle LOS Score for Intersection	2.062			2.482			1.716			1.764		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report

Intersection 4: Lakeshore Dr/SR-74

Control Type: Signalized
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 46.2
 Level Of Service: D
 Volume to Capacity (v/c): 0.802

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	230.00	100.00	270.00	160.00	100.00	100.00	150.00	100.00	160.00	130.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	410.00	0.00	0.00	0.00	0.00	0.00	210.00	0.00	0.00	250.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			SR-74			SR-74		
Base Volume Input [veh/h]	185	128	27	354	255	92	140	603	282	20	481	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	38	16	61	66	90	64	86	54	22	32	17
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	11	0	0	47	0	0	87	0	0	41
Total Hourly Volume [veh/h]	226	171	33	429	331	139	210	713	260	43	532	122
Peak Hour Factor	0.8253	0.8253	0.8253	0.8875	0.8875	0.8875	0.8042	0.8042	0.8042	0.9008	0.9008	0.9008
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	52	10	121	93	39	65	222	81	12	148	34
Total Analysis Volume [veh/h]	274	207	40	483	373	157	261	887	323	48	591	135
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-10)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	30	26	0	34	30	0	20	39	0	11	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	21	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	10	10	30	21	21	16	49	49	5	38	38
g / C, Green / Cycle	0.17	0.09	0.09	0.27	0.19	0.19	0.15	0.44	0.44	0.05	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.15	0.07	0.07	0.27	0.10	0.10	0.15	0.25	0.20	0.03	0.32	0.08
s, saturation flow rate [veh/h]	1781	1870	1767	1781	3560	1589	1781	3560	1589	1781	1870	1589
c, Capacity [veh/h]	307	168	159	486	677	302	259	1576	704	88	648	551
d1, Uniform Delay [s]	44.51	48.86	48.90	39.92	40.29	40.03	47.00	22.75	21.44	51.10	34.34	25.67
k, delay calibration	0.13	0.11	0.11	0.45	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.42	6.60	7.28	37.27	0.70	1.38	28.20	1.46	2.15	5.25	19.37	1.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.75	0.76	0.99	0.55	0.52	1.01	0.56	0.46	0.55	0.91	0.25
d, Delay for Lane Group [s/veh]	54.93	55.45	56.17	77.18	41.00	41.41	75.20	24.20	23.59	56.35	53.71	26.73
Lane Group LOS	D	E	E	E	D	D	F	C	C	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.00	3.62	3.49	17.54	4.53	3.85	8.93	8.39	5.96	1.40	17.84	2.61
50th-Percentile Queue Length [ft/ln]	199.95	90.60	87.36	438.58	113.21	96.19	223.31	209.80	149.03	34.91	446.01	65.32
95th-Percentile Queue Length [veh/ln]	12.64	6.52	6.29	24.41	8.02	6.93	13.88	13.14	9.97	2.51	24.77	4.70
95th-Percentile Queue Length [ft/ln]	315.90	163.09	157.25	610.31	200.46	173.14	347.05	328.58	249.13	62.84	619.19	117.58

Movement, Approach, & Intersection Results

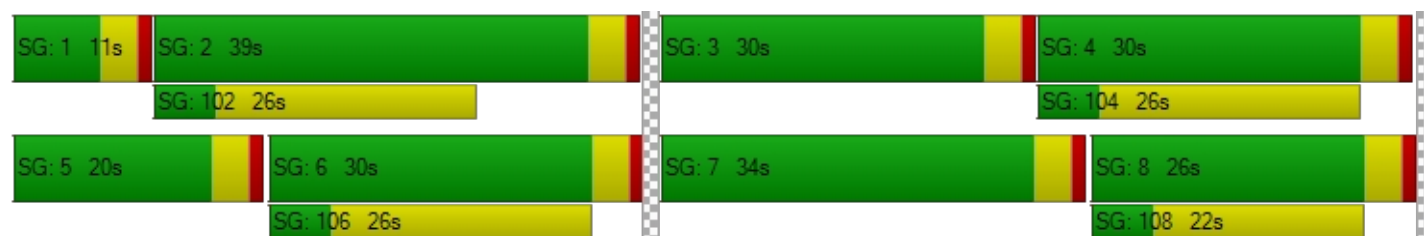
d_M, Delay for Movement [s/veh]	54.93	55.73	56.17	77.18	41.00	41.41	75.20	24.20	23.59	56.35	53.71	26.73
Movement LOS	D	E	E	E	D	D	F	C	C	E	D	C
d_A, Approach Delay [s/veh]	55.35			58.31			33.12			49.17		
Approach LOS	E			E			C			D		
d_I, Intersection Delay [s/veh]	46.22											
Intersection LOS	D											
Intersection V/C	0.802											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	46.37			46.37			46.37			46.37		
I_p,int, Pedestrian LOS Score for Intersection	2.775			2.900			3.157			2.951		
Crosswalk LOS	C			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	400			473			636			473		
d_b, Bicycle Delay [s]	35.20			32.07			25.57			32.07		
I_b,int, Bicycle LOS Score for Intersection	1.999			2.434			2.845			2.904		
Bicycle LOS	A			B			C			C		

Sequence

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



Intersection Level Of Service Report

Intersection 5: Gunnerson St/SR-74

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 1,742.6
 Level Of Service: F
 Volume to Capacity (v/c): 4.144

Intersection Setup

Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	25.00	100.00	100.00	40.00	370.00	100.00	100.00	290.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Base Volume Input [veh/h]	1	0	14	63	1	7	1	980	4	13	637	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	2	0	0	0	163	0	0	71	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	15	68	1	7	1	1182	4	14	733	45
Peak Hour Factor	0.3929	0.3929	0.3929	0.6375	0.6375	0.6375	0.9446	0.9446	0.9446	0.8524	0.8524	0.8524
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	10	27	0	3	0	313	1	4	215	13
Total Analysis Volume [veh/h]	3	0	38	107	2	11	1	1251	4	16	860	53
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.00	0.18	4.14	0.04	0.03	0.00	0.01	0.00	0.03	0.01	0.00
d_M, Delay for Movement [s/veh]	138.88	101.01	25.90	1742.63	1683.19	15.83	9.83	0.00	0.00	11.69	0.00	0.00
Movement LOS	F	F	D	F	F	C	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.31	0.31	0.64	13.42	13.42	0.10	0.00	0.00	0.00	0.09	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.69	7.69	16.09	335.46	335.46	2.48	0.10	0.00	0.00	2.23	0.00	0.00
d_A, Approach Delay [s/veh]	34.16			1583.35			0.01			0.20		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	81.67											
Intersection LOS	F											

Lakeshore Drive Residential

Vistro File: C:\...\Lakeshore Drive Residential_12-16.vistro

Scenario 5 Cumulative AM

Report File: C:\...\Cumulative AM.pdf

12/16/2022

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Lakeshore Dr/Machado St	169	390	3	1	571	46	75	10	341	14	24	3	1647

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Lakeshore Dr/Gunnerson St- Proj Dwy	11	2	32	30	1	33	15	907	5	14	521	19	1590

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Lakeshore Dr/Viscaya Dr	29	481	26	43	857	14	28	6	33	57	4	33	1611

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Lakeshore Dr/SR-74	226	171	44	429	331	186	210	713	347	43	532	163	3395

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Gunnerson St/SR-74	1	0	15	68	1	7	1	1182	4	14	733	45	2071

Table of Contents

Intersection Analysis Summary	2
Intersection Level Of Service Report	3
Intersection 1: Lakeshore Dr/Machado St	3
Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy	8
Intersection 3: Lakeshore Dr/Viscaya Dr	13
Intersection 4: Lakeshore Dr/SR-74	18
Intersection 5: Gunnerson St/SR-74	23
Turning Movement Volume: Summary	25

Lakeshore Drive Residential

Vistro File: C:\...\Lakeshore Drive Residential_12-16.vistro

Scenario 6 Cumulative PM

Report File: C:\...\Cumulative PM.pdf

12/16/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Lakeshore Dr/Machado St	Signalized	HCM 7th Edition	SB Left	0.612	21.6	C
2	Lakeshore Dr/Gunnerson St- Proj Dwy	Signalized	HCM 7th Edition	SB Right	0.707	9.1	A
3	Lakeshore Dr/Viscaya Dr	Signalized	HCM 7th Edition	SB Left	0.527	15.0	B
4	Lakeshore Dr/SR-74	Signalized	HCM 7th Edition	NB Left	0.904	63.7	E
5	Gunnerson St/SR-74	Two-way stop	HCM 7th Edition	SB Left	3.103	1,528.2	F

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

Intersection Level Of Service Report
Intersection 1: Lakeshore Dr/Machado St

Control Type:	Signalized	Delay (sec / veh):	21.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.612

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			Machado St			Machado St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	180.00	100.00	110.00	90.00	100.00	195.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			Machado St			Machado St		
Base Volume Input [veh/h]	328	482	8	7	442	70	76	12	275	9	45	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	32	171	0	0	131	8	11	0	18	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	20	0	0	76	0	0	3
Total Hourly Volume [veh/h]	373	672	6	7	591	61	90	12	228	9	47	9
Peak Hour Factor	0.9210	0.9210	0.9210	0.8170	0.8170	0.8170	0.8560	0.8560	0.8560	0.8382	0.8382	0.8382
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	101	182	2	2	181	19	26	4	67	3	14	3
Total Analysis Volume [veh/h]	405	730	7	9	723	75	105	14	266	11	56	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-10)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	24	35	0	12	23	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	14	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	43	1	26	26	14	14	14	14
g / C, Green / Cycle	0.25	0.61	0.02	0.38	0.38	0.20	0.20	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.23	0.39	0.01	0.22	0.22	0.08	0.01	0.17	0.04
s, saturation flow rate [veh/h]	1781	1867	1781	1870	1809	1334	1870	1589	1756
c, Capacity [veh/h]	452	1143	32	703	680	287	372	316	408
d1, Uniform Delay [s]	25.26	8.72	34.00	17.43	17.44	24.75	22.67	27.02	23.50
k, delay calibration	0.11	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.47	2.81	4.78	3.43	3.55	0.78	0.04	6.01	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.64	0.28	0.58	0.58	0.37	0.04	0.84	0.19
d, Delay for Lane Group [s/veh]	31.72	11.53	38.78	20.86	20.99	25.53	22.71	33.03	23.73
Lane Group LOS	C	B	D	C	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.68	5.99	0.18	5.10	4.96	1.53	0.18	4.59	1.06
50th-Percentile Queue Length [ft/ln]	166.99	149.74	4.57	127.51	124.06	38.26	4.59	114.76	26.54
95th-Percentile Queue Length [veh/ln]	10.92	10.00	0.33	8.80	8.62	2.76	0.33	8.10	1.91
95th-Percentile Queue Length [ft/ln]	272.96	250.09	8.23	220.11	215.39	68.88	8.26	202.61	47.78

Movement, Approach, & Intersection Results

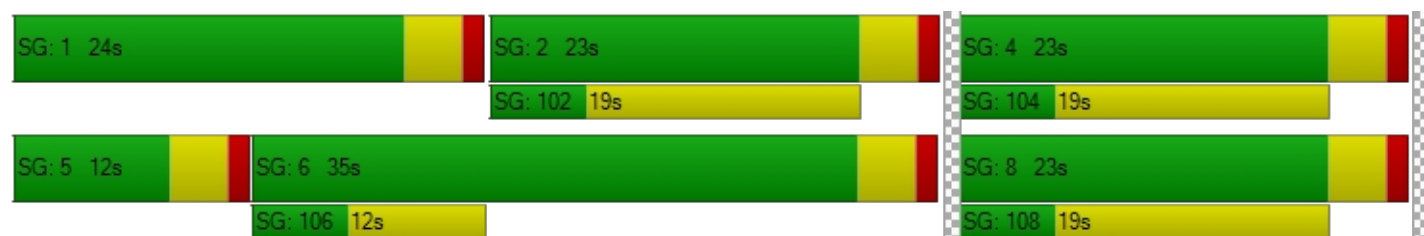
d_M, Delay for Movement [s/veh]	31.72	11.53	11.53	38.78	20.92	20.99	25.53	22.71	33.03	23.73	23.73	23.73
Movement LOS	C	B	B	D	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	18.69			21.12			30.61			23.73		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	21.57											
Intersection LOS	C											
Intersection V/C	0.612											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	26.61			26.61			26.61			26.61		
I_p,int, Pedestrian LOS Score for Intersection	2.860			2.911			2.476			1.763		
Crosswalk LOS	C			C			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	885			542			542			542		
d_b, Bicycle Delay [s]	10.89			18.61			18.61			18.61		
I_b,int, Bicycle LOS Score for Intersection	3.447			2.242			2.320			1.693		
Bicycle LOS	C			B			B			A		

Sequence

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



Intersection Level Of Service Report
Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy

Control Type:	Signalized	Delay (sec / veh):	9.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name	Project Dwy			Gunnerson St			Lakeshore Dr			Lakeshore Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	30.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	2
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	Project Dwy			Gunnerson St			Lakeshore Dr			Lakeshore Dr		
Base Volume Input [veh/h]	0	0	0	31	0	55	10	698	0	0	815	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	2	25	6	2	0	0	139	11	32	194	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	2	25	38	2	57	10	865	11	32	1042	47
Peak Hour Factor	0.9500	0.9500	0.9500	0.8152	0.8152	0.8152	0.9390	0.9390	0.9390	0.9334	0.9334	0.9334
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	7	12	1	17	3	230	3	9	279	13
Total Analysis Volume [veh/h]	9	2	26	47	2	70	11	921	12	34	1116	50
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-10)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	49	0	0	49	0	0	31	0	0	31	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	7	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	C	L	C	R	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	8	8	64	64	64	64	64
g / C, Green / Cycle	0.10	0.10	0.10	0.80	0.80	0.80	0.80	0.80
(v / s)_i Volume / Saturation Flow Rate	0.01	0.02	0.08	0.02	0.49	0.01	0.06	0.63
s, saturation flow rate [veh/h]	1422	1589	1507	481	1870	1589	600	1856
c, Capacity [veh/h]	224	159	214	272	1495	1271	409	1484
d1, Uniform Delay [s]	32.57	32.92	35.13	15.82	3.16	1.62	9.29	4.32
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.09	0.47	2.25	0.28	1.91	0.01	0.40	4.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.16	0.56	0.04	0.62	0.01	0.08	0.79
d, Delay for Lane Group [s/veh]	32.66	33.39	37.38	16.10	5.07	1.63	9.69	8.57
Lane Group LOS	C	C	D	B	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.20	0.47	2.29	0.14	2.76	0.02	0.30	5.16
50th-Percentile Queue Length [ft/ln]	4.88	11.85	57.23	3.47	69.09	0.45	7.47	129.02
95th-Percentile Queue Length [veh/ln]	0.35	0.85	4.12	0.25	4.97	0.03	0.54	8.89
95th-Percentile Queue Length [ft/ln]	8.78	21.33	103.01	6.24	124.37	0.81	13.45	222.16

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.66	32.66	33.39	37.38	37.38	37.38	16.10	5.07	1.63	9.69	8.57	8.57
Movement LOS	C	C	C	D	D	D	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	33.18			37.38			5.16			8.60		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	9.07											
Intersection LOS	A											
Intersection V/C	0.707											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	31.51			31.51			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	2.012			1.844			0.000			0.000		
Crosswalk LOS	B			A			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1125			1125			675			675		
d_b, Bicycle Delay [s]	7.66			7.66			17.56			17.56		
I_b,int, Bicycle LOS Score for Intersection	1.621			1.756			3.117			3.540		
Bicycle LOS	A			A			C			D		

Sequence

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



Intersection Level Of Service Report

Intersection 3: Lakeshore Dr/Viscaya Dr

Control Type:	Signalized	Delay (sec / veh):	15.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.527

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			Viscaya Dr			Viscaya Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	170.00	100.00	100.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	370.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			Viscaya Dr			Viscaya Dr		
Base Volume Input [veh/h]	52	646	54	114	577	28	18	8	22	108	10	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	232	0	0	169	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	7	0	0	6	0	0	24
Total Hourly Volume [veh/h]	54	904	42	119	769	22	19	8	17	112	10	70
Peak Hour Factor	0.9506	0.9506	0.9506	0.8538	0.8538	0.8538	0.7000	0.7000	0.7000	0.8538	0.8538	0.8538
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	238	11	35	225	6	7	3	6	33	3	20
Total Analysis Volume [veh/h]	57	951	44	139	901	26	27	11	24	131	12	82
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-10)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	16	0	14	19	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	21	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	29	29	6	31	31	13	13	13
g / C, Green / Cycle	0.07	0.48	0.48	0.11	0.51	0.51	0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.03	0.27	0.27	0.08	0.25	0.02	0.03	0.02	0.18
s, saturation flow rate [veh/h]	1781	1870	1841	1781	3560	1589	1336	1589	1245
c, Capacity [veh/h]	128	899	885	188	1831	817	389	340	361
d1, Uniform Delay [s]	26.71	11.06	11.06	26.04	9.47	7.19	18.92	18.82	23.43
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.43	2.50	2.53	5.64	0.95	0.07	0.11	0.09	1.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.56	0.56	0.74	0.49	0.03	0.10	0.07	0.62
d, Delay for Lane Group [s/veh]	29.14	13.55	13.59	31.68	10.42	7.27	19.03	18.91	25.18
Lane Group LOS	C	B	B	C	B	A	B	B	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.80	4.28	4.22	2.04	3.12	0.14	0.41	0.26	3.03
50th-Percentile Queue Length [ft/ln]	20.02	107.02	105.62	50.98	78.09	3.57	10.18	6.41	75.72
95th-Percentile Queue Length [veh/ln]	1.44	7.67	7.60	3.67	5.62	0.26	0.73	0.46	5.45
95th-Percentile Queue Length [ft/ln]	36.04	191.85	189.89	91.76	140.56	6.42	18.32	11.55	136.30

Movement, Approach, & Intersection Results

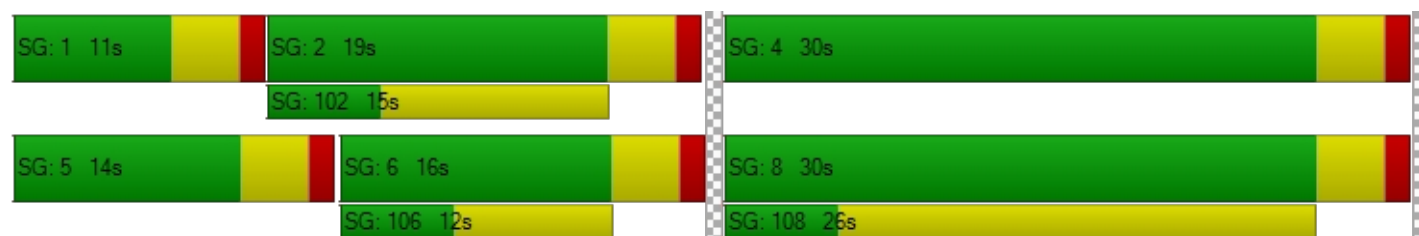
d_M, Delay for Movement [s/veh]	29.14	13.57	13.59	31.68	10.42	7.27	19.03	19.03	18.91	25.18	25.18	25.18
Movement LOS	C	B	B	C	B	A	B	B	B	C	C	C
d_A, Approach Delay [s/veh]	14.42			13.12			18.98			25.18		
Approach LOS	B			B			B			C		
d_I, Intersection Delay [s/veh]	14.97											
Intersection LOS	B											
Intersection V/C	0.527											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			0.00			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	3.101			0.000			1.985			1.952		
Crosswalk LOS	C			F			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	400			500			867			867		
d_b, Bicycle Delay [s]	19.20			16.88			9.63			9.63		
I_b,int, Bicycle LOS Score for Intersection	2.439			2.445			1.672			1.970		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report

Intersection 4: Lakeshore Dr/SR-74

Control Type: Signalized
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 63.7
 Level Of Service: E
 Volume to Capacity (v/c): 0.904

Intersection Setup

Name	Lakeshore Dr			Lakeshore Dr			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	230.00	100.00	270.00	160.00	100.00	100.00	150.00	100.00	160.00	130.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	410.00	0.00	0.00	0.00	0.00	0.00	210.00	0.00	0.00	250.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lakeshore Dr			Lakeshore Dr			SR-74			SR-74		
Base Volume Input [veh/h]	284	327	29	275	259	158	152	703	262	32	569	334
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	58	69	22	22	57	91	108	53	51	23	95	55
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	13	0	0	64	0	0	81	0	0	101
Total Hourly Volume [veh/h]	353	409	39	308	326	191	266	784	242	56	687	301
Peak Hour Factor	0.8634	0.8634	0.8634	0.9820	0.9820	0.9820	0.8827	0.8827	0.8827	0.9587	0.9587	0.9587
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	102	118	11	78	83	49	75	222	69	15	179	78
Total Analysis Volume [veh/h]	409	474	45	314	332	194	301	888	274	58	717	314
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-10)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	26	26	0	30	30	0	21	41	0	13	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	21	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	18	18	21	17	17	17	49	49	6	38	38
g / C, Green / Cycle	0.20	0.16	0.16	0.19	0.16	0.16	0.15	0.44	0.44	0.05	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.23	0.14	0.14	0.18	0.09	0.12	0.17	0.25	0.17	0.03	0.38	0.20
s, saturation flow rate [veh/h]	1781	1870	1814	1781	3560	1589	1781	3560	1589	1781	1870	1589
c, Capacity [veh/h]	356	306	297	346	562	251	275	1579	705	95	640	544
d1, Uniform Delay [s]	44.00	44.77	44.77	43.37	43.02	44.43	46.50	22.70	20.59	50.96	36.18	29.66
k, delay calibration	0.33	0.11	0.11	0.19	0.11	0.11	0.17	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	86.86	7.04	7.25	14.57	0.99	5.04	60.40	1.45	1.61	6.23	73.57	4.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.15	0.86	0.86	0.91	0.59	0.77	1.09	0.56	0.39	0.61	1.12	0.58
d, Delay for Lane Group [s/veh]	130.86	51.82	52.02	57.93	44.01	49.47	106.90	24.15	22.20	57.18	109.75	34.08
Lane Group LOS	F	D	D	E	D	D	F	C	C	E	F	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	17.99	7.41	7.21	9.51	4.18	5.30	11.94	8.40	4.84	1.70	29.37	7.22
50th-Percentile Queue Length [ft/ln]	449.79	185.31	180.16	237.87	104.46	132.52	298.53	209.93	120.93	42.47	734.35	180.62
95th-Percentile Queue Length [veh/ln]	26.78	11.88	11.61	14.57	7.52	9.08	18.35	13.15	8.44	3.06	41.25	11.63
95th-Percentile Queue Length [ft/ln]	669.55	296.94	290.22	364.34	188.03	226.92	458.81	328.74	211.11	76.44	1031.23	290.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	130.86	51.91	52.02	57.93	44.01	49.47	106.90	24.15	22.20	57.18	109.75	34.08
Movement LOS	F	D	D	E	D	D	F	C	C	E	F	C
d_A, Approach Delay [s/veh]	86.71			50.48			40.81			85.14		
Approach LOS	F			D			D			F		
d_I, Intersection Delay [s/veh]	63.72											
Intersection LOS	E											
Intersection V/C	0.904											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	46.37			46.37			46.37			46.37		
I_p,int, Pedestrian LOS Score for Intersection	2.848			3.009			3.214			3.092		
Crosswalk LOS	C			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	400			473			673			527		
d_b, Bicycle Delay [s]	35.20			32.07			24.22			29.82		
I_b,int, Bicycle LOS Score for Intersection	2.336			2.305			2.833			3.523		
Bicycle LOS	B			B			C			D		

Sequence

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



Intersection Level Of Service Report

Intersection 5: Gunnerson St/SR-74

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 1,528.2
 Level Of Service: F
 Volume to Capacity (v/c): 3.103

Intersection Setup

Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	25.00	100.00	100.00	40.00	370.00	100.00	100.00	290.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Base Volume Input [veh/h]	0	1	15	35	0	3	6	979	6	18	953	121
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	2	0	0	0	97	0	0	173	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	16	38	0	3	6	1115	6	19	1164	128
Peak Hour Factor	0.4375	0.4375	0.4375	0.9167	0.9167	0.9167	0.9609	0.9609	0.9609	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	9	10	0	1	2	290	2	5	312	34
Total Analysis Volume [veh/h]	0	2	37	41	0	3	6	1160	6	20	1250	137
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.08	0.16	3.10	0.00	0.02	0.01	0.01	0.00	0.03	0.01	0.00
d_M, Delay for Movement [s/veh]	226.94	171.17	22.97	1528.20	1394.05	24.04	12.38	0.00	0.00	11.22	0.00	0.00
Movement LOS	F	F	C	F	F	C	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.25	0.25	0.54	6.03	6.03	0.05	0.04	0.00	0.00	0.10	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.35	6.35	13.57	150.63	150.63	1.19	0.92	0.00	0.00	2.59	0.00	0.00
d_A, Approach Delay [s/veh]	30.57			1425.64			0.06			0.16		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	24.12											
Intersection LOS	F											

Lakeshore Drive Residential

Vistro File: C:\...\Lakeshore Drive Residential_12-16.vistro

Scenario 6 Cumulative PM

Report File: C:\...\Cumulative PM.pdf

12/16/2022

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Lakeshore Dr/Machado St	373	672	8	7	591	81	90	12	304	9	47	12	2206

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Lakeshore Dr/Gunnerson St- Proj Dwy	9	2	25	38	2	57	10	865	11	32	1042	47	2140

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Lakeshore Dr/Viscaya Dr	54	904	56	119	769	29	19	8	23	112	10	94	2197

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Lakeshore Dr/SR-74	353	409	52	308	326	255	266	784	323	56	687	402	4221

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Gunnerson St/SR-74	0	1	16	38	0	3	6	1115	6	19	1164	128	2496

Version 2022 (SP 0-10)

Option 2: Signalized Gunnerson St/SR-74

Number	5											
Intersection	Gunnerson St/SR-74											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	1	0	14	63	1	7	1	980	4	13	637	42
Total Analysis Volume [veh/h]	3	0	38	107	2	11	1	1098	4	16	786	53

Intersection Settings

Cycle Length [s]	85											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	31	0	0	31	0	0	54	0	0	54	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.14	0.14	0.14	0.14	0.77	0.77	0.77	0.77
(v / s)_i Volume / Saturation Flow Rate	0.01	0.03	0.12	0.01	0.00	0.66	0.03	0.50
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3		3	
s, saturation flow rate [veh/h]	584	1431	934	1431	590	1682	460	1664
c, Capacity [veh/h]	166	198	214	198	319	1290	164	1277
X, volume / capacity	0.02	0.19	0.51	0.06	0.00	0.85	0.10	0.66
d, Delay for Lane Group [s/veh]	37.34	32.85	39.22	31.89	15.52	14.03	31.36	7.30
Lane Group LOS	D	C	D	C	B	B	C	A

Version 2022 (SP 0-10)

Critical Lane Group	NO	NO	Yes	NO	NO	Yes	NO	NO
50th-Percentile Queue Length [veh/ln]	0.06	0.69	2.24	0.19	0.01	9.56	0.32	4.61
50th-Percentile Queue Length [ft/ln]	1.46	17.22	55.96	4.87	0.31	238.93	8.07	115.18
95th-Percentile Queue Length [veh/ln]	0.11	1.24	4.03	0.35	0.02	14.63	0.58	8.13
95th-Percentile Queue Length [ft/ln]	2.63	31.00	100.73	8.76	0.56	365.68	14.52	203.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.34	37.34	32.85	39.22	39.22	31.89	15.52	14.03	14.03	31.36	7.30	7.30
Movement LOS	D	D	C	D	D	C	B	B	B	C	A	A
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	33.18			38.55			14.03			7.75		
Approach LOS	C			D			B			A		
d_I, Intersection Delay [s/veh]	13.25											
Intersection LOS	B											
Intersection V/C	0.772											

Version 2022 (SP 0-10)

Option 3: Signalized Gunnerson St/SR-74

Number	5											
Intersection	Gunnerson St/SR-74											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	1	15	35	0	3	6	979	6	18	953	121
Total Analysis Volume [veh/h]	0	2	37	41	0	3	6	1073	6	20	1083	137

Intersection Settings

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	33	0	0	33	0	0	87	0	0	87	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.05	0.05	0.05	0.05	0.89	0.89	0.89	0.89
(v / s)_i Volume / Saturation Flow Rate	0.00	0.03	0.04	0.00	0.01	0.64	0.04	0.74
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3		3	
s, saturation flow rate [veh/h]	1392	1431	952	1431	412	1681	470	1650
c, Capacity [veh/h]	97	69	106	69	261	1489	352	1461
X, volume / capacity	0.02	0.54	0.39	0.04	0.02	0.72	0.06	0.84
d, Delay for Lane Group [s/veh]	54.53	62.25	59.86	54.75	16.10	5.31	9.32	8.81
Lane Group LOS	D	E	E	D	B	A	A	A

Version 2022 (SP 0-10)

Critical Lane Group	NO	NO	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.06	1.20	1.29	0.09	0.10	2.71	0.22	4.57
50th-Percentile Queue Length [ft/ln]	1.48	30.04	32.20	2.26	2.38	67.83	5.61	114.16
95th-Percentile Queue Length [veh/ln]	0.11	2.16	2.32	0.16	0.17	4.88	0.40	8.07
95th-Percentile Queue Length [ft/ln]	2.66	54.06	57.96	4.06	4.28	122.10	10.09	201.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.53	54.53	62.25	59.86	59.86	54.75	16.10	5.31	5.31	9.32	8.81	8.81
Movement LOS	D	D	E	E	E	D	B	A	A	A	A	A
Critical Movement	No	No	Yes	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	61.85			59.51			5.37			8.82		
Approach LOS	E			E			A			A		
d_I, Intersection Delay [s/veh]	9.05											
Intersection LOS	A											
Intersection V/C	0.782											

Version 2022 (SP 0-10)

Option 2: ProtPerm on NBL/SBL Lakeshore Dr/SR-74

Number	4											
Intersection	Lakeshore Dr/SR-74											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Lakeshore Dr			Lakeshore Dr			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	185	128	27	354	255	92	140	603	282	20	481	140
Total Analysis Volume [veh/h]	274	207	40	483	373	157	261	887	323	48	591	135

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	26	0	17	32	0	17	36	0	11	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	21	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.38	0.19	0.19	0.38	0.26	0.26	0.14	0.43	0.43	0.05	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.25	0.07	0.07	0.34	0.10	0.10	0.15	0.25	0.20	0.03	0.32	0.08
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1112	1870	1767	1417	3560	1589	1781	3560	1589	1781	1870	1589
c, Capacity [veh/h]	463	358	338	587	919	410	257	1537	686	97	639	543
X, volume / capacity	0.59	0.35	0.36	0.82	0.41	0.38	1.01	0.58	0.47	0.49	0.92	0.25
d, Delay for Lane Group [s/veh]	24.73	32.13	32.21	37.81	27.95	28.06	68.26	20.94	20.55	45.19	49.75	22.40
Lane Group LOS	C	C	C	D	C	C	F	C	C	D	D	C

Version 2022 (SP 0-10)

Critical Lane Group	Yes	NO	NO	Yes	NO	NO	Yes	NO	NO	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	4.30	2.34	2.24	9.93	3.20	2.71	7.55	6.77	4.86	1.11	15.13	2.10
50th-Percentile Queue Length [ft/ln]	107.41	58.50	56.08	248.32	79.99	67.79	188.85	169.31	121.41	27.63	378.24	52.60
95th-Percentile Queue Length [veh/ln]	7.70	4.21	4.04	15.10	5.76	4.88	12.14	11.04	8.47	1.99	21.51	3.79
95th-Percentile Queue Length [ft/ln]	192.40	105.30	100.94	377.54	143.97	122.01	303.48	276.01	211.76	49.74	537.72	94.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.73	32.16	32.21	37.81	27.95	28.06	68.26	20.94	20.55	45.19	49.75	22.40
Movement LOS	C	C	C	D	C	C	F	C	C	D	D	C
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	28.25			32.67			29.25			44.70		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	33.19											
Intersection LOS	C											
Intersection V/C	0.762											

Version 2022 (SP 0-10)

Option 2: ProtPerm on NBL/SBL Lakeshore Dr/SR-74

Number	4											
Intersection	Lakeshore Dr/SR-74											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Lakeshore Dr			Lakeshore Dr			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	284	327	29	275	259	158	152	703	262	32	569	334
Total Analysis Volume [veh/h]	409	474	45	314	332	194	301	888	274	58	717	314

Intersection Settings

Cycle Length [s]	100											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	32	0	18	30	0	20	39	0	11	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	21	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.36	0.18	0.18	0.36	0.16	0.16	0.16	0.46	0.46	0.06	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.31	0.14	0.14	0.25	0.09	0.12	0.17	0.25	0.17	0.03	0.38	0.20
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1324	1870	1814	1277	3560	1589	1781	3560	1589	1781	1870	1589
c, Capacity [veh/h]	534	344	334	477	582	260	285	1633	729	103	667	567
X, volume / capacity	0.77	0.77	0.77	0.66	0.57	0.75	1.06	0.54	0.38	0.56	1.08	0.55
d, Delay for Lane Group [s/veh]	36.60	42.33	42.44	29.97	39.47	44.11	85.37	20.82	19.17	50.65	89.06	29.67
Lane Group LOS	D	D	D	C	D	D	F	C	B	D	F	C

Version 2022 (SP 0-10)

Critical Lane Group	Yes	NO	NO	Yes	NO	NO	Yes	NO	NO	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	9.02	6.27	6.09	6.06	3.71	4.70	10.22	7.21	4.17	1.51	25.61	6.30
50th-Percentile Queue Length [ft/ln]	225.54	156.69	152.23	151.45	92.79	117.53	255.39	180.22	104.21	37.67	640.32	157.58
95th-Percentile Queue Length [veh/ln]	13.95	10.37	10.14	10.09	6.68	8.26	15.86	11.61	7.50	2.71	35.64	10.42
95th-Percentile Queue Length [ft/ln]	348.69	259.33	253.40	252.36	167.03	206.42	396.47	290.31	187.58	67.80	890.88	260.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.60	42.38	42.44	29.97	39.47	44.11	85.37	20.82	19.17	50.65	89.06	29.67
Movement LOS	D	D	D	C	D	D	F	C	B	D	F	C
Critical Movement	No	No	No	No	No	No	No	No	No	No	Yes	No
d_A, Approach Delay [s/veh]	39.84			36.99			33.79			69.89		
Approach LOS	D			D			C			E		
d_I, Intersection Delay [s/veh]	44.81											
Intersection LOS	D											
Intersection V/C	0.880											

Version 2022 (SP 0-10)

Option 2: Signalized Gunnerson St/SR-74

Number	5											
Intersection	Gunnerson St/SR-74											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	1	0	14	63	1	7	1	980	4	13	637	42
Total Analysis Volume [veh/h]	3	0	38	107	2	11	1	1251	4	16	860	53

Intersection Settings

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	31	0	0	31	0	0	89	0	0	89	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.15	0.15	0.15	0.15	0.79	0.79	0.79	0.79
(v / s)_i Volume / Saturation Flow Rate	0.01	0.03	0.13	0.01	0.00	0.75	0.04	0.55
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3		3	
s, saturation flow rate [veh/h]	522	1431	854	1431	550	1682	398	1666
c, Capacity [veh/h]	137	211	186	211	297	1321	80	1309
X, volume / capacity	0.02	0.18	0.59	0.05	0.00	0.95	0.20	0.70
d, Delay for Lane Group [s/veh]	53.07	45.17	55.98	44.02	19.44	26.20	62.00	9.20
Lane Group LOS	D	D	E	D	B	C	E	A

Version 2022 (SP 0-10)

Critical Lane Group	NO	NO	Yes	NO	NO	Yes	NO	NO
50th-Percentile Queue Length [veh/ln]	0.09	1.00	3.33	0.28	0.02	24.55	0.60	8.86
50th-Percentile Queue Length [ft/ln]	2.16	25.04	83.21	7.09	0.43	613.69	14.90	221.47
95th-Percentile Queue Length [veh/ln]	0.16	1.80	5.99	0.51	0.03	32.67	1.07	13.74
95th-Percentile Queue Length [ft/ln]	3.89	45.07	149.78	12.76	0.78	816.83	26.82	343.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.07	53.07	45.17	55.98	55.98	44.02	19.44	26.20	26.20	62.00	9.20	9.20
Movement LOS	D	D	D	E	E	D	B	C	C	E	A	A
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	45.75			54.89			26.19			10.11		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	21.64											
Intersection LOS	C											
Intersection V/C	0.874											

Version 2022 (SP 0-10)

Option 2: Signalized Gunnerson St/SR-74

Number	5											
Intersection	Gunnerson St/SR-74											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Gunnerson St			Gunnerson St			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	1	15	35	0	3	6	979	6	18	953	121
Total Analysis Volume [veh/h]	0	2	37	41	0	3	6	1160	6	20	1250	137

Intersection Settings

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	33	0	0	33	0	0	87	0	0	87	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.05	0.05	0.05	0.05	0.89	0.89	0.89	0.89
(v / s)_i Volume / Saturation Flow Rate	0.00	0.03	0.04	0.00	0.02	0.69	0.05	0.84
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3		3	
s, saturation flow rate [veh/h]	1392	1431	952	1431	351	1681	433	1654
c, Capacity [veh/h]	97	69	106	69	132	1489	302	1464
X, volume / capacity	0.02	0.54	0.39	0.04	0.05	0.78	0.07	0.95
d, Delay for Lane Group [s/veh]	54.53	62.25	59.86	54.75	39.15	6.76	12.69	18.78
Lane Group LOS	D	E	E	D	D	A	B	B

Version 2022 (SP 0-10)

Critical Lane Group	NO	NO	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.06	1.20	1.29	0.09	0.16	3.54	0.27	9.72
50th-Percentile Queue Length [ft/ln]	1.48	30.04	32.20	2.26	4.12	88.40	6.85	243.11
95th-Percentile Queue Length [veh/ln]	0.11	2.16	2.32	0.16	0.30	6.37	0.49	14.84
95th-Percentile Queue Length [ft/ln]	2.66	54.06	57.96	4.06	7.42	159.13	12.33	370.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.53	54.53	62.25	59.86	59.86	54.75	39.15	6.76	6.76	12.69	18.78	18.78
Movement LOS	D	D	E	E	E	D	D	A	A	B	B	B
Critical Movement	No	No	Yes	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	61.85			59.51			6.93			18.69		
Approach LOS	E			E			A			B		
d_I, Intersection Delay [s/veh]	14.82											
Intersection LOS	B											
Intersection V/C	0.882											

APPENDIX E – PEAK HOUR TRAFFIC SIGNAL WARRANT ASSESSMENTS

Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy

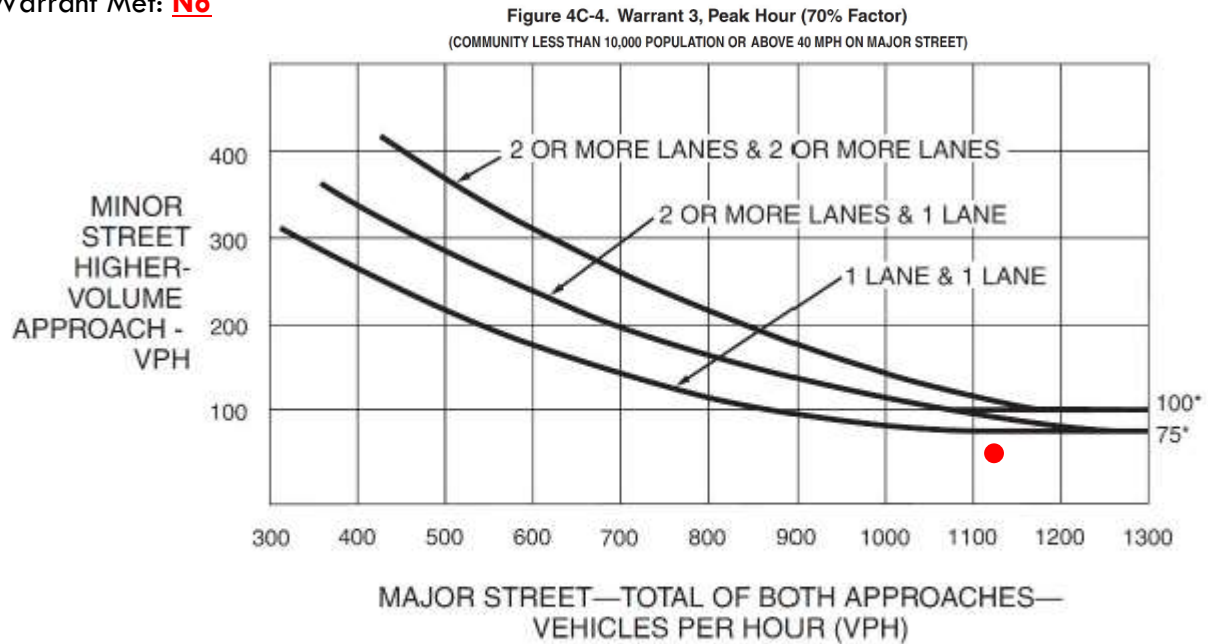
Scenario: Existing AM

Major Street (Total of Both Approaches) Vehicle Volume: 1,134

Minor Street (Higher Volume Approach) Vehicle Volume: 55

Number of Lanes: 1 lane & 1 lane

Warrant Met: **No**



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Intersection 5: Gunnerson St/SR-74

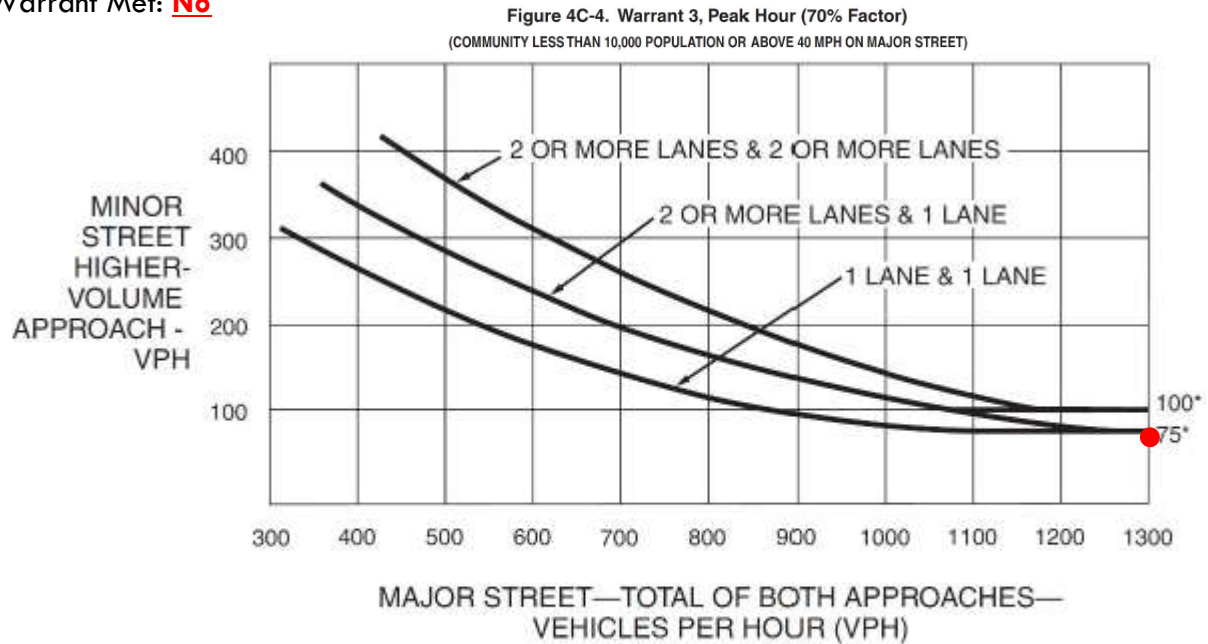
Scenario: Existing AM

Major Street (Total of Both Approaches) Vehicle Volume: 1,677

Minor Street (Higher Volume Approach) Vehicle Volume: 71

Number of Lanes: 1 lane & 1 lane

Warrant Met: **No**



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy

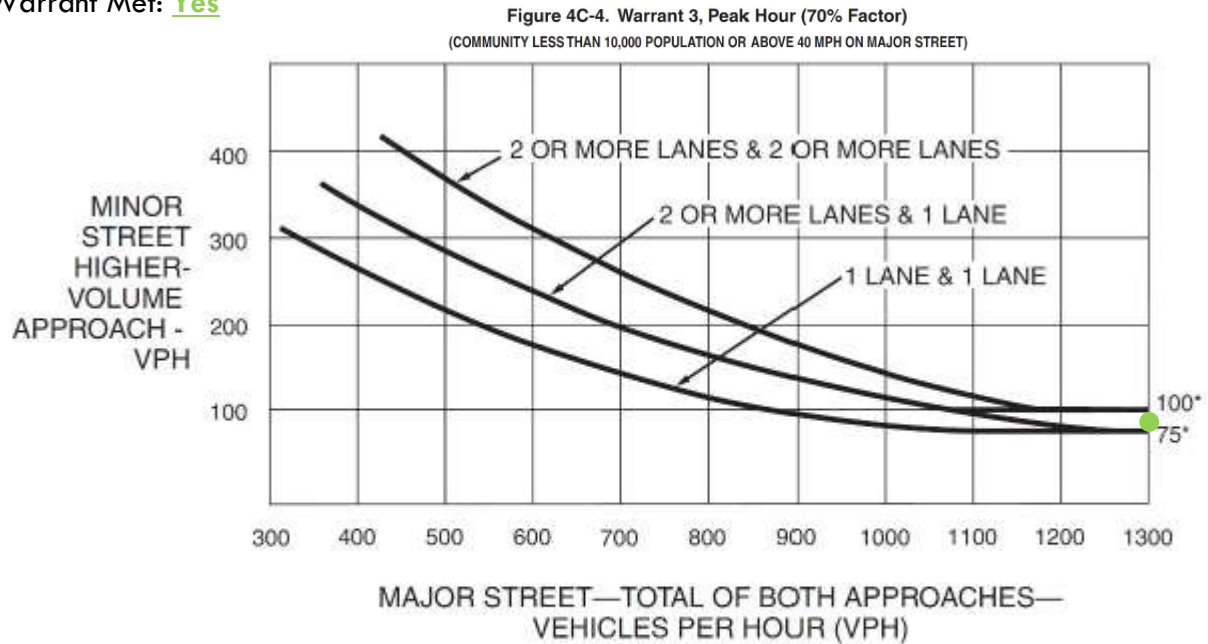
Scenario: Existing PM

Major Street (Total of Both Approaches) Vehicle Volume: 1,562

Minor Street (Higher Volume Approach) Vehicle Volume: 86

Number of Lanes: 1 lane & 1 lane

Warrant Met: **Yes**



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Intersection 5: Gunnerson St/SR-74

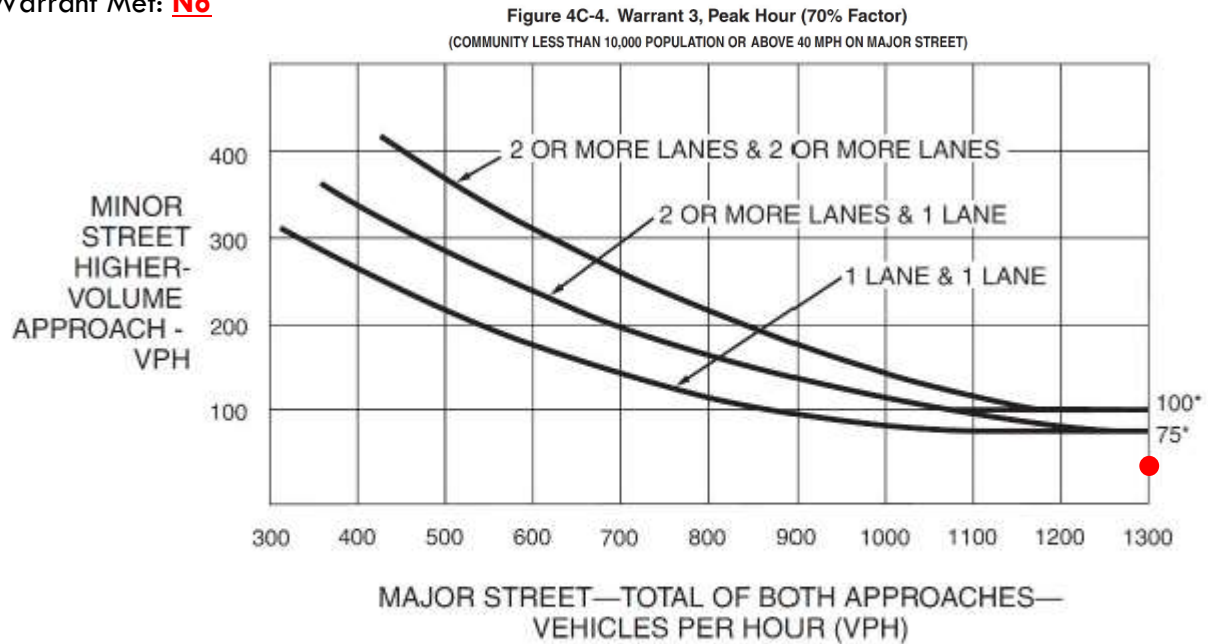
Scenario: Existing PM

Major Street (Total of Both Approaches) Vehicle Volume: 2,083

Minor Street (Higher Volume Approach) Vehicle Volume: 38

Number of Lanes: 1 lane & 1 lane

Warrant Met: **No**



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy

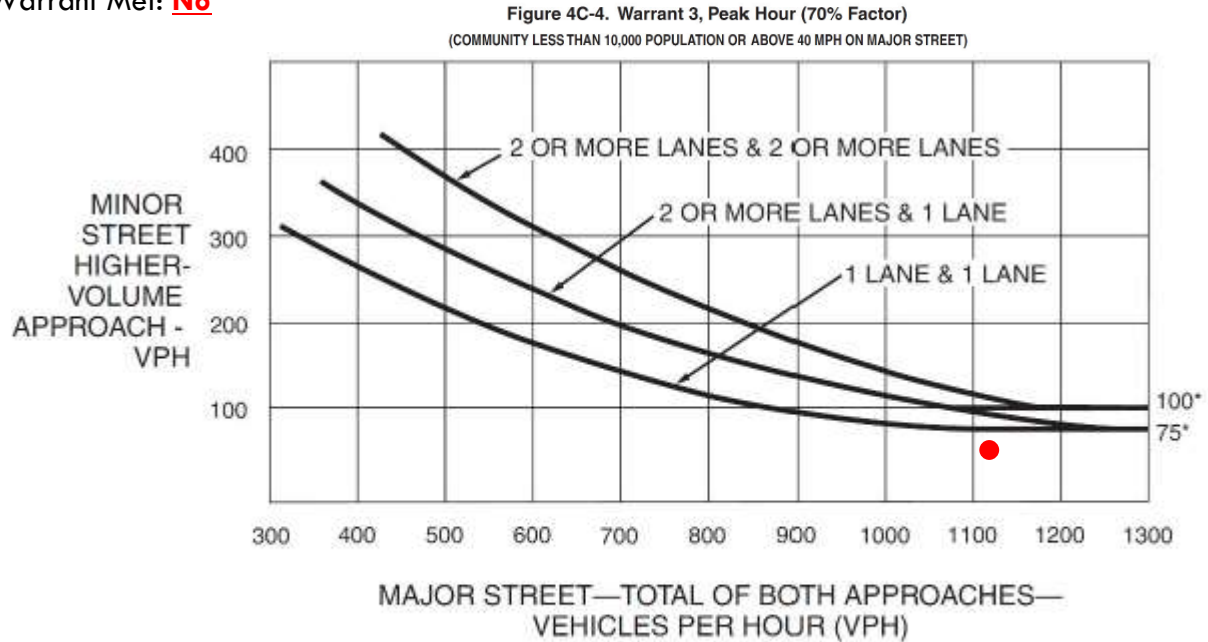
Scenario: Project Completion AM

Major Street (Total of Both Approaches) Vehicle Volume: 1,184

Minor Street (Higher Volume Approach) Vehicle Volume: 58

Number of Lanes: 2 or more lanes & 1 lane

Warrant Met: **No**



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Intersection 5: Gunnerson St/SR-74

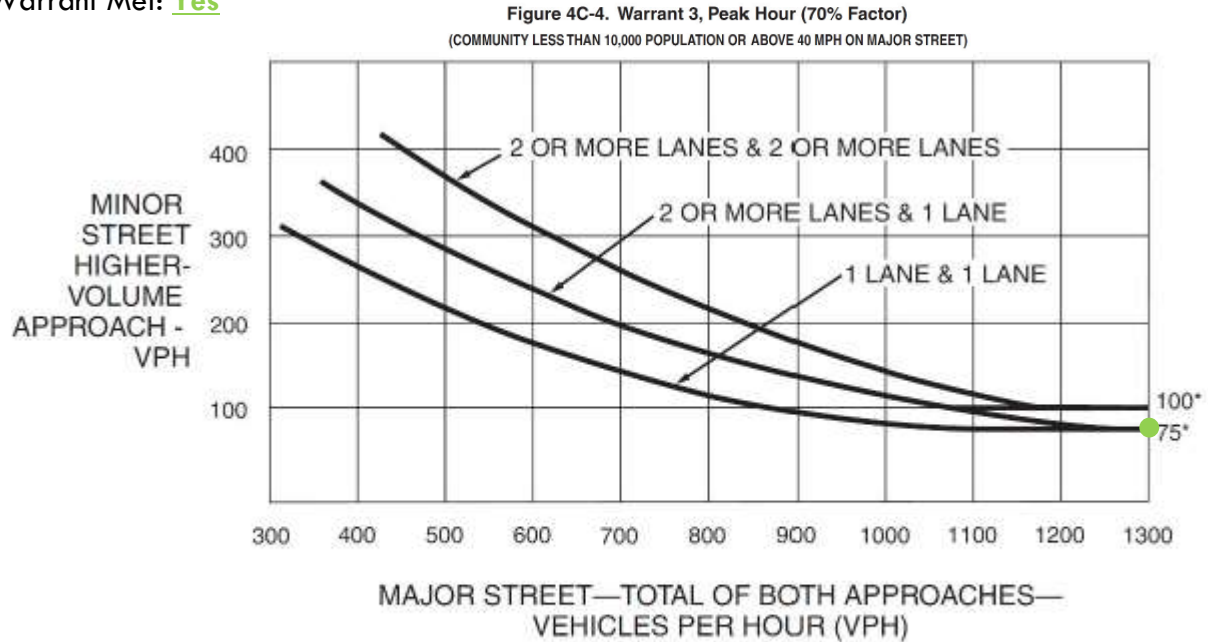
Scenario: Project Completion AM

Major Street (Total of Both Approaches) Vehicle Volume: 1,771

Minor Street (Higher Volume Approach) Vehicle Volume: 76

Number of Lanes: 1 lane & 1 lane

Warrant Met: **Yes**



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy

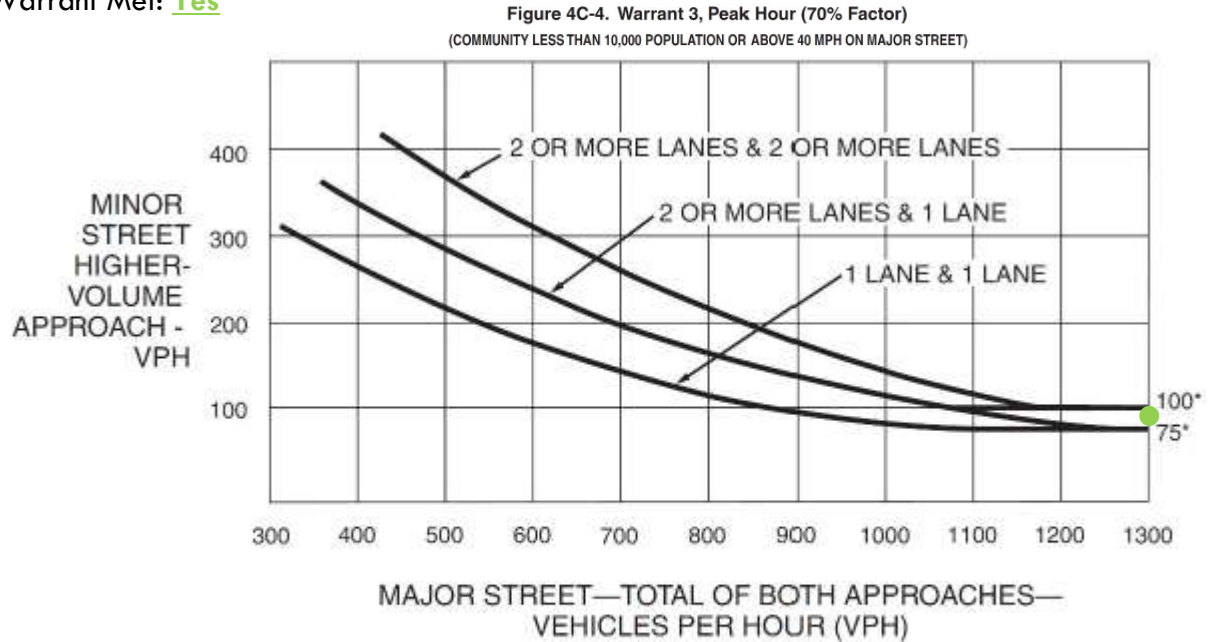
Scenario: Project Completion PM

Major Street (Total of Both Approaches) Vehicle Volume: 1,658

Minor Street (Higher Volume Approach) Vehicle Volume: 91

Number of Lanes: 2 or more lanes & 1 lane

Warrant Met: **Yes**



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Intersection 5: Gunnerson St/SR-74

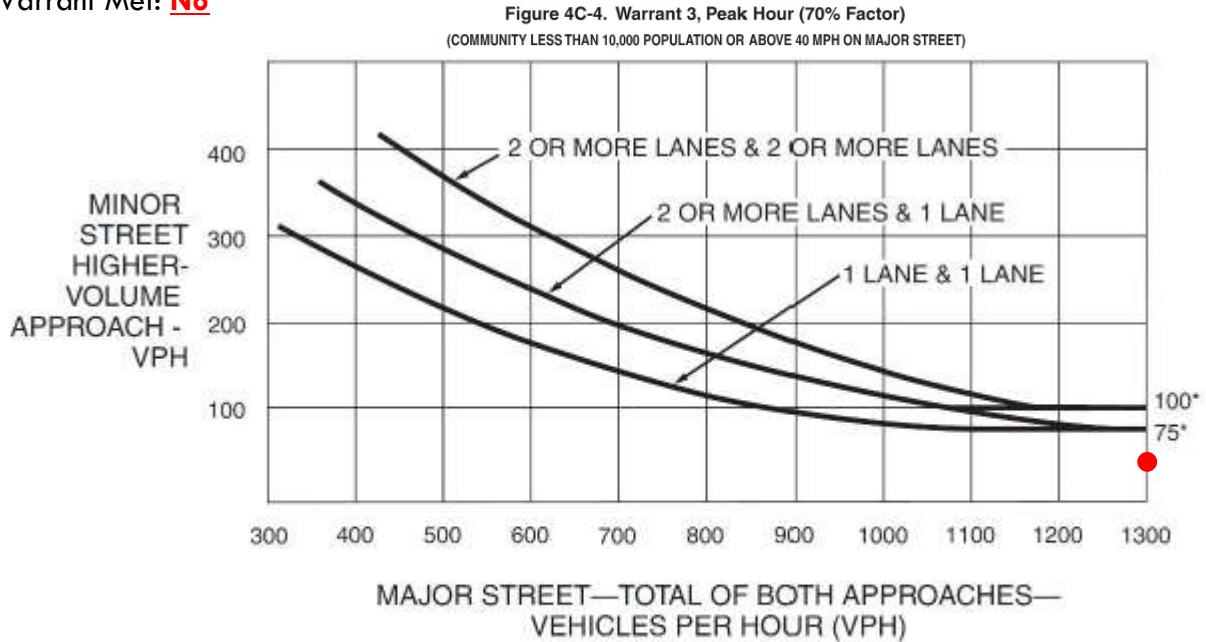
Scenario: Project Completion PM

Major Street (Total of Both Approaches) Vehicle Volume: 2,199

Minor Street (Higher Volume Approach) Vehicle Volume: 41

Number of Lanes: 1 lane & 1 lane

Warrant Met: **No**



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy

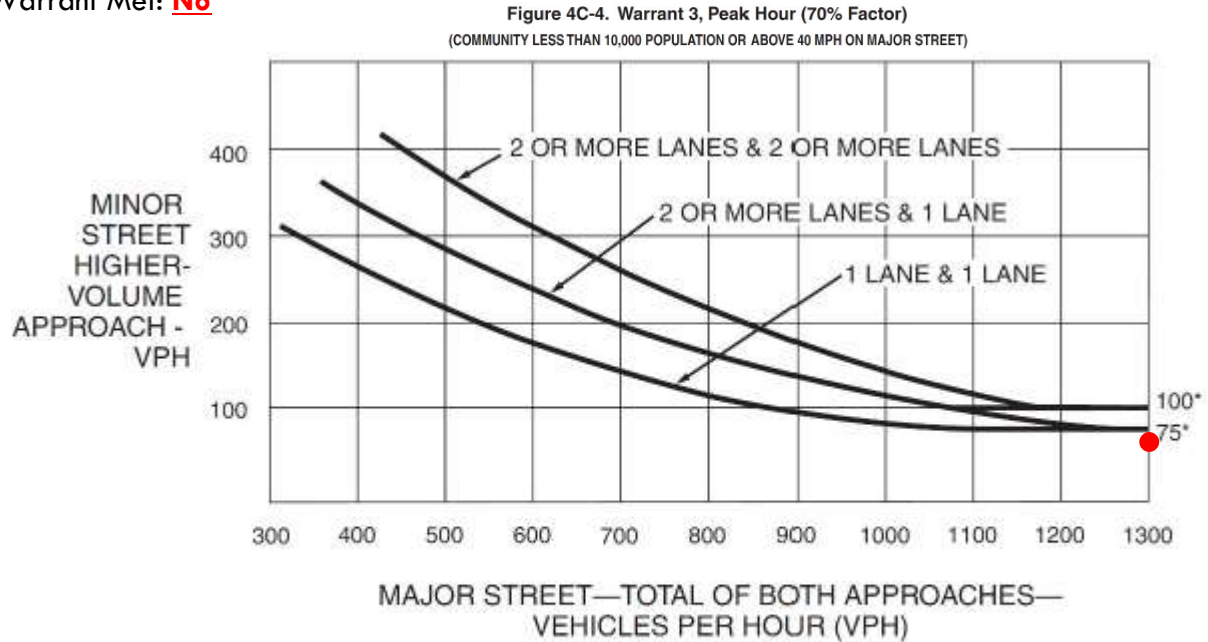
Scenario: Cumulative AM

Major Street (Total of Both Approaches) Vehicle Volume: 1,466

Minor Street (Higher Volume Approach) Vehicle Volume: 64

Number of Lanes: 2 or more lanes & 1 lane

Warrant Met: **No**



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

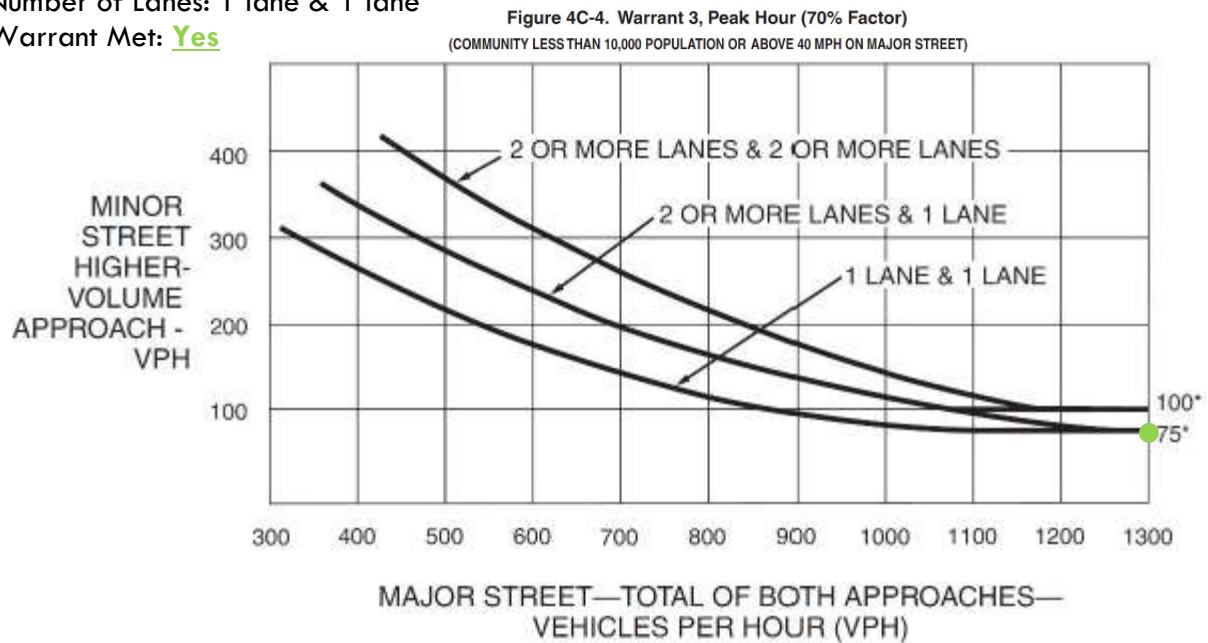
Intersection 5: Gunnerson St/SR-74

Scenario: Cumulative AM

Major Street (Total of Both Approaches) Vehicle Volume: 1,979

Minor Street (Higher Volume Approach) Vehicle Volume: 76

Number of Lanes: 1 lane & 1 lane

Warrant Met: **Yes**

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Intersection 2: Lakeshore Dr/Gunnerson St-Proj Dwy

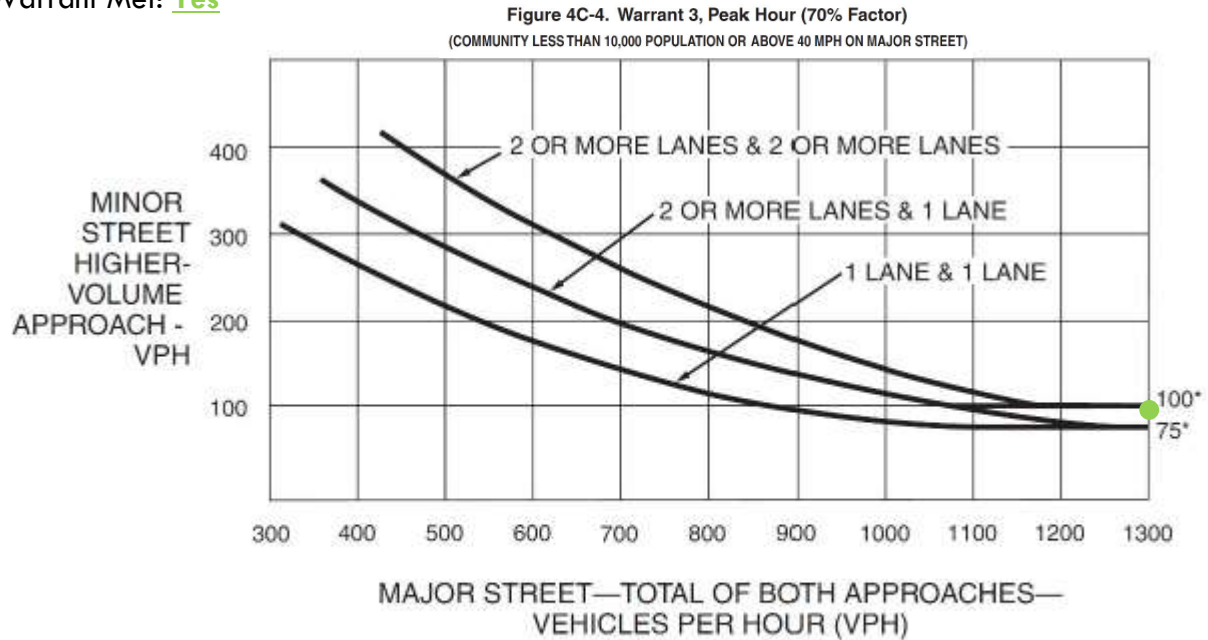
Scenario: Cumulative PM

Major Street (Total of Both Approaches) Vehicle Volume: 1,997

Minor Street (Higher Volume Approach) Vehicle Volume: 97

Number of Lanes: 2 or more lanes & 1 lane

Warrant Met: **Yes**



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

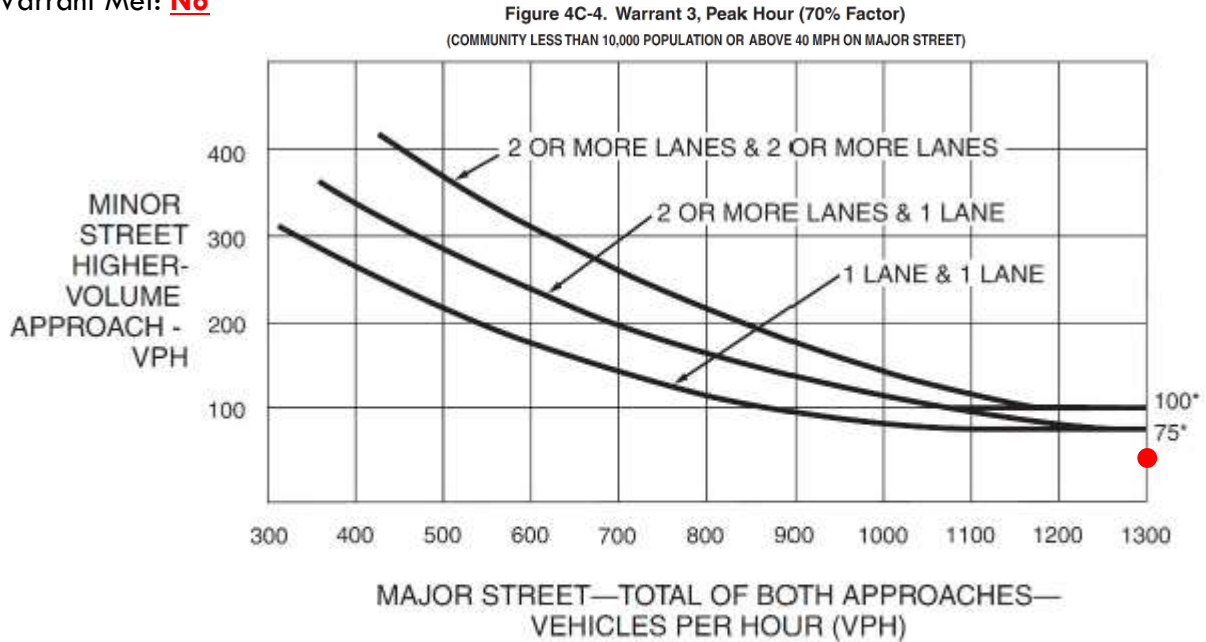
Intersection 5: Gunnerson St/SR-74

Scenario: Cumulative PM

Major Street (Total of Both Approaches) Vehicle Volume: 2,438

Minor Street (Higher Volume Approach) Vehicle Volume: 41

Number of Lanes: 1 lane & 1 lane

Warrant Met: **No**

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.