

TRAFFIC ANALYSIS REPORT

FOR

LA CENTER RETAIL MIX

LA CENTER ROAD

CITY OF LA CENTER

SUBMITTED BY



December 2023

Project 23-39

TRAFFIC ANALYSIS REPORT

FOR

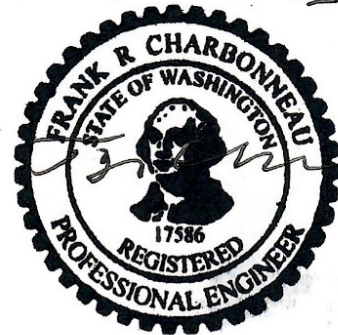
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CHARBONNEAU Engineering LLC



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INTRODUCTION

This traffic study has been prepared to evaluate and document the operations and safety conditions for the La Center Retail Mix development being planned in La Center, Washington. The development will build a hotel with 111 rooms, a separate 3,900 square foot restaurant (fast casual type), and a 2,200 square foot coffee shop with in-door seating and drive-through service. The project site is located in south La Center and generally in the southeast corner of the intersection at La Center Road and NW Paradise Park Road. Figure 'a' in the appendix is a vicinity map highlighting the project location.

In accordance with the City's requirements the study area was defined as the surrounding neighborhood including the site access points on La Center Road and on Paradise Park Road and several key intersections along La Center Road.

TRAFFIC ANALYSIS CONSIDERATIONS

In the project scope established with City of La Center staff, a number of important elements were identified and considered in the study.

- Inventory and record pertinent information such as traffic control devices, circulation patterns, lane conditions, pedestrian & bicycle facilities, transit zones, parking, and street characteristics.
- Record data on typical weekdays during the AM & PM peak traffic hours.
- Obtain traffic counts for the intersections on La Center Road at Paradise Park Road, Timmen Road, and at West 5th Street.
- The project buildout is estimated to occur in year 2026. Three years of traffic growth at 2% per year was applied to establish the year 2026 background volumes. The City confirmed that in-process traffic for the Asa's View and Lockwood Meadows Subdivision developments was applicable.
- Prepare trip generation for hotel, restaurant, and coffee shop using the latest edition of the ITE Trip Generation manual (11th edition, year 2021).
- Account for pass-by traffic according to ITE's methodology contained in the Trip Generation Handbook. Account for internal capture trips according to NCHRP 8-51.
- Level of service (LOS) analysis of the study intersections to measure the approach delays and LOS for comparison to City of La Center standards.
- Review intersection sight distance at the proposed accesses.
- Prepare peak hour signal warrants and left turn lane warrants.
- Review crash data furnished by WSDOT. Identify crash rates at the study intersections.
- Review the City's Transportation Capital Facilities Plan dated 7/25/2018 to identify future transportation system projects.

SITE DESCRIPTION, STREETS, ACCESS, AND CRITICAL INTERSECTIONS

Development of the La Center Retail Mix project will include construction of a hotel with 111 rooms, a separate 3,900 square foot restaurant (fast casual type), and a 2,200 square foot coffee shop with in-door seating and drive-through service. The project's location is situated on approximately 2.5 acres (tax lot #209708-000) near the corner of La Center Road and NW Paradise Park Road. No property address has been established for the parcel. The development parcel is currently vacant. Figure 'a' represents the project's site plan,

Access to the proposed development includes two new driveway approaches including one on La Center Road and one on NW Paradise Park Road. The project site plan (Figure 'b') illustrates the access locations. The new approaches will have stop control. The site's internal driveway system will include sidewalks and provide connectivity within the development for circulation purposes.

The study intersections on La Center Road at NW Paradise Park Road, Timmen Road, and West 5th Street are controlled by stop signing. In the future according to WSDOT's Six Year TIP for 2016-2021 and the City's Capital Facilities Plan (year 2018) the intersection of La Center Road at Timmen Road will become signalized or converted to a roundabout. The intersection at La Center Road and NW Paradise Park Road will include signalization (or roundabout according to the City's staff report, 2023-006-PAC). The existing and proposed lane configurations and traffic control are presented in Figures c1 & c2, respectively.

La Center Road is classified as a principal arterial and contains one travel lane in each direction. The road tapers (widens) towards the west to accommodate the existing westbound left turn lane at NW Paradise Park Road. The road section also includes eight-foot wide paved shoulders. The travel speed is posted at 35 MPH. There are no designated bike lanes or sidewalks in the area. No on-street parking is permitted.

La Center Road/Pacific Highway at 5th Street is four-way intersection with stop control on the West 5th Street approaches. There are no separate turn lanes at this location. The travel speed is posted at 25 MPH on Pacific Highway. There are no bike lanes. Sidewalks exist on both streets.

La Center Road at Timmen Road is configured as a tee-shaped intersection containing stop signing on the Timmen Road approach where there are separate left and right turn lanes on approaching La Center Road. There is a separate westbound left turn lane on Pacific Highway. The travel speed is posted at 40 MPH on Pacific Highway. There are no bike lanes or sidewalks at this location.

La Center Road at Paradise Park Road is configured as a four-way design with stop control on the approaches to La Center Road. There are separate left turn lanes on all approaches. Pedestrian crosswalks are marked on the north and south intersection legs. No bike lanes are present.

TRAFFIC OPERATIONAL ANALYSIS

In order to evaluate traffic flow and delay at the study intersections, level of service (LOS) and safety conditions were determined. The intersections evaluated included La Center Road at NW Paradise Park Road, Timmen Road, and West 5th Street. The site accesses on La Center Road and on NW Paradise Park Road were also evaluated.

The traffic analysis included the determination of the LOS and average delay per vehicle in the peak hours for the following scenarios:

- Year 2023 Existing Traffic
- Year 2026 Background Traffic
- Year 2026 Total Traffic

In order to perform the LOS analysis at the critical intersections video traffic counts were conducted during the AM peak (7:00-9:00AM) & PM peak (4:00-6:00 PM) traffic hours. The counts were collected in September 2023. Figures 1a & 1b depict the existing AM & PM peak hour traffic volumes, respectively.

Three years of traffic growth (2% per year) plus in-process traffic has been added to the existing volumes to account for the background traffic volumes. In-process traffic included the Asa's View and Lockwood Meadows subdivision developments. The in-process traffic is shown on Figures 2a & 2b. The year 2026 background traffic volumes are illustrated in Figures 3a & 3b.

The year 2026 total traffic scenario (background plus site generated traffic) is presented in Figures 7a & 7b.

VEHICULAR TRIP GENERATION

Trip rates presented in the Institute of Transportation Engineers (ITE) Trip Generation manual 11th edition (year 2021) were utilized to estimate the site's trip generation. The trip generation is summarized in Table 1. Trip rates for land-use code #310 hotel, land-use code #930 restaurant – fast casual, and land-use code #937 coffee shop with indoor seating and drive-through service were applied.

Table 1 Trip Generation Summary

ITE Land Use	Units (#)	Weekday						
		ADT	AM Peak Hour			PM Peak Hour		
			Total	Enter	Exit	Total	Enter	Exit
Hotel (#310)	111 rooms							
Generation Rate ¹		7.99	0.46	56%	44%	0.59	51%	49%
Total Driveway Trips		887	51	29	22	65	33	32
Internal Trips (ADT=8%; AM=2%; PM=9%) ²		71	1	1	0	6	3	3
Fast Casual Restaurant (#930)	3,900 sq. ft.							
Generation Rate ¹		97.14	1.43	50%	50%	12.55	55%	45%
Total Driveway Trips		379	6	3	3	49	27	22
Internal Trips (ADT=8%; AM=2%; PM=9%) ²		30	0	0	0	4	2	2
Pass-By Trips ³ (PM=43%)		0	0	0	0	19	10	9
Coffee Shop with Drive-Through & Seating (#937)	2,200 sq. ft.							
Generation Rate ¹		533.57	85.88	51%	49%	38.99	50%	50%
Total Driveway Trips		1,174	189	96	93	86	43	43
Internal Trips (ADT=8%; AM=2%; PM=9%) ²		94	4	2	2	8	4	4
Pass-By Trips ³ (ADT, AM, & PM=83%)		896	154	79	75	65	33	32
Site Total Driveway Trips		2,440	246	128	118	200	103	97
Site Internal Trips		195	5	3	2	18	9	9
Site Pass-by Trips		896	154	79	75	84	43	41
New Site Trips ⁴		1,349	87	46	41	98	51	47

¹ Source: Trip Generation, 11th Edition, ITE, 2021, average rates.

² NCHRP report 684 Internal Cap Rate.

³ Pass-by percentage based on *Trip Generation Handbook, 3rd Edition*, ITE, 2017, Land Use 932.

⁴ New Site Trips = Total Driveway Trips - Internal Trips - Pass-by Trips.

The proposed development is expected to generate a net total 1,349 daily trips, 87 net AM peak hour trips, and 98 net PM peak hour trips.

An internal trip reduction factor was applied according to NCHRP (report #684), as permitted when there are several types of retail facilities placed within a single development site. The reduction percentages and number of trips are listed in Table 1. Additionally, pass-by percentages according to ITE's Trip Generation Handbook, year 2017 were applied to determine the number of trips (listed in Table 1) that visit the site from the existing traffic passing by on the adjacent streets. Figure 4 displays the volume of pass-by trips for this project.

The trip distribution was based on the existing traffic counts, intersection traffic control, site access locations, and engineering judgment. Figure 5 presents the trip distribution results and Figures 6a & 6b display the trip assignments for the AM & PM peak hours, respectively.

CAPACITY ANALYSIS

Capacity analyses were performed to determine the levels of service for the weekday peak hours. Synchro v11.1 software based on the year 2016 Highway Capacity Manual methodology was used to determine the LOS and approach delays for the study intersections. The results are summarized in the following table. Copies of the capacity analysis summaries are included in the appendix.

Table 2 Capacity Analysis Summary

Intersection	Type of Control	Peak Hour	Traffic Scenario											
			2023 Existing				2026 Background				2026 Total			
			Crit. Mov't	LOS	Delay	v/c	Crit. Mov't	LOS	Delay	v/c	Crit. Mov't	LOS	Delay	v/c
Pacific Highway & W. 5th Street	Two-way Stop	AM	WB	B	13.7	0.04	WB	B	14.5	0.04	WB	B	14.7	0.05
		PM	WB	C	16.4	0.08	WB	C	17.7	0.09	WB	C	18.0	0.09
NW La Center Rd & NW Timmen Rd	Two-way Stop	AM	NB	C	18.3	0.10	NB	C	21.7	0.12	NB	C	24.8	0.13
		PM	NB	F	112.2	1.09	NB	F	201.3	1.33	NB	F	218.7	1.37
	<i>Mitigated</i> ¹	AM	-	-	-	-	-	-	-	-	-	-	-	-
		PM	-	-	-	-	-	B	14.9	0.41	-	C	15.4	0.42
Site Access & La Center Road	Two-way Stop	AM	-	-	-	-	-	-	-	-	NB	D	29.5	0.43
		PM	-	-	-	-	-	-	-	-	NB	E	38.2	0.43
NW La Center Rd & Paradise Park Rd	Two-way Stop	AM	NB	D	31.7	0.01	NB	E	38.7	0.01	NB	F	58.7	0.04
		PM	NB	D	190.1	0.26	NB	F	357.5	0.32	NB	F	484.7	0.36
	<i>Mitigated</i> ²	AM	-	-	-	-	-	-	-	-	-	B	10.1	0.34
		PM	-	-	-	-	-	B	14.1	0.39	-	B	15.1	0.42
Site Access & Paradise Park Rd	Two-way Stop	AM	-	-	-	-	-	-	-	-	WB	A	8.5	0.02
		PM	-	-	-	-	-	-	-	-	WB	A	9.7	0.02

Notes: 2016 Highway Capacity Manual methodology used in analysis, Synchro v11. NB - Northbound, WB - Westbound, Crit. Mov't - Critical movement or critical approach.

¹ Mitigation: Roundabout, consistent with the 2016-2036 La Center Transportation Capital Facilities Plan.

² Mitigation: Traffic signal, consistent with the 2016-2036 La Center Transportation Capital Facilities Plan.

According to the City's Comprehensive Plan policy the minimum acceptable level of service mobility standard for stop controlled intersections is LOS 'E'. As documented in the Table 2 the intersections on La Center Road at West 5th Street and both site accesses will operate at acceptable LOS 'E' or better through the year 2026 total traffic scenario. No mitigation is necessary at these locations.

La Center Road at NW Timmen Road currently operates at LOS 'F' in the PM peak hour. For the year 2026 background and total traffic scenarios it will continue to experience failing

conditions (LOS 'F') during the PM peak hour. In the future the intersection will become signalized or a roundabout will be constructed according to the City's Capital Facilities Plan. With either improvement the intersection will operate at acceptable LOS 'C'. As a dedicated intersection improvement is planned and the failing condition is current no improvements are necessary in conjunction with the proposed development.

La Center Road at NW Paradise Park Road currently operates at LOS 'D'. For the year 2026 background and total traffic scenarios it will experience failing conditions (LOS 'F') in the PM peak hour. In the future the intersection will become signalized according to the City's Capital Facilities Plan. With this improvement the intersection will operate at acceptable LOS 'B'. As a dedicated improvement is planned and the failing condition occurs due to background traffic no intersection improvements are necessary in conjunction with the proposed development.

Generally, LOS 'A', 'B', 'C', and 'D' are desirable service levels ranging from no vehicle delays to average or longer than average delays in the peak hours. Level 'E' represents longer delays and is considered to be the limit of acceptable delay for unsignalized and signalized intersections. Signalization warrants need to be reviewed and signals considered only if warrants are met. Level 'F' indicates that intersection improvements, such as widening and signalization, may be required. According to the Highway Capacity Manual (HCM), the following delay times are associated with the LOS at stop controlled unsignalized and signalized intersections.

Level of Service criteria defined in <u>Highway Capacity Manual</u>		
Level of Service (LOS)	Unsignalized Control Stopped Delay (sec/veh)	Signalized Control Stopped Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

QUEUING ANALYSIS

Traffic queuing on the stop-controlled approaches to La Center Road at Paradise Park Road and at Timmen Road was determined with the capacity analyses. The results based on the 95th percentile queue rating indicated that queues will increase by one vehicle on the northbound approach at each location in the worst-case PM peak hour when comparing the year 2026 background and total traffic scenarios.

Traffic queues on the West 5th Street stop approaches to La Center Road will not exceed one to two vehicles in the AM & PM peak hours.

Traffic queues on the westbound stop approach to NW Paradise Park Road at the site access will not exceed two to three vehicles in the AM & PM peak hours.

Traffic queues on the northbound stop approach to La Center Road at the site access will not exceed two to three vehicles in the AM & PM peak hours.

The LOS reports containing the queue results are contained in the appendix.

SIGHT DISTANCE

Sight distance at the proposed access on La Center Road (classified as a principal arterial) was reviewed in accordance with the AASHTO standards. Using the local street travel speed of 35 MPH an intersection sight distance of 390 feet is required in both directions. The length of sight distance was determined to exceed 400 feet to the west and over 600 feet to the east. Therefore, the intersection sight distance standard will be met.

Northwest Paradise Park Road does not have a posted speed in the vicinity of the site access. However, as a major collector the travel speed has been assumed to be 40 MPH. For this speed an intersection sight distance of 445 feet is required. At the proposed site access location over 500 feet of sightline is available to the south along NW Paradise Park Road. To the north the sightline is unrestricted to beyond the intersection at La Center Road and exceeds 500 feet. Therefore, the sight distance standard is met.

The sight distance standards shall be maintained for safety purposes and potential obstruction to the sightlines by vegetation, walls, parking, signing, buildings, above ground utilities, or other items must be avoided. It is especially important that any site improvements on the north side of the development property and west of the site access on La Center Road not interfere with the driver's sightline from the access approach as the road contains a curved horizontal alignment.

TURN LANE REQUIREMENTS

A westbound left turn lane providing for 100 feet of storage is warranted on La Center Road at the site access point during the AM & PM peak hours. The left turn warrant (nomograph) results are contained in the appendix. To install the turn lane it will be necessary to extend the existing left turn lane now serving the NW Paradise Park Road (WB to SB movement) intersection.

A right turn lane evaluation was conducted for the eastbound to southbound movement for traffic entering the site from La Center Road. The warrant for a taper design length of 100 feet was met. The development project will need to incorporate a right-turn taper per Exhibit

1310-20 of the WSDOT Design Manual (reference right turn lane warrant details included in the appendix).

TRAFFIC SIGNAL WARRANTS

The peak hour signal warrant was evaluated for the stop-controlled study intersections on La Center Road. The peak hour warrant data is included in the appendix.

The intersections on La Center Road at Timmen Road and at Paradise Park Road met the peak hour signal warrant in the PM peak hour for the existing, year 2026 background, and year 2026 total traffic scenarios. Therefore, the signal need is not attributed to the development and is not proposed in conjunction with the project. According to WSDOT's Six Year TIP for 2016-2021 traffic signals are planned at these locations.

Traffic signals are not warranted at the other study intersections.

ACCIDENT HISTORY

Crash data for the study intersections on La Center Road was obtained from WSDOT staff and reviewed to identify potential safety issues. The latest available data covered the years 2018-2022.

The accident rates presented in Table 3 below are based on the number of accidents per million entering vehicles (MEV) per year. Typically, an intersection is not considered unsafe unless the crash rate exceeds the threshold value of 1.0 accidents per MEV.

Table 3 Crash Rate Results

Intersection	Crash History (Years)	Number of Crashes	Crashes per year	Annual Traffic Entering (veh/yr)	Crash rate per M.E.V.*
La Center Rd and W 5th St	5	0	0.0	3225069	0.00
NW La Center Rd and Timmen Rd	5	7	1.4	6596234	0.21
NW La Center Rd and Paradise Park Rd	5	2	0.4	5288675	0.08

* M.E.V. - million entering vehicles.

None of the intersections experienced a crash rate above 0.21crashes per MEV per year indicating safety mitigation is not necessary.

PEDESTRIANS, BICYCLES, & BUSES

Sidewalk will be provided on the property site's north and west street frontages. The new sidewalk will provide safe pedestrian connectivity from the property site to the existing street system.

No bicycle lanes are provided in the area. No bike lanes are planned with the project.

C-Tran provides limited service to La Center with the Connector route which runs on weekdays only. The service operates between downtown La Center with a stop at the 4th Street Park & Ride to the 99th Street Transit Center in Vancouver.

SUMMARY AND RECOMMENDATIONS

The traffic study for the La Center Retail Mix development has been prepared to determine the potential impacts at the site access points and several study intersections along La Center Road. Development of the site includes a hotel with 111 rooms, a separate 3,900 square foot restaurant (fast casual type), and a 2,200 square foot coffee shop with in-door seating and drive-through service. The trip generation is projected to be 1,349 daily trips with 87 AM peak hour trips and 98 PM peak hour trips.

Sight distance at the proposed accesses on La Center Road and NW Paradise Park Road was reviewed in accordance with the AASHTO standards. Based on a local street speed of 35 MPH on La Center Road and an assumed speed of 40 MPH on NW Paradise Park Road the intersection sight distance standards will be met. The sight distance standards shall be maintained for safety purposes and potential obstruction to the sightlines by vegetation, walls, parking, signing, buildings, above ground utilities, or other items must be avoided. It is especially important that any site improvements on the north side of the development property west of the site access on La Center Road not interfere with the driver's sightline from the access approach as the road contains a curved horizontal alignment.

Th intersections on La Center Road at West 5th Street and both site accesses will operate at acceptable LOS 'E' or better through the year 2026 total traffic scenario. No mitigation is necessary at these locations.

La Center Road at NW Timmen Road currently operates at LOS 'F' in the PM peak hour. For the year 2026 background and total traffic scenarios it will continue to experience failing conditions (LOS 'F') during the PM peak hour. In the future the intersection will become signalized or a roundabout will be constructed according to the City's Capital Facilities Plan. With either improvement the intersection will operate at acceptable LOS 'C'. As a dedicated intersection improvement is planned and the failing condition is current no improvements are necessary in conjunction with the proposed development.

La Center Road at NW Paradise Park Road currently operates at LOS 'D'. For the year 2026 background and total traffic scenarios it will experience failing conditions (LOS 'F') in the PM peak hour. In the future the intersection will become signalized according to the City's Capital Facilities Plan. With this improvement the intersection will operate at acceptable LOS 'B'. As a dedicated improvement is planned and the failing condition occurs due to background traffic no intersection improvements are necessary in conjunction with the proposed development.

Traffic queuing on the stop-controlled approaches to La Center Road at Paradise Park Road and at Timmen Road was determined with the capacity analyses. The results indicated that queues will increase by one vehicle on the northbound approach at each location in the worst-case PM peak hour when comparing the year 2026 background and total traffic scenarios. Traffic queues on the West 5th Street stop approaches to La Center Road will not exceed one to two vehicles in the AM & PM peak hours.

Traffic queues on the westbound stop approach to NW Paradise Park Road at the site access will not exceed two to three vehicles in the AM & PM peak hours. Traffic queues on the northbound stop approach to La Center Road at the site access will not exceed two to three vehicles in the AM & PM peak hours.

Crash data for the study intersections was obtained from WSDOT staff and reviewed to identify potential safety issues. The latest five years of available data was reviewed. None of the intersection crash rates exceed 0.21 accidents per MEV per year indicating safety mitigation is not necessary.

Based on evaluation of the study intersections no intersection improvements beyond those planned at the site accesses and street frontage are required in conjunction with the proposed development. The site accesses on La Center Road and on NW Paradise Park Road will require stop sign control and inclusion of stop bar pavement markings.

The following turn lane improvements on La Center Road at the site access will be necessary due to meeting the left turn lane and the right turn lane warrants.

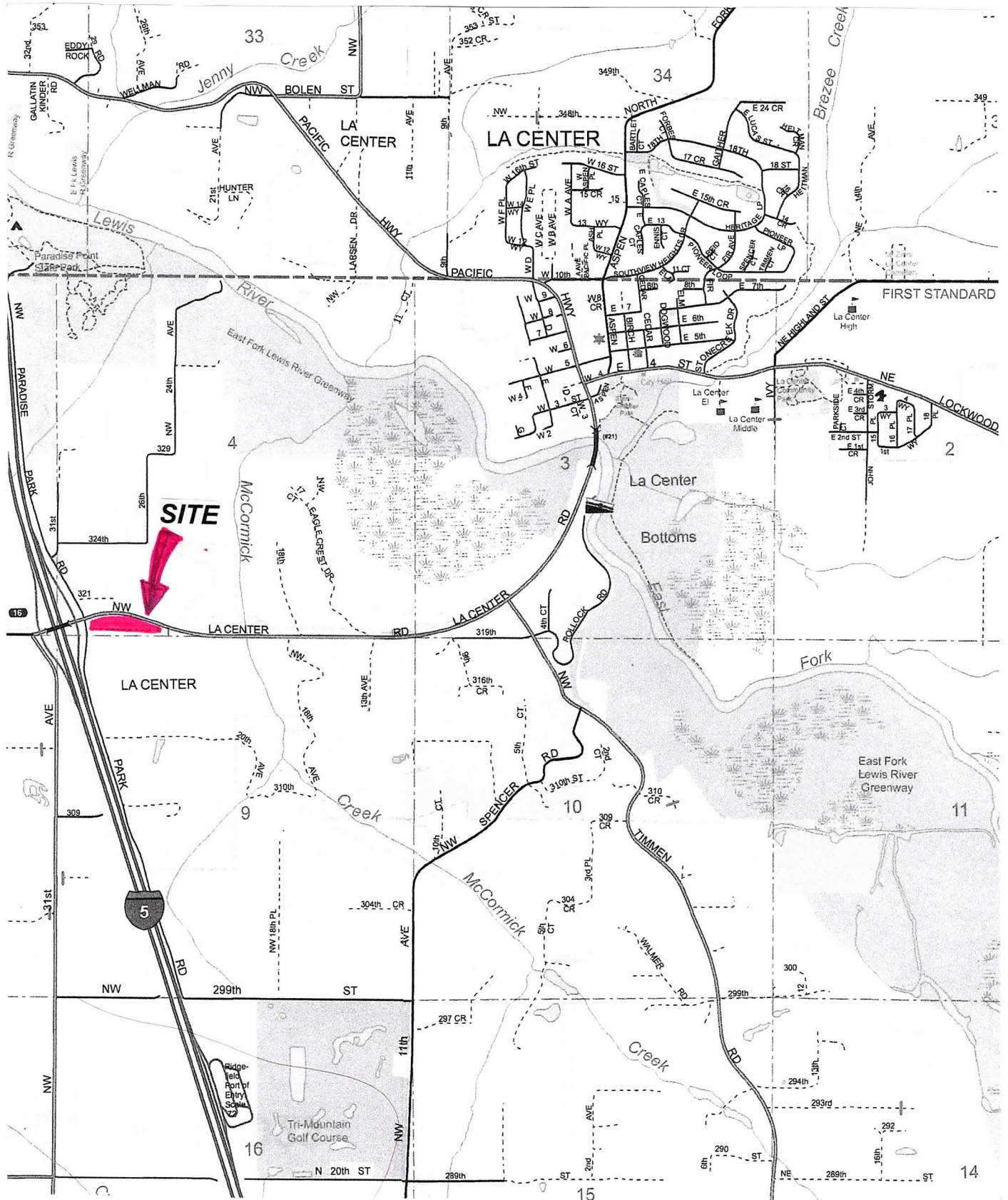
- A westbound left turn lane providing for 100 feet of storage is required on La Center Road at the site access intersection. To install the turn lane it will be necessary to extend the existing left turn by 150 feet that now serves the NW Paradise Park Road (WB to SB movement) intersection.
- The eastbound to southbound right turn movement for traffic entering the site from La Center Road will require a right turn taper design length of 100 feet.

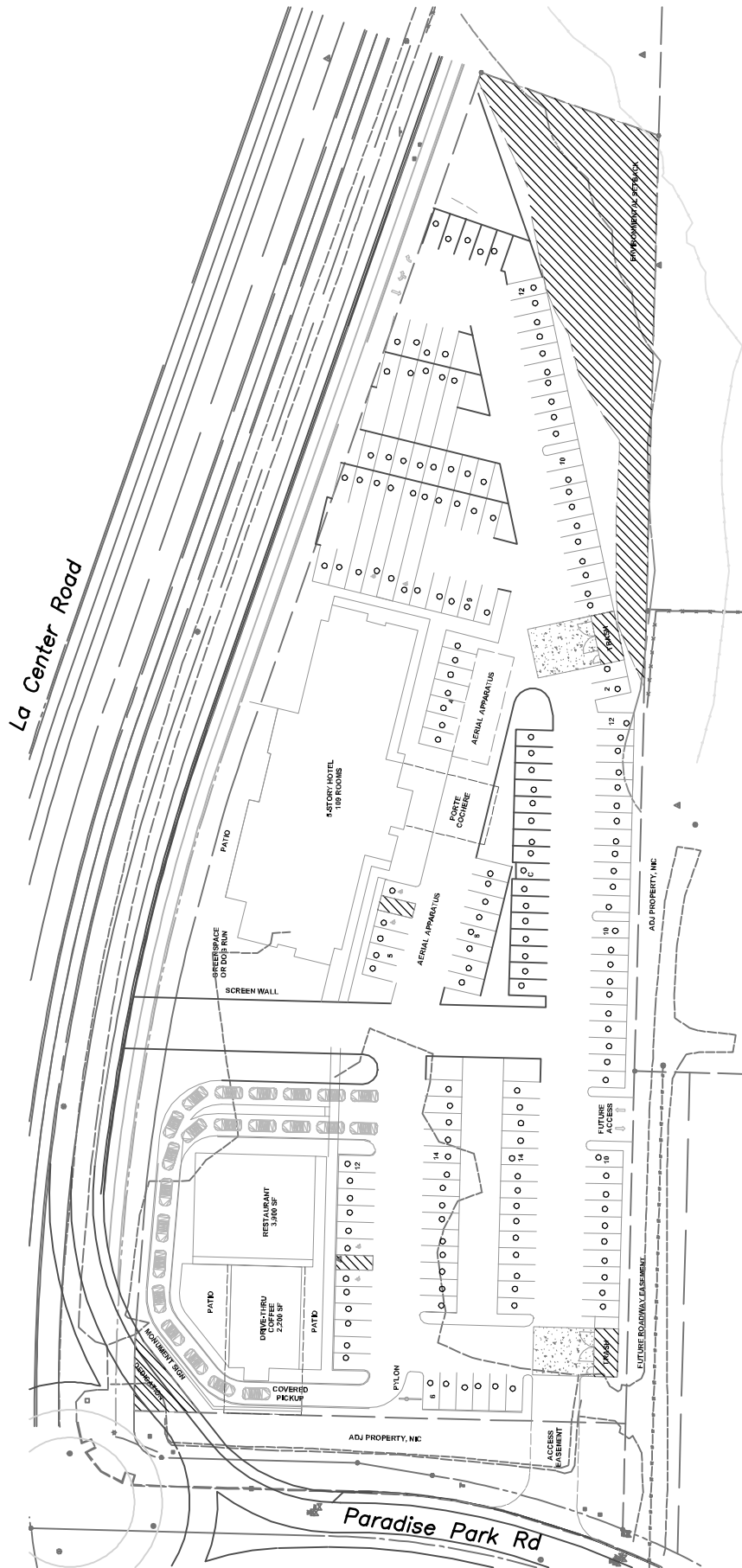
APPENDIX

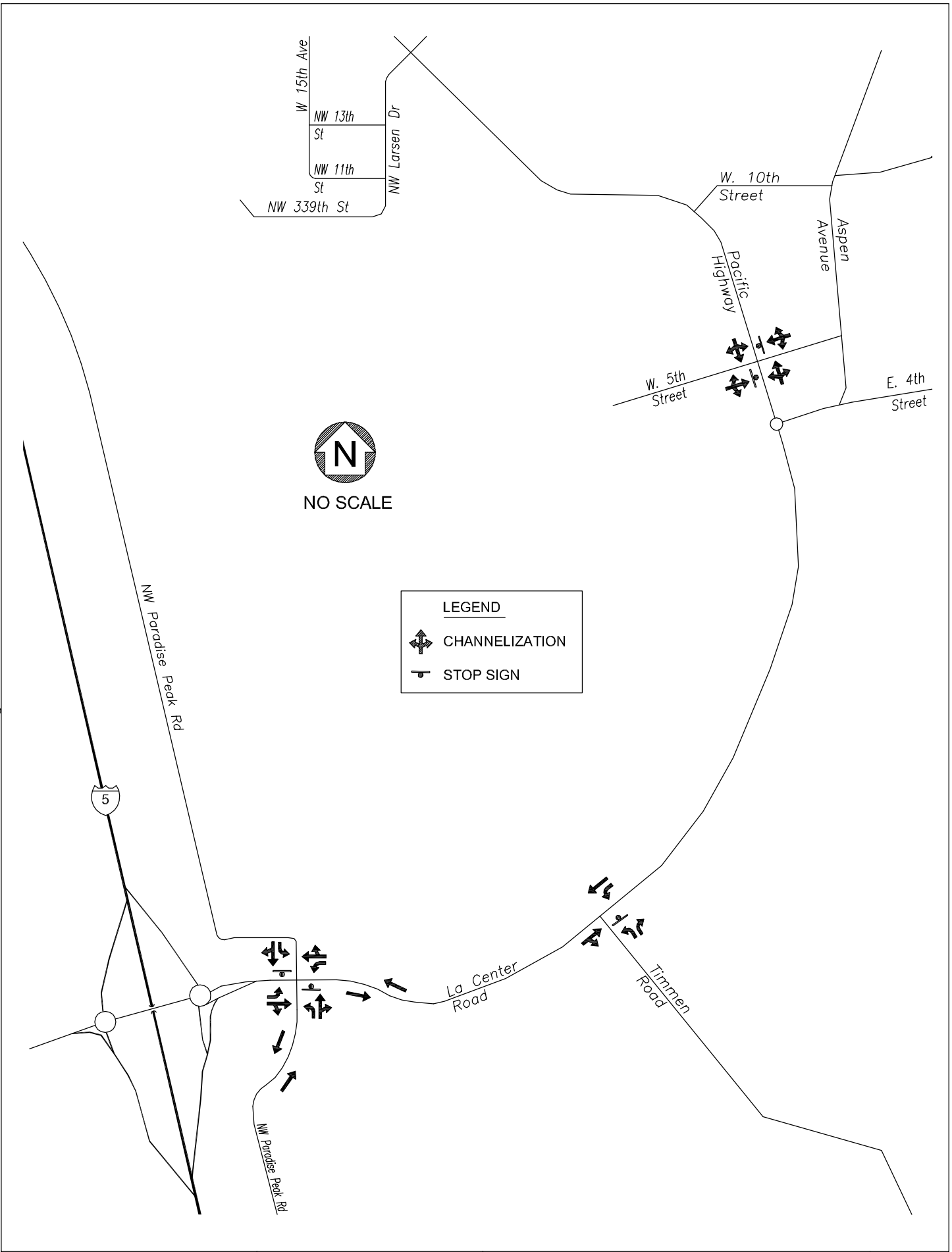
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FILE NAME: 2339flow.dwg

PLOT DATE: 12.03.23







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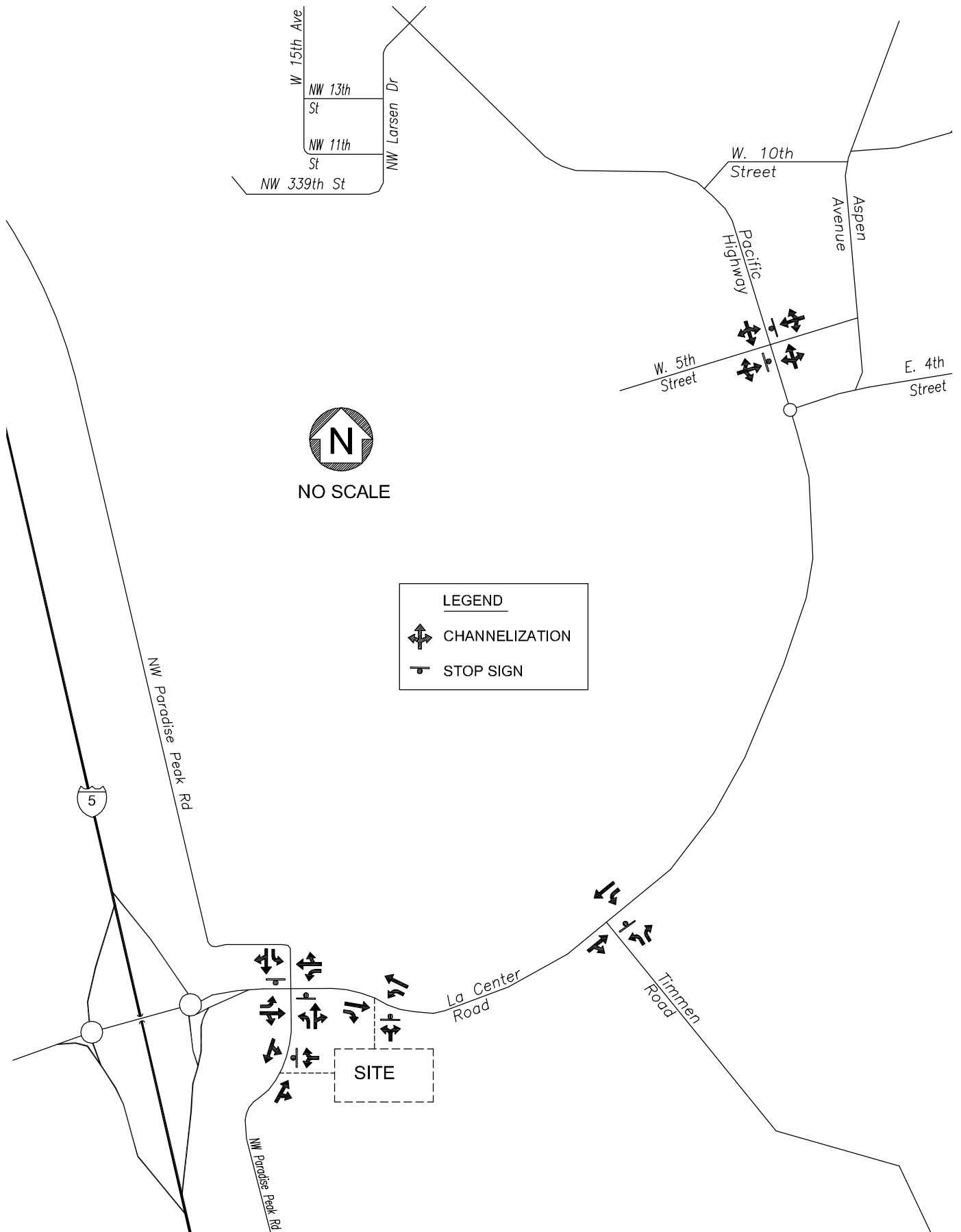
PROJECT: 23-39

NOTES:

EXTG. LANE CONFIGURATIONS
AND TRAFFIC CONTROL
LA CENTER RETAIL MIX

FIGURE

c1



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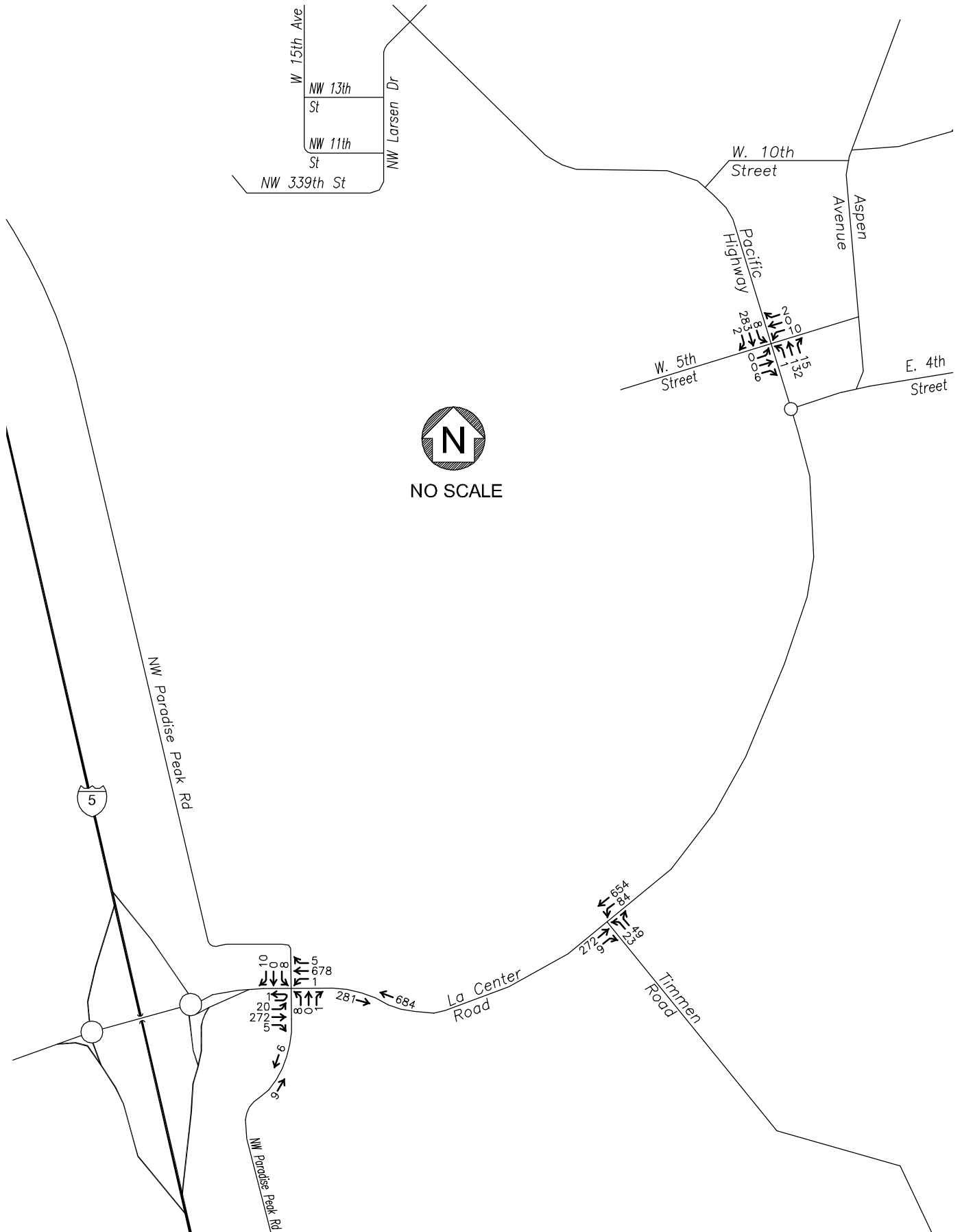
PROJECT: 23-39

NOTES: An EB right-turn taper and a WB left turn lane are recommended at the site's access to La Center Road.

**PROPOSED LANE CONFIG.
AND TRAFFIC CONTROL
LA CENTER RETAIL MIX**

FIGURE

c2



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NOTES:

2023 EXISTING TRAFFIC
AM PEAK HOUR
LA CENTER RETAIL MIX

FIGURE

1a



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NOTES:

2023 EXISTING TRAFFIC
PM PEAK HOUR
LA CENTER RETAIL MIX

FIGURE

1b

FILE NAME: 2339flow.dwg

PLOT DATE: 12.03.23



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PROJECT: 23-39

NOTES: In-process Traffic
sites include Lockwood
Meadows and Asa's View.

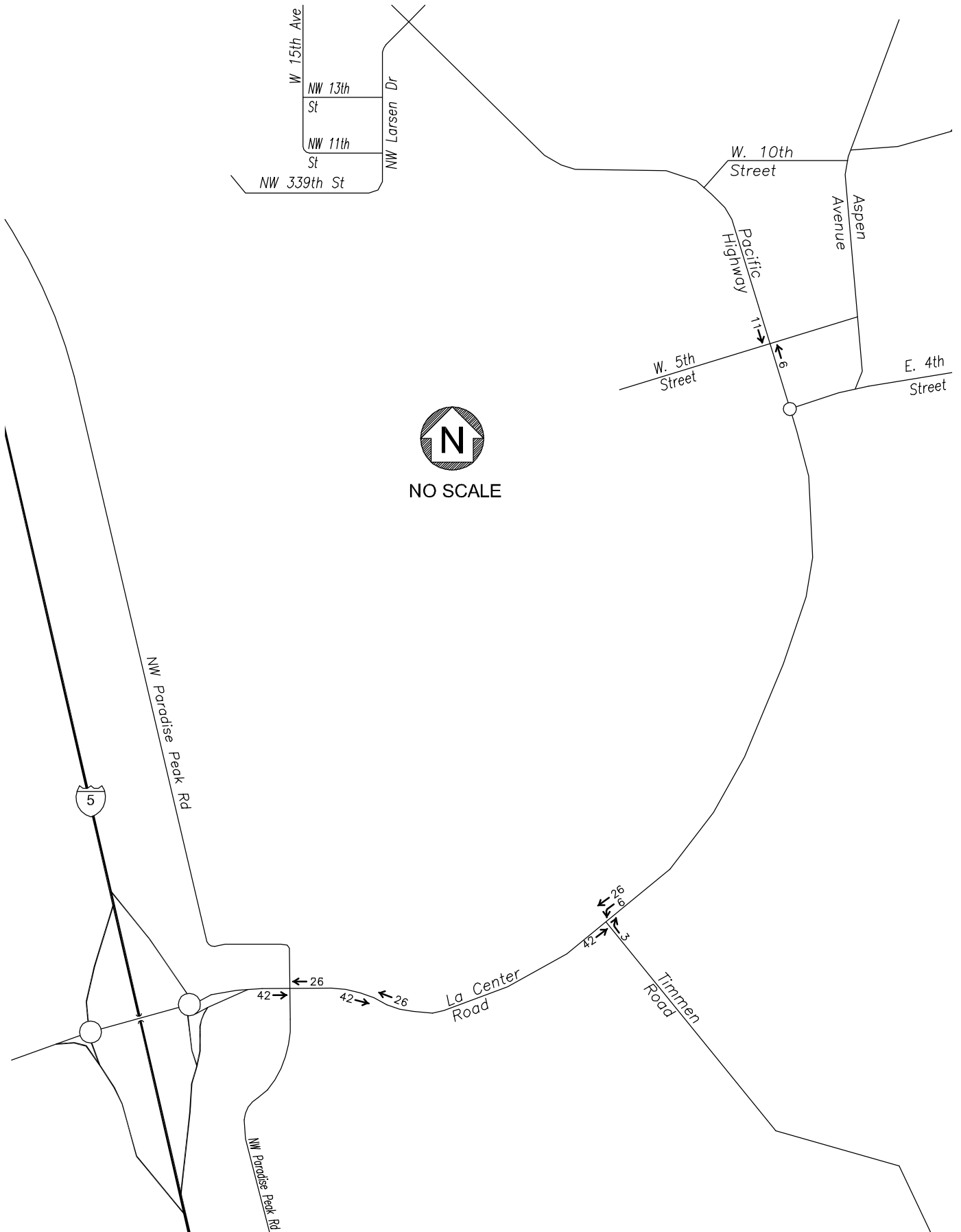
IN-PROCESS TRAFFIC
AM PEAK HOUR
LA CENTER RETAIL MIX

FIGURE

2a

FILE NAME: 2339flow.dwg

PLOT DATE: 12.03.23



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ENGINEERING LLC

PROJECT: 23-39

NOTES: In-process Traffic
sites include Lockwood
Meadows and Asa's View.

IN-PROCESS TRAFFIC
PM PEAK HOUR
LA CENTER RETAIL MIX

FIGURE

2b

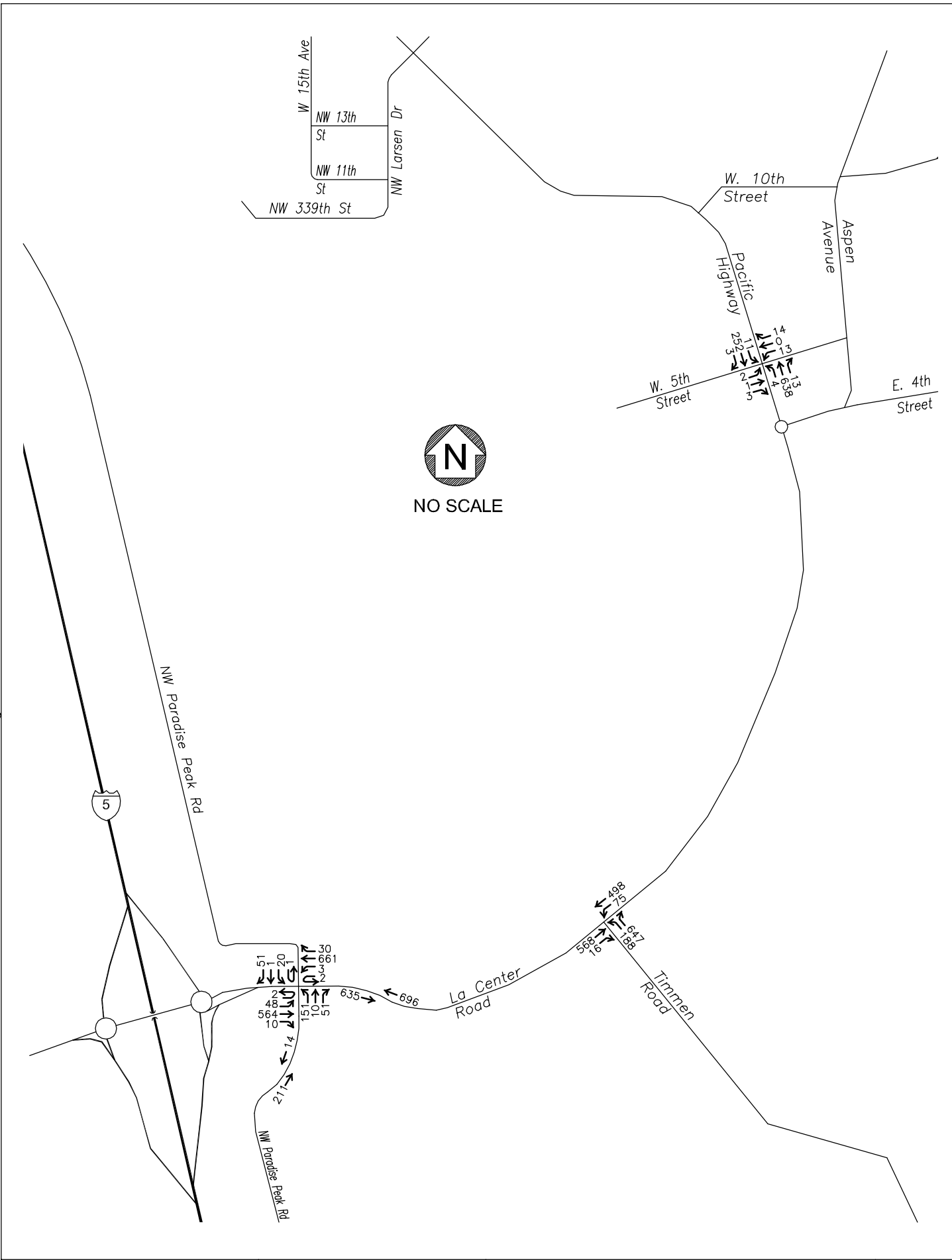


NO SCALE

NOTES: 2026 Background Traffic = 2023 Existing Traffic + growth (2%/yr for 3 years) + In-Process Traffic.

2026 BACKGROUND TRAFFIC
AM PEAK HOUR
LA CENTER RETAIL MIX

FIGURE
3a



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PROJECT: 23-39

NOTES: 2026 Background
Traffic = 2023 Existing Traffic
+ growth (2%/yr for 3 years) +
In-Process Traffic.

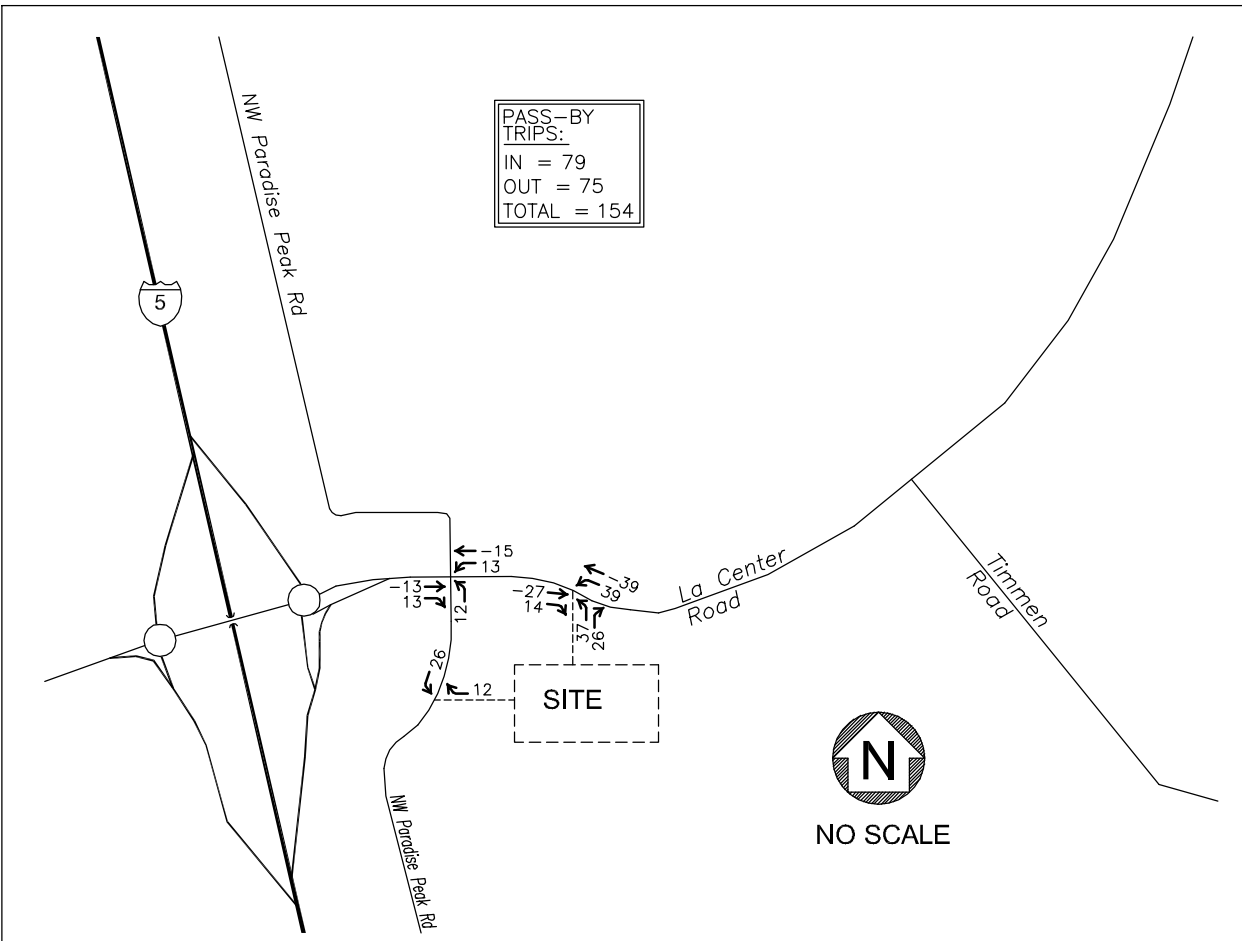
2026 BACKGROUND TRAFFIC
PM PEAK HOUR
LA CENTER RETAIL MIX

FIGURE

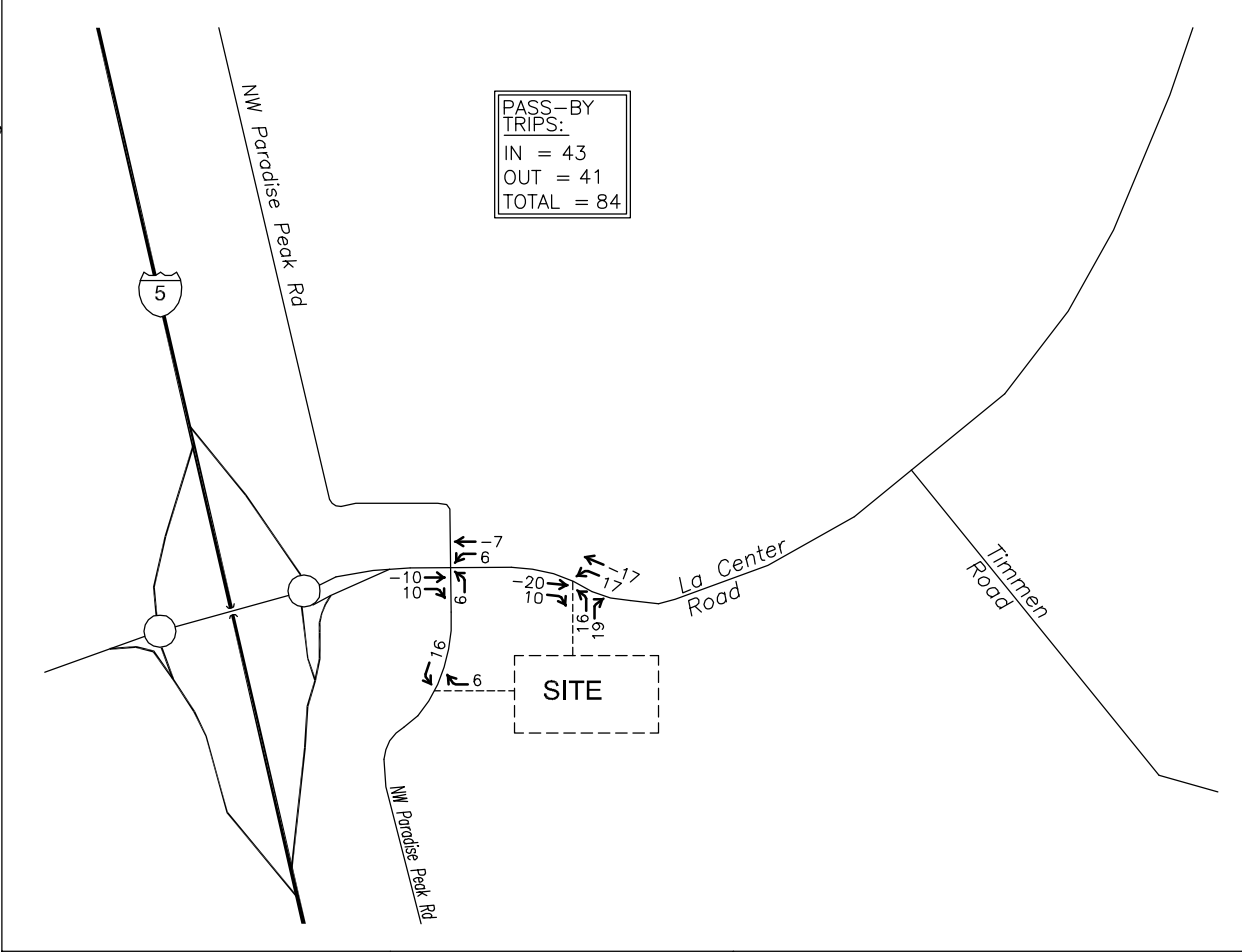
3b

FILE NAME: 2339flow.dwg

PLOT DATE: 11.17.23



AM
PEAK
HOUR



PM
PEAK
HOUR



**CHARBONNEAU
ENGINEERING LLC**

PROJECT: 23-39

NOTES: The site's trip distribution
is based on engineering judgment.

**NEW TRIP DISTRIBUTION
AM PEAK HOUR & PM PEAK HOUR
LA CENTER RETAIL MIX**

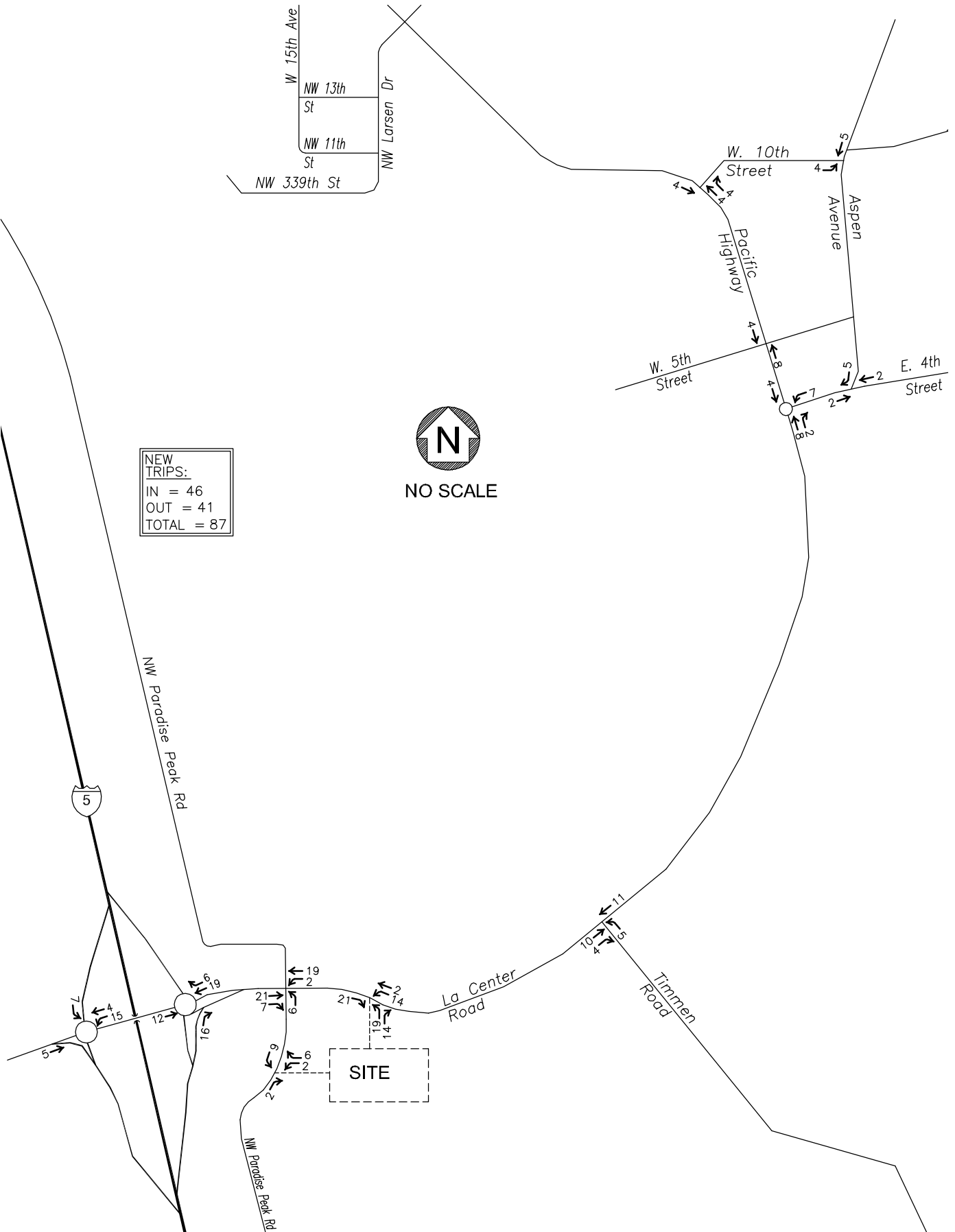
FIGURE

5

NEW
TRIPS:
IN = 46
OUT = 41
TOTAL = 87



NO SCALE



CHARBONNEAU
ENGINEERING LLC

PROJECT: 23-39

NOTES: The site's trip generation is based on Hotel, Fast Casual Restaurant, & Coffee with Drive-Thru and Indoor Seating trip rates.

NEW TRIP ASSIGNMENT
AM PEAK HOUR
LA CENTER RETAIL MIX

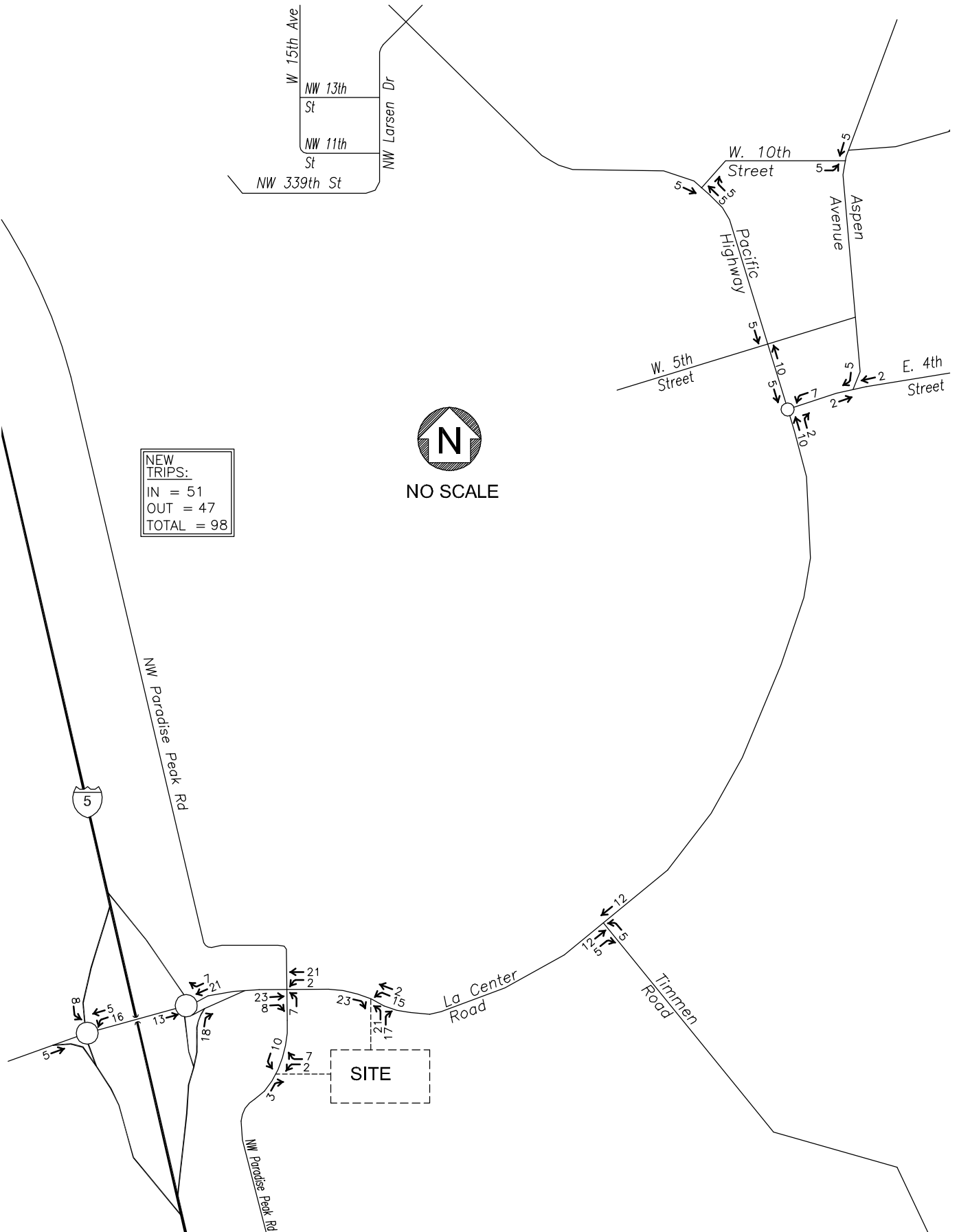
FIGURE

6a

NEW
TRIPS:
IN = 51
OUT = 47
TOTAL = 98



NO SCALE



CHARBONNEAU
ENGINEERING LLC

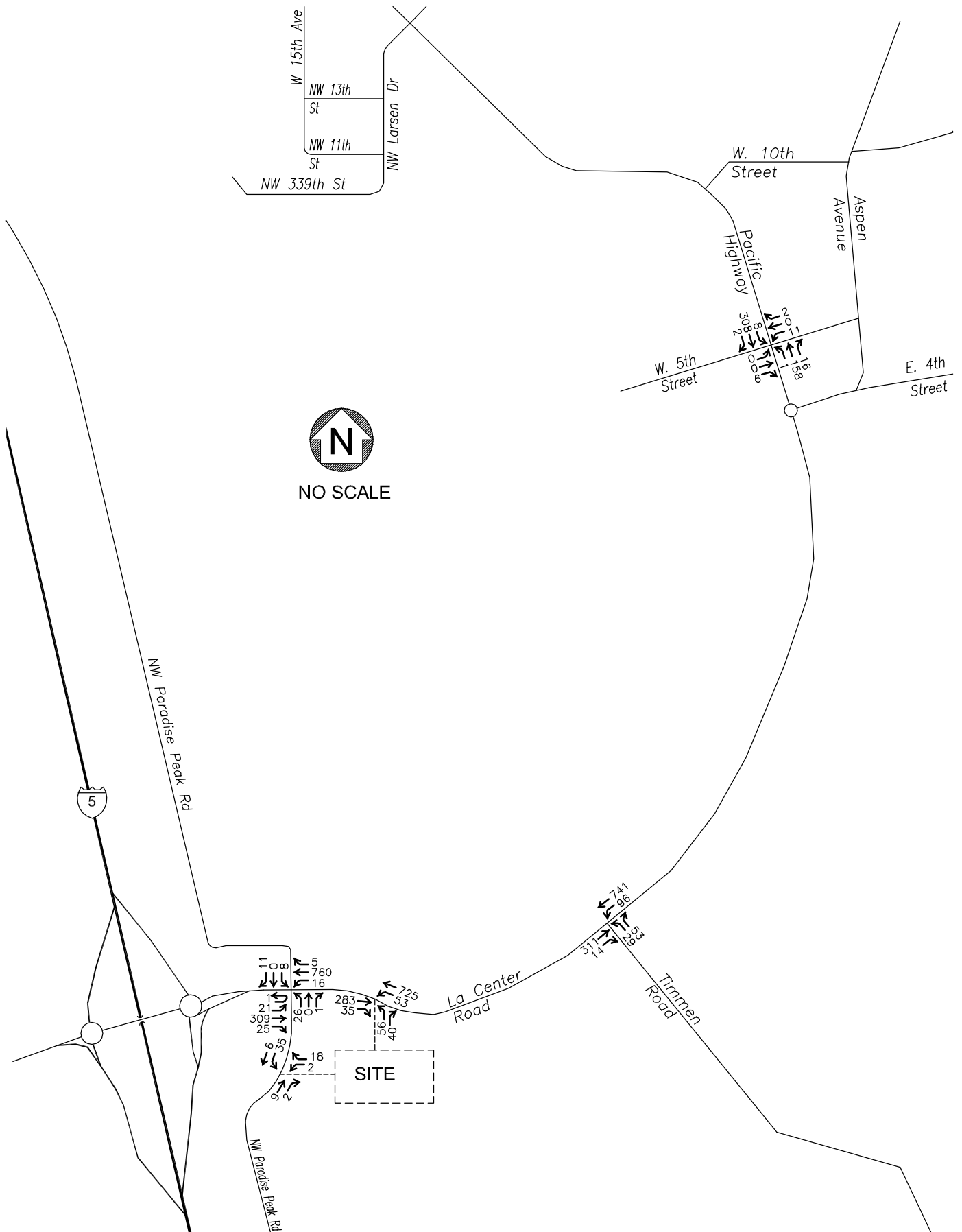
PROJECT: 23-39

NOTES: The site's trip generation is based on Hotel, Fast Casual Restaurant, & Coffee with Drive-Thru and Indoor Seating trip rates.

NEW TRIP ASSIGNMENT
PM PEAK HOUR
LA CENTER RETAIL MIX

FIGURE

6b



**CHARBONNEAU
ENGINEERING LLC**

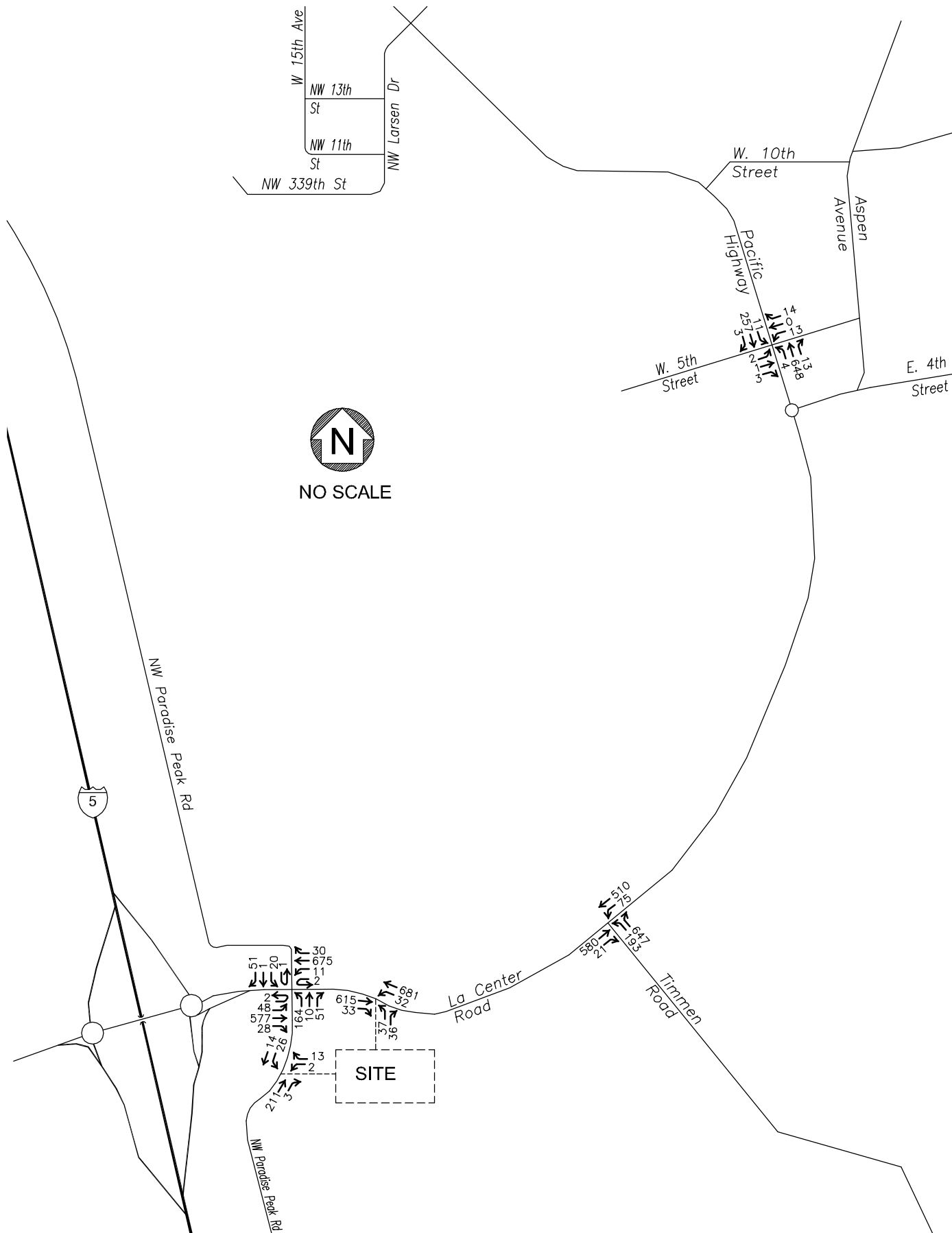
PROJECT: 23-39

NOTES: 2026 Total Traffic =
2026 Background Traffic +
Trip Assignment (Pass-by
Trips and New Trips).

**2026 TOTAL TRAFFIC
AM PEAK HOUR
LA CENTER RETAIL MIX**

FIGURE

7a



**CHARBONNEAU
ENGINEERING LLC**

PROJECT: 23-39

NOTES: 2026 Total Traffic =
2026 Background Traffic +
Trip Assignment (Pass-by
Trips and New Trips).

**2026 TOTAL TRAFFIC
PM PEAK HOUR
LA CENTER RETAIL MIX**

FIGURE

7b



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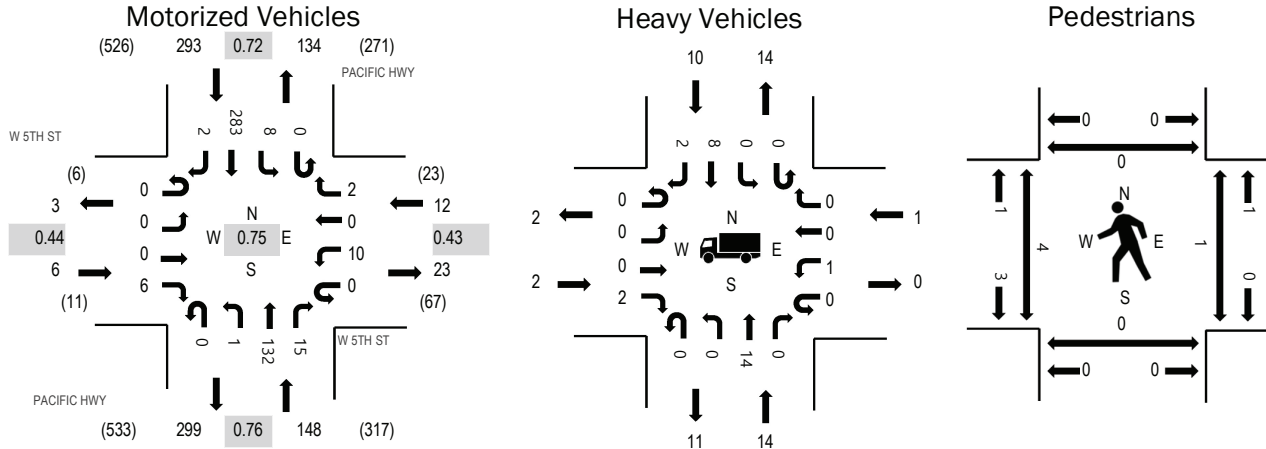
Location: 3 PACIFIC HWY & W 5TH ST AM

Date: Thursday, September 14, 2023

Peak Hour: 07:05 AM - 08:05 AM

Peak 15-Minutes: 07:25 AM - 07:40 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	33.3%	0.44
WB	8.3%	0.43
NB	9.5%	0.76
SB	3.4%	0.72
All	5.9%	0.75

Traffic Counts - Motorized Vehicles

Interval Start Time	W 5TH ST Eastbound				W 5TH ST Westbound				PACIFIC HWY Northbound				PACIFIC HWY Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	0	0	0	0	0	0	0	10	0	0	0	8	0	18	455
7:05 AM	0	0	0	0	0	2	0	0	0	0	7	1	0	0	16	0	26	459
7:10 AM	0	0	0	0	0	1	0	0	0	0	9	1	0	1	20	1	33	458
7:15 AM	0	0	0	1	0	2	0	0	0	0	10	1	0	1	25	0	40	452
7:20 AM	0	0	0	0	0	0	0	0	0	0	12	0	0	0	33	1	46	448
7:25 AM	0	0	0	1	0	0	0	0	0	0	15	0	0	1	32	0	49	439
7:30 AM	0	0	0	2	0	1	0	2	0	0	10	0	0	0	33	0	48	430
7:35 AM	0	0	0	0	0	4	0	0	0	0	11	4	0	0	36	0	55	426
7:40 AM	0	0	0	2	0	0	0	0	0	0	15	1	0	2	24	0	44	415
7:45 AM	0	0	0	0	0	0	0	0	0	1	10	1	0	1	16	0	29	416
7:50 AM	0	0	0	0	0	0	0	0	0	0	14	1	0	1	13	0	29	422
7:55 AM	0	0	0	0	0	0	0	0	0	0	14	2	0	1	21	0	38	425
8:00 AM	0	0	0	0	0	0	0	0	0	0	5	3	0	0	14	0	22	422
8:05 AM	0	0	0	0	0	1	0	1	0	0	6	1	0	0	16	0	25	
8:10 AM	0	0	0	1	0	0	0	0	0	0	9	2	0	0	15	0	27	
8:15 AM	0	0	0	0	0	0	0	0	0	0	10	3	0	0	23	0	36	
8:20 AM	0	0	0	1	0	1	0	0	0	0	9	1	0	2	22	1	37	
8:25 AM	0	0	0	1	0	0	0	0	0	0	16	4	0	2	17	0	40	
8:30 AM	0	0	0	0	0	1	1	1	0	0	8	2	0	1	30	0	44	
8:35 AM	0	0	0	1	0	1	0	1	0	0	14	2	0	1	24	0	44	
8:40 AM	0	0	0	1	0	0	0	0	0	0	16	4	0	0	24	0	45	
8:45 AM	0	0	0	0	0	0	0	0	0	0	14	5	1	0	15	0	35	
8:50 AM	0	0	0	0	0	0	0	1	0	1	7	8	0	0	15	0	32	
8:55 AM	0	0	0	0	0	1	0	1	0	0	12	5	0	1	15	0	35	
Count Total	0	0	0	11	0	15	1	7	0	2	263	52	1	15	507	3	877	
Peak Hour	0	0	0	6	0	10	0	2	0	1	132	15	0	8	283	2	459	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0	7:00 AM	0	0	1	0	1
7:05 AM	0	2	0	0	2	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	0	0	2	2	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	1	0	0	1	2	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	2	0	1	3	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	1	2	0	1	4	7:25 AM	0	0	0	0	0	7:25 AM	2	0	0	0	2
7:30 AM	0	1	0	2	3	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	0	0	1	1	2	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	2	0	1	3	7:40 AM	0	0	0	0	0	7:40 AM	1	0	0	0	1
7:45 AM	0	1	0	0	1	7:45 AM	0	0	0	0	0	7:45 AM	1	0	1	0	2
7:50 AM	0	2	0	1	3	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	0	2	0	0	2	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	0	0	1	1	2	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	2	0	1	3	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	0	1	0	0	1	8:15 AM	0	0	0	0	0	8:15 AM	3	0	0	0	3
8:20 AM	1	0	0	1	2	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	0	1	0	2	3	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	0	0	2	2	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	0	2	1	0	3	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	1	0	0	1	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	1	0	2	3	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	0	0	2	2	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	1	1	1	3	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	3	23	4	22	52	Count Total	0	0	0	0	0	Count Total	7	0	2	0	9
Peak Hour	2	14	1	10	27	Peak Hour	0	0	0	0	0	Peak Hour	4	0	1	0	5



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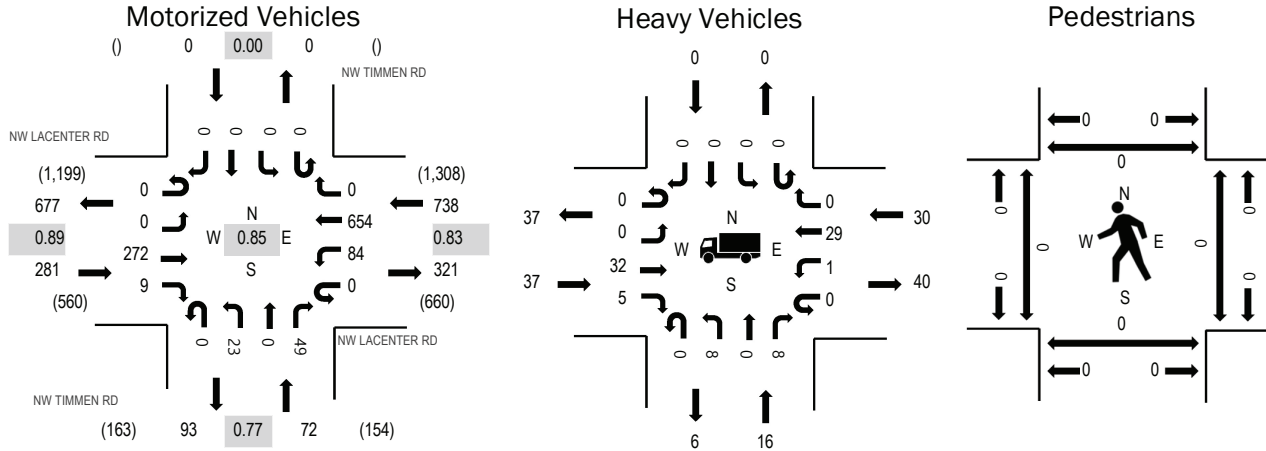
Location: 4 NW TIMMEN RD & NW LACENTER RD AM

Date: Thursday, September 14, 2023

Peak Hour: 07:10 AM - 08:10 AM

Peak 15-Minutes: 07:25 AM - 07:40 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	13.2%	0.89
WB	4.1%	0.83
NB	22.2%	0.77
SB	0.0%	0.00
All	7.6%	0.85

Traffic Counts - Motorized Vehicles

Interval Start Time	NW LACENTER RD Eastbound				NW LACENTER RD Westbound				NW TIMMEN RD Northbound				NW TIMMEN RD Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	19	0	0	2	36	0	0	1	0	7	0	0	0	0	65	1,081
7:05 AM	0	0	20	0	0	4	42	0	0	1	0	4	0	0	0	0	71	1,086
7:10 AM	0	0	16	1	0	10	54	0	0	2	0	2	0	0	0	0	85	1,091
7:15 AM	0	0	17	3	0	6	66	0	0	0	0	2	0	0	0	0	94	1,078
7:20 AM	0	0	34	1	0	4	52	0	0	0	0	3	0	0	0	0	94	1,057
7:25 AM	0	0	22	1	0	8	65	0	0	2	0	10	0	0	0	0	108	1,038
7:30 AM	0	0	24	0	0	8	64	0	0	5	0	5	0	0	0	0	106	1,008
7:35 AM	0	0	24	0	0	7	72	0	0	2	0	3	0	0	0	0	108	971
7:40 AM	0	0	20	1	0	8	65	0	0	1	0	5	0	0	0	0	100	954
7:45 AM	0	0	25	0	0	9	52	0	0	1	0	4	0	0	0	0	91	949
7:50 AM	0	0	25	1	0	6	40	0	0	5	0	3	0	0	0	0	80	942
7:55 AM	0	0	18	0	0	9	44	0	0	2	0	6	0	0	0	0	79	948
8:00 AM	0	0	21	0	0	6	39	0	0	1	0	3	0	0	0	0	70	941
8:05 AM	0	0	26	1	0	3	41	0	0	2	0	3	0	0	0	0	76	
8:10 AM	0	0	25	1	0	4	37	0	0	1	0	4	0	0	0	0	72	
8:15 AM	0	0	19	2	0	5	42	0	0	0	0	5	0	0	0	0	73	
8:20 AM	0	0	22	0	0	5	44	0	0	0	0	4	0	0	0	0	75	
8:25 AM	0	0	23	1	0	2	43	0	0	2	0	7	0	0	0	0	78	
8:30 AM	0	0	20	3	0	5	38	0	0	0	0	3	0	0	0	0	69	
8:35 AM	0	0	21	1	0	9	49	0	0	0	0	11	0	0	0	0	91	
8:40 AM	0	0	29	1	0	5	50	0	0	3	0	7	0	0	0	0	95	
8:45 AM	0	0	27	0	0	8	45	0	0	2	0	2	0	0	0	0	84	
8:50 AM	0	0	25	0	0	6	43	0	0	2	0	10	0	0	0	0	86	
8:55 AM	0	0	20	0	0	6	40	0	0	1	0	5	0	0	0	0	72	
Count Total	0	0	542	18	0	145	1,163	0	0	36	0	118	0	0	0	0	2,022	
Peak Hour	0	0	272	9	0	84	654	0	0	23	0	49	0	0	0	0	1,091	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	2	3	0	0	5	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	1	0	0	1	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	2	2	2	0	6	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	3	0	4	0	7	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	7	1	0	0	8	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	2	2	1	0	5	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	6	1	3	0	10	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	2	1	1	0	4	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	3	1	5	0	9	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	4	0	2	0	6	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	2	3	2	0	7	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	1	2	4	0	7	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	2	1	4	0	7	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	3	2	2	0	7	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	2	2	0	0	4	8:10 AM	0	0	0	0	0	8:10 AM	0	0	1	0	1
8:15 AM	4	0	0	0	4	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	1	1	1	0	3	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	1	1	1	0	3	8:25 AM	0	0	1	0	1	8:25 AM	0	0	0	0	0
8:30 AM	3	0	1	0	4	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	2	2	2	0	6	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	2	10	0	12	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	5	0	6	0	11	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	2	4	0	6	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	1	1	3	0	5	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	58	31	58	0	147	Count Total	0	0	1	0	1	Count Total	0	0	1	0	1
Peak Hour	37	16	30	0	83	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



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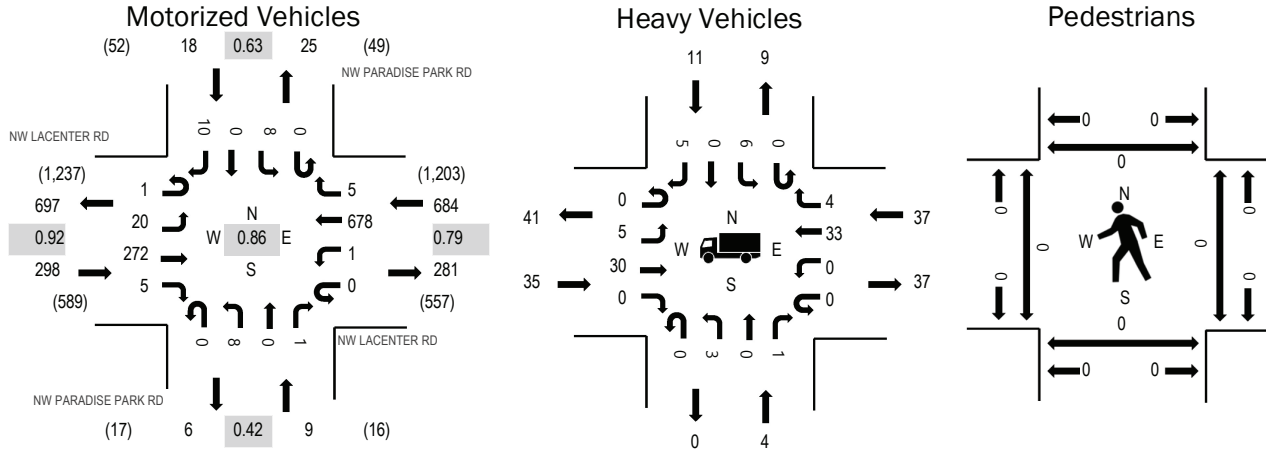
Location: 5 NW PARADISE PARK RD & NW LACENTER RD AM

Date: Thursday, September 14, 2023

Peak Hour: 07:10 AM - 08:10 AM

Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	11.7%	0.92
WB	5.4%	0.79
NB	44.4%	0.42
SB	61.1%	0.63
All	8.6%	0.86

Traffic Counts - Motorized Vehicles

Interval Start Time	NW LACENTER RD Eastbound				NW LACENTER RD Westbound				NW PARADISE PARK RD Northbound				NW PARADISE PARK RD Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	1	3	13	0	0	0	37	0	0	1	0	0	0	1	0	3	59	998
7:05 AM	0	3	22	1	0	0	44	0	0	1	0	0	0	0	0	4	75	1,005
7:10 AM	0	1	18	0	0	0	53	0	0	0	0	0	0	2	0	0	74	1,009
7:15 AM	0	0	23	0	0	0	55	1	0	2	0	0	0	1	0	1	83	1,000
7:20 AM	0	4	25	1	0	0	62	0	0	1	0	0	0	1	0	0	94	979
7:25 AM	0	1	25	0	0	0	62	0	0	2	0	1	0	2	0	1	94	962
7:30 AM	0	1	21	1	0	0	74	0	0	0	0	0	0	0	0	1	98	940
7:35 AM	0	0	23	2	0	0	71	1	0	1	0	0	0	0	0	1	99	910
7:40 AM	1	0	23	0	0	0	70	0	0	1	0	0	0	0	0	1	96	888
7:45 AM	0	2	21	0	0	1	53	1	0	0	0	0	0	0	0	1	79	863
7:50 AM	0	5	28	1	0	0	47	0	0	0	0	0	0	0	0	1	82	875
7:55 AM	0	1	21	0	0	0	41	1	0	0	0	0	0	0	0	1	65	862
8:00 AM	0	1	19	0	0	0	44	0	0	1	0	0	0	0	0	1	66	862
8:05 AM	0	4	25	0	0	0	46	1	0	0	0	0	0	2	0	1	79	
8:10 AM	0	1	24	1	0	0	37	0	0	0	0	1	0	1	0	0	65	
8:15 AM	0	1	22	0	0	0	38	0	0	0	0	0	0	1	0	0	62	
8:20 AM	0	0	24	0	0	0	46	0	0	0	0	0	0	0	0	7	77	
8:25 AM	1	0	23	0	0	0	45	0	0	2	0	0	0	0	0	1	72	
8:30 AM	0	0	23	4	0	0	38	0	0	2	0	0	0	1	0	0	68	
8:35 AM	0	1	25	1	0	0	49	0	0	0	0	0	0	0	0	1	77	
8:40 AM	0	1	26	0	0	0	42	0	0	0	0	0	0	0	0	2	71	
8:45 AM	0	0	31	1	0	0	47	10	0	0	0	0	0	0	0	2	91	
8:50 AM	0	0	20	0	0	0	44	1	0	0	0	0	0	0	0	4	69	
8:55 AM	0	3	13	2	0	0	41	0	0	0	0	0	0	5	1	0	65	
Count Total	3	33	538	15	0	1	1,186	16	0	14	0	2	0	17	1	34	1,860	
Peak Hour	1	20	272	5	0	1	678	5	0	8	0	1	0	8	0	10	1,009	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	1	1	1	3	6	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	1	0	0	4	5	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	1	0	2	1	4	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	4	0	5	2	11	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	3	1	1	1	6	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	4	1	2	1	8	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	3	0	0	0	3	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	2	1	5	0	8	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	3	1	5	1	10	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	4	0	1	1	6	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	3	0	6	0	9	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	2	0	2	1	5	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	2	0	6	1	9	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	4	0	2	2	8	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	3	0	1	0	4	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	4	0	0	0	4	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	2	0	1	3	6	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	1	2	1	0	4	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	2	1	1	0	4	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	2	0	2	1	5	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	1	0	3	0	4	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	4	0	14	0	18	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	0	5	0	5	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	3	0	3	0	6	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	59	8	69	22	158	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	35	4	37	11	87	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



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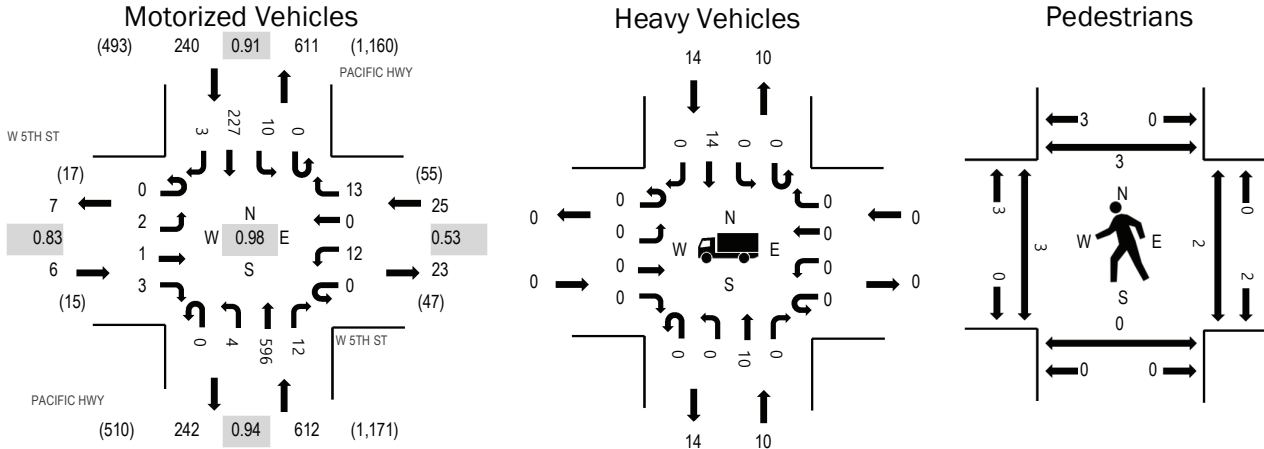
Location: 3 PACIFIC HWY & W 5TH ST PM

Date: Thursday, September 14, 2023

Peak Hour: 04:10 PM - 05:10 PM

Peak 15-Minutes: 04:10 PM - 04:25 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.83
WB	0.0%	0.53
NB	1.6%	0.94
SB	5.8%	0.91
All	2.7%	0.98

Traffic Counts - Motorized Vehicles

Interval Start Time	W 5TH ST Eastbound				W 5TH ST Westbound				PACIFIC HWY Northbound				PACIFIC HWY Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	1	0	2	2	0	0	1	48	0	0	1	15	0	70	871
4:05 PM	0	0	0	1	0	4	0	2	0	2	46	0	0	1	17	0	73	874
4:10 PM	0	0	0	0	0	2	0	1	0	0	59	2	0	1	20	0	85	883
4:15 PM	0	0	0	0	0	4	0	2	0	0	47	2	0	0	19	0	74	876
4:20 PM	0	0	0	0	0	0	0	1	0	0	44	1	0	2	18	0	66	868
4:25 PM	0	0	0	0	0	1	0	1	0	0	56	1	0	0	21	0	80	865
4:30 PM	0	0	0	0	0	0	0	1	0	0	53	0	0	0	14	0	68	863
4:35 PM	0	0	0	1	0	2	0	2	0	0	52	1	0	0	18	0	76	870
4:40 PM	0	1	0	0	0	0	0	1	0	0	49	1	0	0	24	1	77	856
4:45 PM	0	1	0	0	0	1	0	1	0	0	48	2	0	3	14	0	70	845
4:50 PM	0	0	0	1	0	0	0	2	0	0	46	0	0	2	16	0	67	837
4:55 PM	0	0	0	1	0	0	0	0	0	3	42	1	0	0	17	1	65	854
5:00 PM	0	0	1	0	0	0	0	1	0	0	47	1	0	0	23	0	73	863
5:05 PM	0	0	0	0	0	2	0	0	0	1	53	0	0	2	23	1	82	
5:10 PM	0	0	0	1	0	1	0	1	0	0	49	1	0	0	25	0	78	
5:15 PM	0	0	0	0	0	3	0	0	0	1	42	1	0	0	19	0	66	
5:20 PM	0	0	0	0	0	2	0	1	0	0	38	1	0	1	20	0	63	
5:25 PM	0	0	0	1	0	0	0	0	0	2	56	0	0	0	19	0	78	
5:30 PM	0	0	1	1	0	1	0	1	0	0	49	2	0	1	19	0	75	
5:35 PM	0	0	0	0	0	0	0	2	0	0	35	0	0	2	23	0	62	
5:40 PM	0	0	0	1	0	1	0	1	0	1	39	3	0	0	20	0	66	
5:45 PM	0	0	0	2	0	0	0	1	0	0	40	0	0	2	17	0	62	
5:50 PM	0	0	0	0	0	1	0	1	0	0	46	2	0	2	32	0	84	
5:55 PM	0	0	0	0	0	2	0	1	0	1	50	3	0	0	17	0	74	
Count Total	0	2	2	11	0	29	2	24	0	12	1,134	25	0	20	470	3	1,734	
Peak Hour	0	2	1	3	0	12	0	13	0	4	596	12	0	10	227	3	883	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	1	1	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	1	0	1	2	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	1	0	4	5	4:10 PM	0	0	0	0	0	4:10 PM	2	0	0	0	2
4:15 PM	0	1	0	0	1	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	2	0	1	3	4:20 PM	0	0	0	0	0	4:20 PM	0	0	1	0	1
4:25 PM	0	2	0	2	4	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	1	0	1
4:35 PM	0	2	0	2	4	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	1	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	1	0	0	1	4:50 PM	0	0	0	0	0	4:50 PM	1	0	0	0	1
4:55 PM	0	1	0	2	3	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	2	2	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	3	3
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	3	3
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	1	0	1
5:25 PM	0	2	0	0	2	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	3	0	0	3	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	1	0	1	2	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	2	2
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	1	1	2	4
5:50 PM	0	1	0	1	2	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	2	0	1	3	5:55 PM	0	0	0	0	0	5:55 PM	1	0	0	0	1
Count Total	0	20	0	19	39	Count Total	0	0	0	0	0	Count Total	4	1	4	10	19
Peak Hour	0	10	0	14	24	Peak Hour	0	0	0	0	0	Peak Hour	3	0	2	3	8



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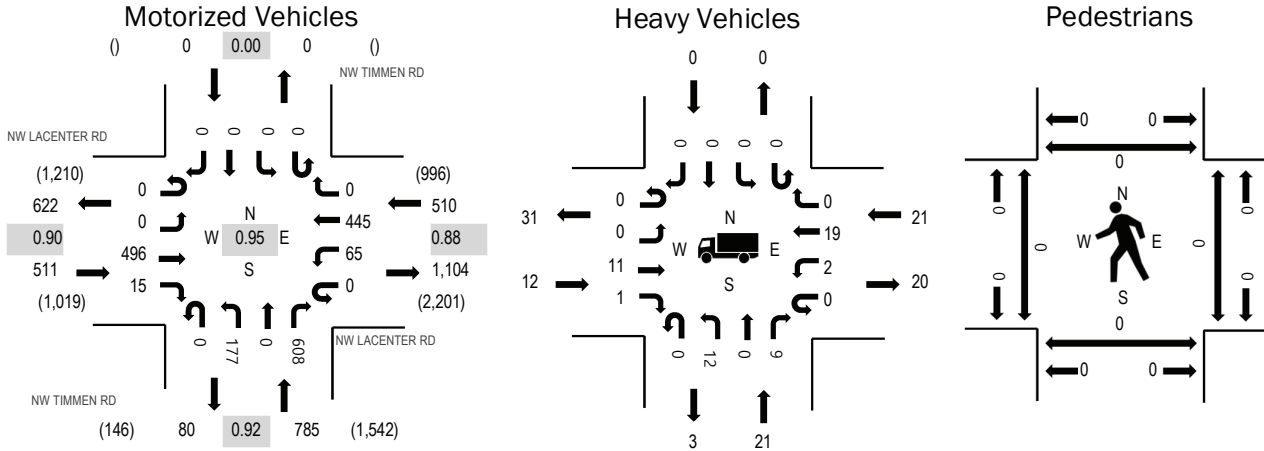
Location: 4 NW TIMMEN RD & NW LACENTER RD PM

Date: Thursday, September 14, 2023

Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 04:35 PM - 04:50 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.3%	0.90
WB	4.1%	0.88
NB	2.7%	0.92
SB	0.0%	0.00
All	3.0%	0.95

Traffic Counts - Motorized Vehicles

Interval Start Time	NW LACENTER RD Eastbound				NW LACENTER RD Westbound				NW TIMMEN RD Northbound				NW TIMMEN RD Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	40	0	0	3	38	0	0	14	0	55	0	0	0	0	150	1,795
4:05 PM	0	0	51	1	0	5	40	0	0	21	0	32	0	0	0	0	150	1,794
4:10 PM	0	0	42	1	0	3	31	0	0	17	0	51	0	0	0	0	145	1,803
4:15 PM	0	0	42	3	0	4	40	0	0	17	0	45	0	0	0	0	151	1,806
4:20 PM	0	0	37	2	0	4	45	0	0	17	0	53	0	0	0	0	158	1,791
4:25 PM	0	0	35	0	0	4	30	0	0	15	0	59	0	0	0	0	143	1,791
4:30 PM	0	0	39	0	0	8	40	0	0	10	0	55	0	0	0	0	152	1,796
4:35 PM	0	0	48	2	0	5	43	0	0	15	0	44	0	0	0	0	157	1,794
4:40 PM	0	0	38	0	0	8	39	0	0	21	0	52	0	0	0	0	158	1,784
4:45 PM	0	0	52	1	0	3	47	0	0	19	0	38	0	0	0	0	160	1,769
4:50 PM	0	0	51	3	0	5	16	0	0	11	0	41	0	0	0	0	127	1,754
4:55 PM	0	0	40	1	0	5	39	0	0	13	0	46	0	0	0	0	144	1,766
5:00 PM	0	0	43	0	0	5	35	0	0	10	0	56	0	0	0	0	149	1,762
5:05 PM	0	0	49	2	0	4	35	0	0	17	0	52	0	0	0	0	159	
5:10 PM	0	0	22	1	0	10	36	0	0	12	0	67	0	0	0	0	148	
5:15 PM	0	0	42	0	0	5	31	0	0	8	0	50	0	0	0	0	136	
5:20 PM	0	0	50	3	0	6	34	0	0	14	0	51	0	0	0	0	158	
5:25 PM	0	0	32	3	0	3	42	0	0	10	0	58	0	0	0	0	148	
5:30 PM	0	0	36	1	0	5	40	0	0	9	0	59	0	0	0	0	150	
5:35 PM	0	0	40	1	0	7	37	0	0	12	0	50	0	0	0	0	147	
5:40 PM	0	0	37	1	0	3	42	0	0	11	0	49	0	0	0	0	143	
5:45 PM	0	0	52	1	0	2	32	0	0	15	0	43	0	0	0	0	145	
5:50 PM	0	0	30	1	0	8	37	0	0	12	0	51	0	0	0	0	139	
5:55 PM	0	0	43	0	0	3	29	0	0	12	0	53	0	0	0	0	140	
Count Total	0	0	991	28	0	118	878	0	0	332	0	1,210	0	0	0	0	3,557	
Peak Hour	0	0	496	15	0	65	445	0	0	177	0	608	0	0	0	0	1,806	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	3	2	4	0	9	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	4	6	0	10	4:05 PM	1	0	0	0	1	4:05 PM	0	0	0	0	0
4:10 PM	1	2	4	0	7	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	4	4	3	0	11	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	4	0	4	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	2	6	0	9	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	1	2	0	3	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	4	2	0	6	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	1	2	0	0	3	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	1	0	0	1	4:45 PM	0	1	0	0	1	4:45 PM	0	0	0	0	0
4:50 PM	2	2	1	0	5	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	1	0	0	2	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	0	0	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	1	4	1	0	6	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	1	0	2	0	3	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	2	1	0	0	3	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	1	0	0	0	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	3	1	0	4	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	2	2	3	0	7	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	1	1	2	0	4	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	1	0	1	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	1	2	0	0	3	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	4	1	0	5	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	1	1	0	0	2	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	24	43	43	0	110	Count Total	1	1	0	0	2	Count Total	0	0	0	0	0
Peak Hour	12	21	21	0	54	Peak Hour	0	1	0	0	1	Peak Hour	0	0	0	0	0

Location: 5 NW PARADISE PARK RD & NW LACENTER RD PM

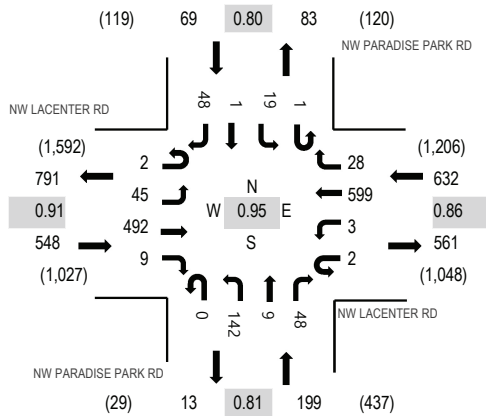
Date: Thursday, September 14, 2023

Peak Hour: 04:05 PM - 05:05 PM

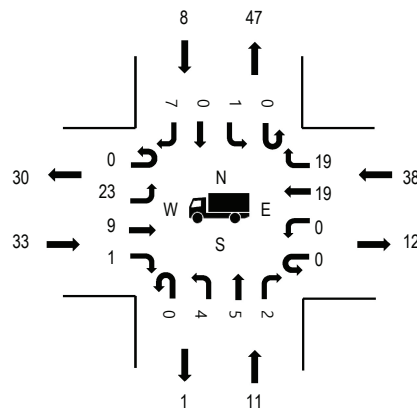
Peak 15-Minutes: 04:35 PM - 04:50 PM

Peak Hour

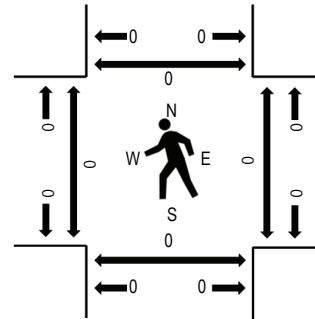
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	6.0%	0.91
WB	6.0%	0.86
NB	5.5%	0.81
SB	11.6%	0.80
All	6.2%	0.95

Traffic Counts - Motorized Vehicles

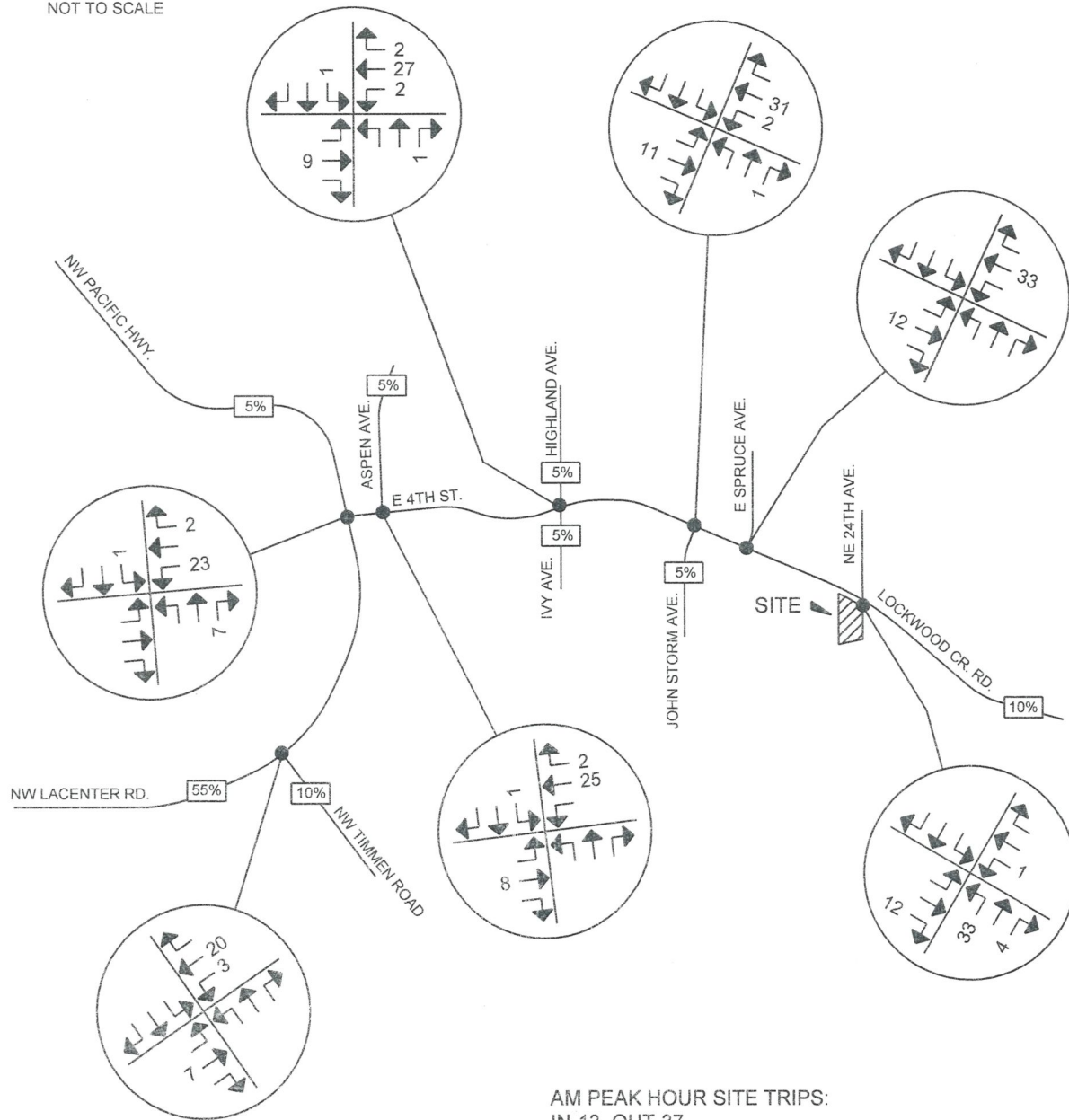
Interval Start Time	NW LACENTER RD				NW LACENTER RD				NW PARADISE PARK RD				NW PARADISE PARK RD				Total	Rolling Hour
	Eastbound				Westbound				Northbound				Southbound					
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	1	31	1	0	0	47	1	0	14	0	3	0	1	0	10	109	1,428
4:05 PM	0	5	54	1	0	0	58	5	0	9	0	4	0	0	0	2	138	1,448
4:10 PM	0	1	47	0	0	0	44	6	0	15	0	2	0	2	0	3	120	1,427
4:15 PM	0	3	38	1	0	0	54	2	0	18	1	3	0	1	0	2	123	1,413
4:20 PM	1	4	29	1	1	0	51	3	0	8	0	1	0	3	0	3	105	1,396
4:25 PM	1	5	34	1	1	1	44	4	0	17	0	6	1	2	0	5	122	1,422
4:30 PM	0	7	36	1	0	0	51	2	0	11	2	4	0	0	0	7	121	1,413
4:35 PM	0	5	45	1	0	0	53	2	0	9	0	4	0	3	0	5	127	1,406
4:40 PM	0	5	36	0	0	0	59	2	0	17	2	6	0	1	0	1	129	1,396
4:45 PM	0	1	42	0	0	2	65	0	0	7	0	3	0	4	0	3	127	1,374
4:50 PM	0	2	46	3	0	0	26	0	0	8	2	8	0	1	0	4	100	1,370
4:55 PM	0	4	36	0	0	0	48	1	0	7	2	2	0	2	0	5	107	1,368
5:00 PM	0	3	49	0	0	0	46	1	0	16	0	5	0	0	1	8	129	1,361
5:05 PM	0	1	35	4	0	1	49	0	0	14	0	6	0	2	0	5	117	
5:10 PM	0	3	23	3	0	0	49	1	0	17	0	6	0	0	0	4	106	
5:15 PM	0	4	38	1	0	0	41	1	0	16	1	2	0	0	0	2	106	
5:20 PM	2	0	45	0	0	0	44	1	0	22	1	10	0	2	0	4	131	
5:25 PM	0	1	34	2	0	0	51	0	0	19	1	2	0	1	0	2	113	
5:30 PM	2	4	36	0	0	0	48	1	0	15	0	3	0	2	0	3	114	
5:35 PM	1	4	37	0	0	0	49	0	0	19	0	2	0	0	0	5	117	
5:40 PM	0	4	34	0	0	0	53	0	0	13	0	1	0	0	0	2	107	
5:45 PM	0	3	48	2	0	0	47	0	0	13	0	6	0	2	0	2	123	
5:50 PM	0	1	31	0	0	0	49	0	0	17	0	0	0	0	0	0	98	
5:55 PM	0	0	43	0	0	1	38	2	0	13	1	1	0	0	1	0	100	
Count Total	7	71	927	22	2	5	1,164	35	0	334	13	90	1	29	2	87	2,789	
Peak Hour	2	45	492	9	2	3	599	28	0	142	9	48	1	19	1	48	1,448	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	2	0	4	1	7	4:00 PM	1	0	0	0	1	4:00 PM	0	0	0	0	0
4:05 PM	2	0	6	2	10	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	3	1	7	1	12	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	5	2	4	0	11	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	3	1	5	0	9	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	5	1	3	1	10	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	4	1	6	2	13	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	3	0	2	0	5	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	4	1	2	0	7	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	1	0	1	1	3	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	2	0	0	2	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	2	1	2	0	5	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	1	0	1	3	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	1	2	0	3	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	4	0	4	0	8	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	2	0	0	0	2	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	1	2	0	0	3	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	1	1	0	2	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	2	1	3	0	6	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	2	1	2	0	5	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	1	1	1	0	3	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	1	0	0	1	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	1	0	1	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	1	0	0	0	1	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	48	19	56	9	132	Count Total	1	0	0	0	1	Count Total	0	0	0	0	0
Peak Hour	33	11	38	8	90	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



NOT TO SCALE



ASA'S VIEW SUBDIVISION

FIGURE 7a
SITE TRAFFIC DISTRIBUTION/ASSIGNMENT
AM PEAK HOUR

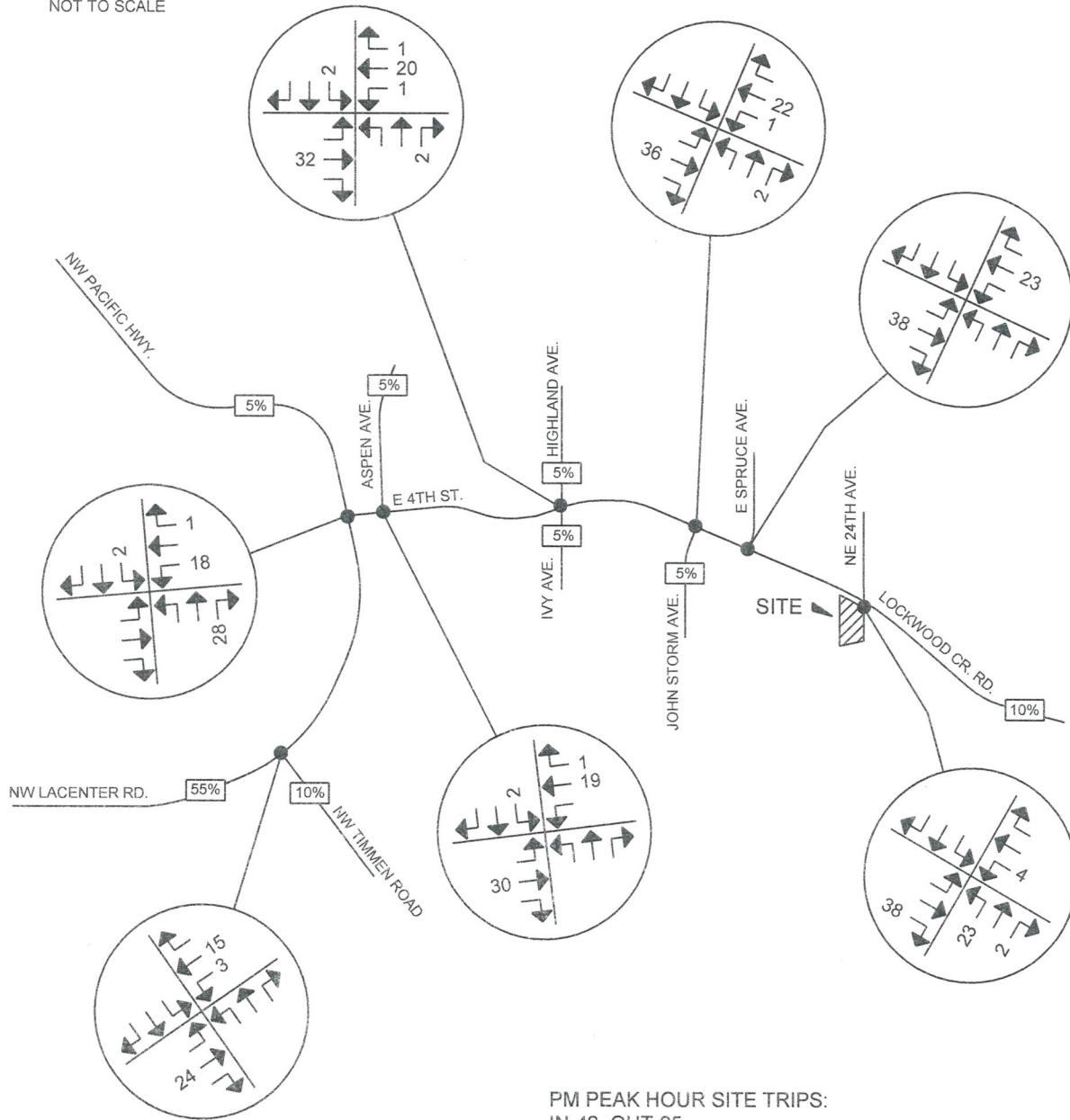
KELLY ENGINEERING

1805 NE 94th St. No. 19, Vancouver, WA 98665

Phone: 360-433-7530



NOT TO SCALE

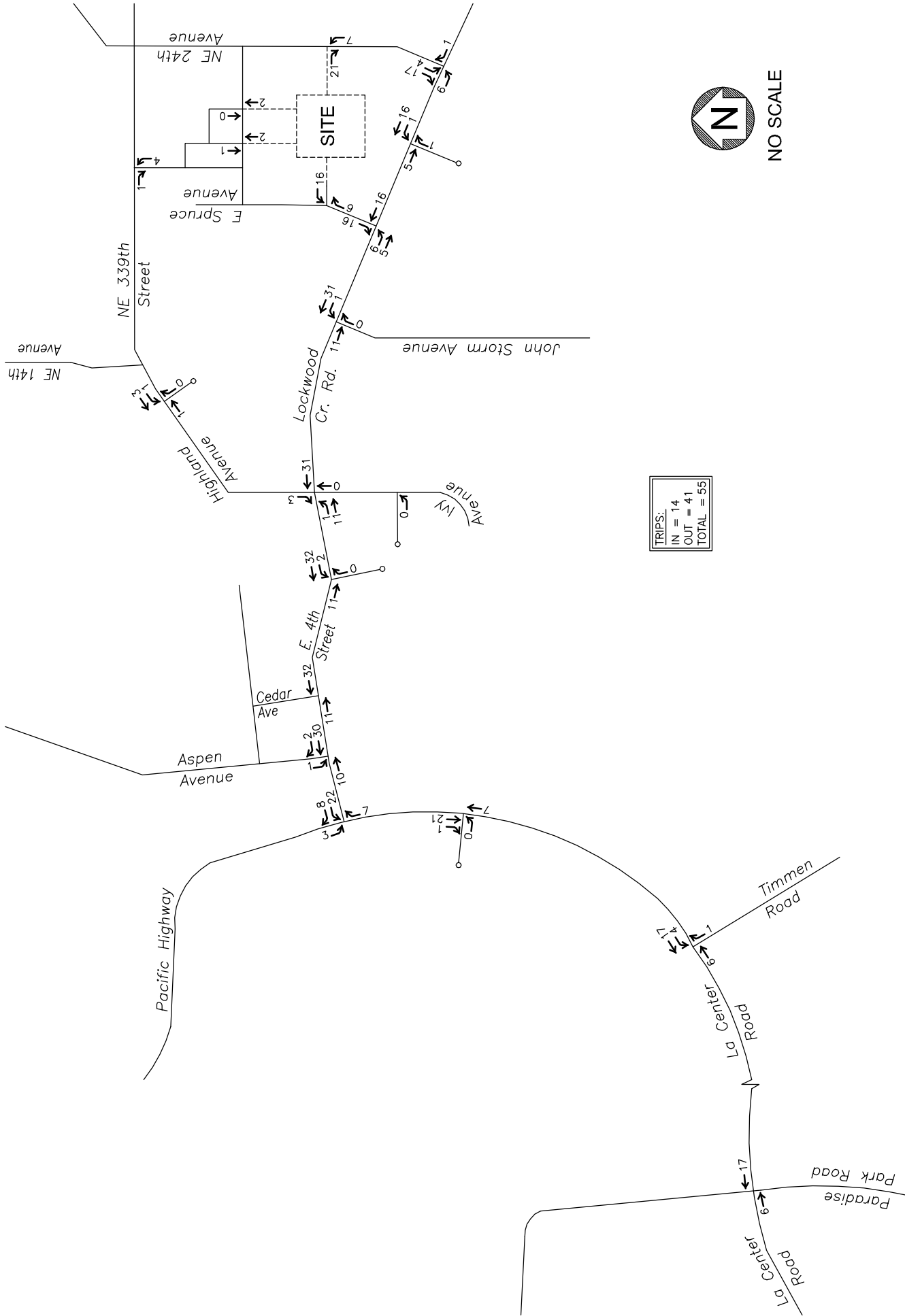


ASA'S VIEW SUBDIVISION

FIGURE 7b
SITE TRAFFIC DISTRIBUTION/ASSIGNMENT
PM PEAK HOUR

KELLY ENGINEERING
1805 NE 94th St. No. 19, Vancouver, WA 98665
Phone: 360-433-7530

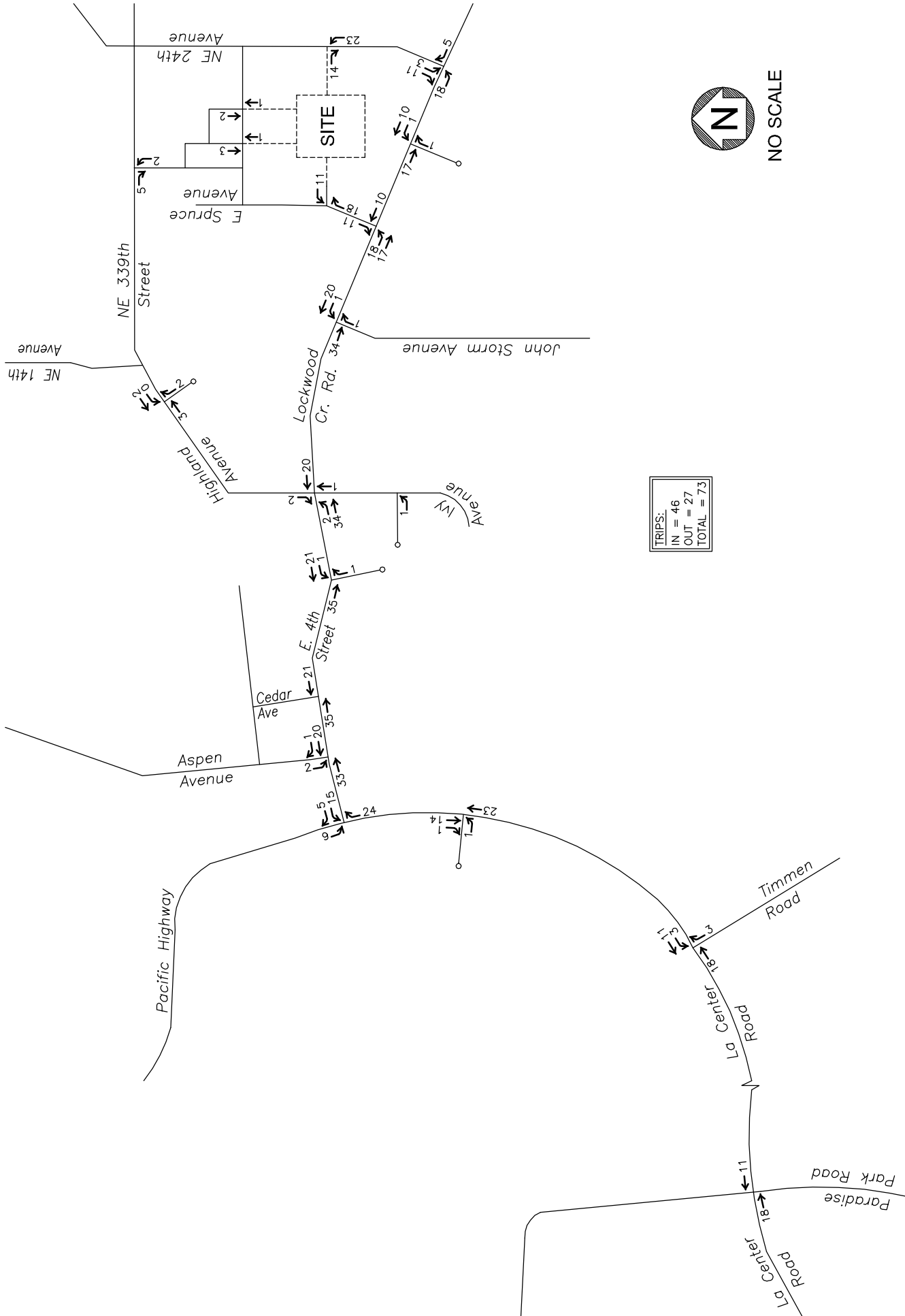




TRIPS:		
IN	=	14
OUT	=	41
TOTAL	=	55



NO SCALE



Minor Street Right Turn Volume Adjustment

Pagones Theorem, a two-step right-turn adjustment methodology, uses a minor street equivalent factor and a mainline congestion factor to estimate the portion of right turn volumes that should be considered when evaluating traffic signal warrants. The adjusted right-turn volume is calculated with the equation below.

$$R_{adj} = R \times [1 - (f_{minor} - f_{main})] \quad (2.1)$$

where R_{adj} = adjusted right turn volume; R = original right turn volume; f_{minor} = minor street adjustment factor; f_{main} = mainline congestion factor. Note: if $f_{minor} - f_{main} < 0$, then $R_{adj} = R$.

The minor street adjustment factor reflects whether minor street geometry and traffic volumes permit the free movement of right turns and reduce right-turn volumes accordingly. The mainline congestion factors adjust to account for the amount of congestion on the mainline. In essence, f_{minor} considers what portion of vehicles could get to the intersection to make a right-turn without delay while f_{main} determines whether there are enough gaps in the mainline traffic to permit them to actually make that right-turn. The suggested values for f_{minor} and f_{main} are listed in Tables 2.1 and 2.2 according to lane configuration and volume condition. For the mainline right-turn reduction, if there is no mainline right turn lane, mainline right turn volumes are added to the through volumes for the lane volume calculations; if a right-turn lane is present, mainline right-turn volumes are excluded from the calculation.

Table 2.1 Pagones Theorem Right-turn Adjustment Factors			
Minor Street Adjustment Factor (f_{minor})			
Case	Lane Configuration	Volume Condition	f_{minor}
1		$R > 0.7V$	0.60
		$0.7V \geq R > 0.35V$	0.40
		$R \leq 0.35V$	0.20
2		$R > 3T$	0.60
		$3T \geq R > T/3$	0.40
		$R \leq T/3$	0.20
3		Any configuration with an exclusive right turn lane ≥ 500 ft. long (See note for shorter right turn lanes)	0.75
4		$R > (T+L)$	0.65
		$L > (T+R)$	Use Case 2
		$L \approx T \approx R (\pm 10 \text{ veh})$	0.40
		$L \approx T > 3R$	0.20
		$R \approx T > 3L$	0.50
		all other conditions	0.30
5		$R > T$	0.75
		$T \geq R > T/2$	0.50
		$T/2 \geq R > T/4$	0.30
		$R < T/4$	0.15

Table 2.2 Pagones Theorem Mainline Congestion Factors	
Mainline Congestion Factor (f_{main})	
Mainline volume per lane (veh/hr/lane)	f_{main}
0 - 399	0.0
400 - 499	0.05
500 - 599	0.10
600 - 699	0.15
700 - 799	0.20
800 - 899	0.25
900 - 999	0.30
1000 - 1099	0.35
1100 - 1199	0.40
1200 - 1299	0.45
1300 - 1399	0.50
1400 - 1499	0.55
1500 - 1599	0.60
1600 - 1699	0.65
1700 - 1799	0.70
1800 - 1899	0.75

Peak Hour Signal Warrant Right Turn Volume Adjustment Summary.

Intersection	Minor Street Case	Scenario & Peak Hour	Minor Street Traffic			Minor St. App. Vol.	f_{minor}	Mainline Traffic		Mainline Lanes (#)	Mainline Traffic per lane (veh/hr/lane)	f_{main}	R_{adj}
			LT	TH	RT			TH	RT				
NW La Center Rd & NW Timmen Rd	2	2026 Total-AM	29	-	53	82	0.60	311	14	1	325	0.00	21
		2023 Extg-PM	177	-	608	785	0.60	496	15		511	0.10	304
NW La Center Rd & Paradise Pk Rd	2	2023 Extg-PM				0				1	0		
			142	9	48	199	0.60	492	9		501	0.10	24
						0							
						0							

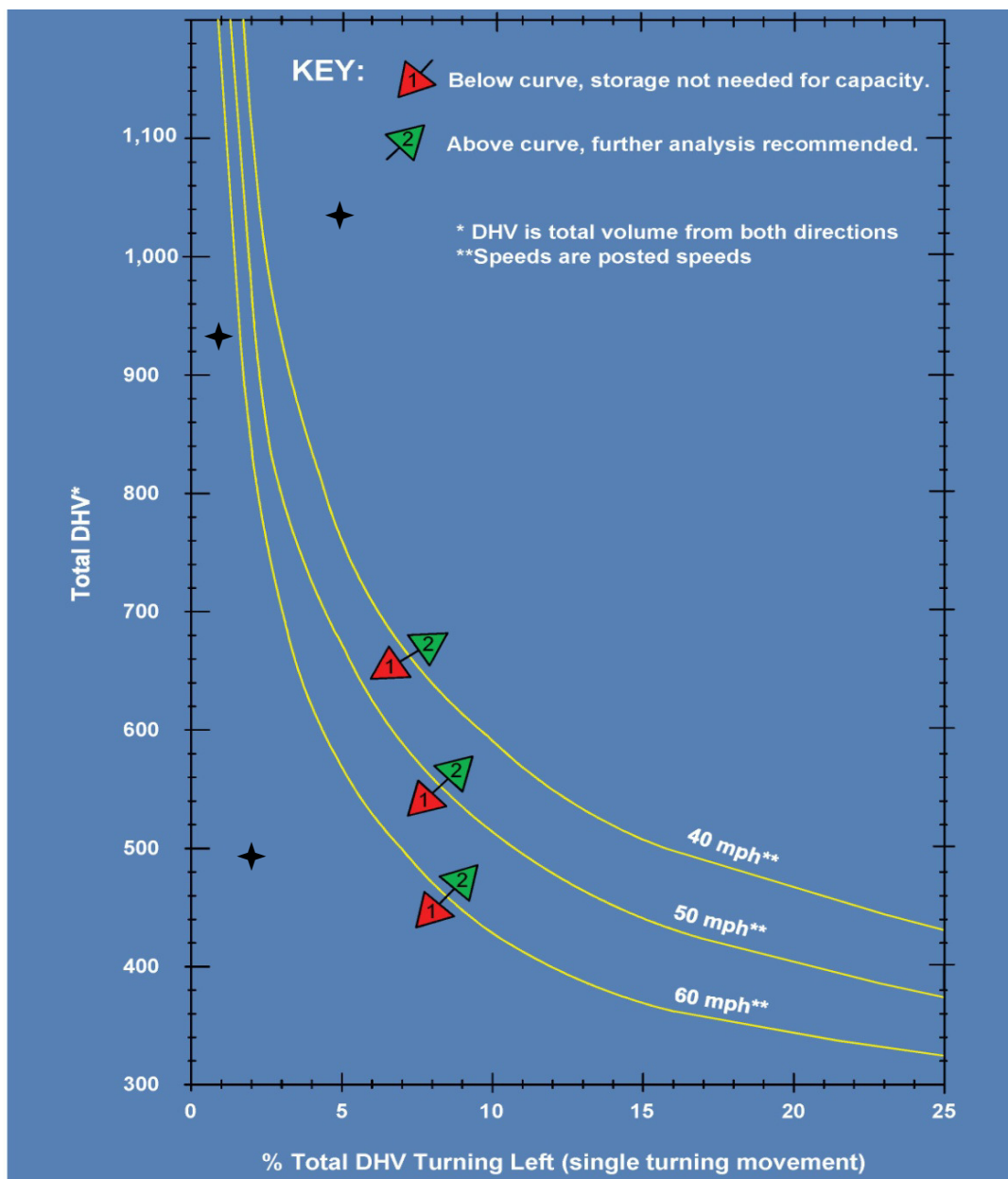


Exhibit 1310-7a. Left-turn Storage Guidelines-: Two-Lane, Unsignalized.

Storage requirements for critical left-turn movements at unsignalized intersections on 2-lane highways.

Intersection	Mov't	Analysis Period	Speed V (mph)	Left Turns in Advancing Volume (vph)	Advancing Volume V_A (vph)	Opposing Volume V_O (vph)	Total DHV	% Left Turns in DHV L	Storage Req'd (ft)
Pacific Hwy and NW 5th St	NB LT	2026 Total Traffic-AM Peak	35	1	175	318	493	0%	None
		2026 Total Traffic-PM Peak		4	665	271	936	0%	None
	SB LT	2026 Total Traffic-AM Peak		8	318	175	493	2%	None
		2026 Total Traffic-PM Peak		11	271	665	936	1%	None
Site Access and La Center Rd	WB LT	2026 Total Traffic-AM Peak	35	53	778	318	1,096	5%	100 ft ¹
		2026 Total Traffic-PM Peak		32	713	648	1,361	2%	100 ft ^{1,2}

Source: WSDOT Design Guide, February 2019.

¹ Length of turn lane storage determined with Exhibit 1310-8a.

² Data point not plotted on Exhibit 1310-7a. Warrant is met.

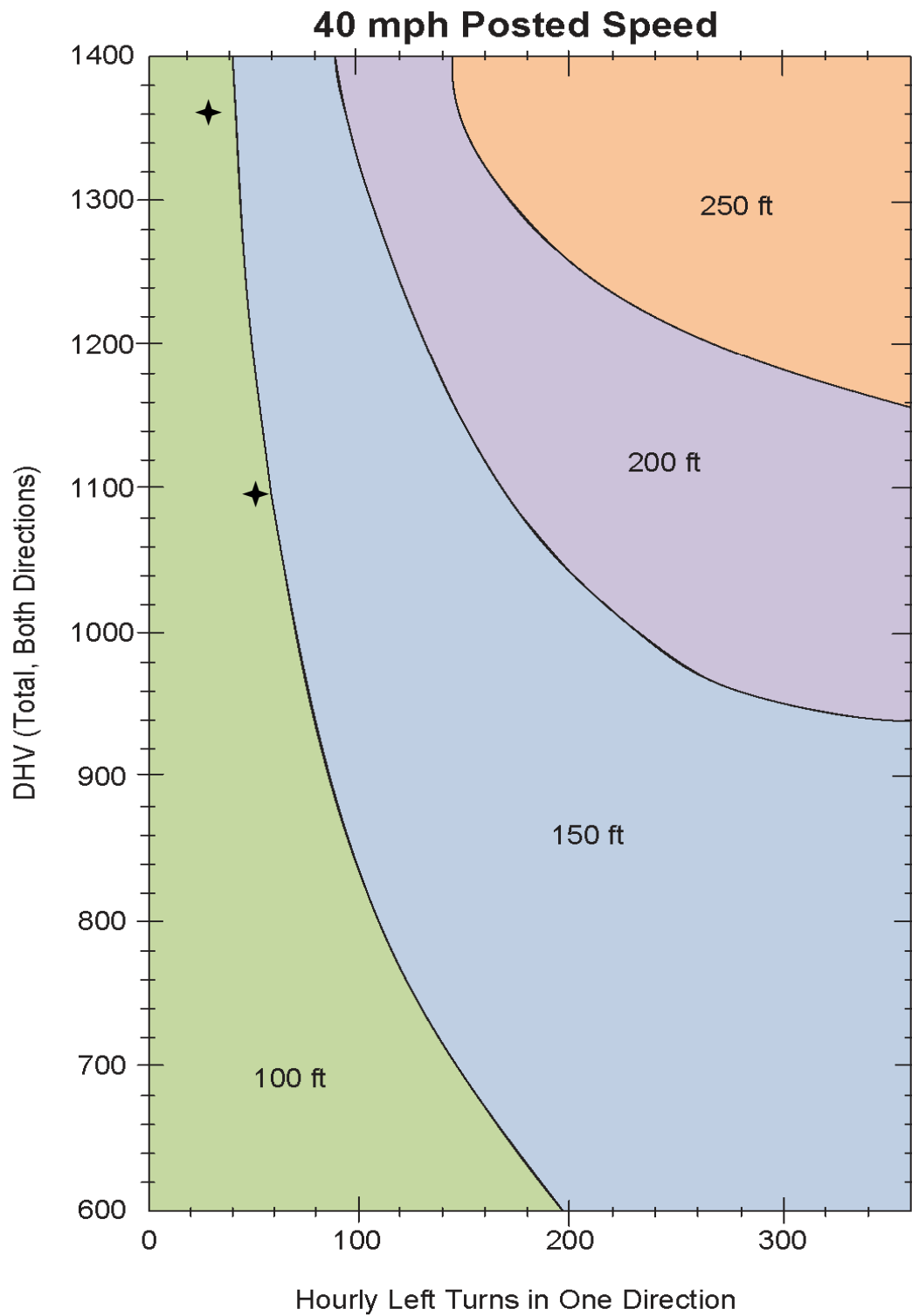
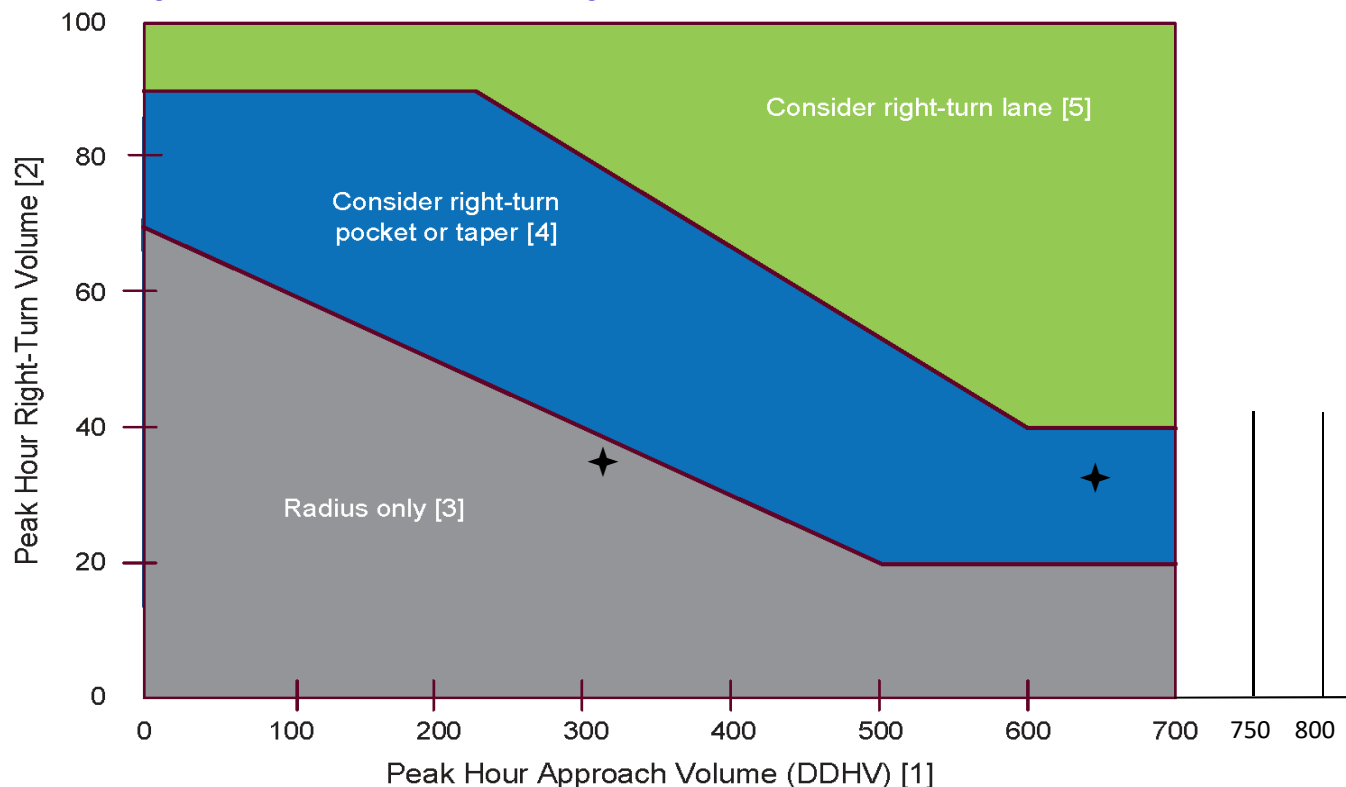


Exhibit 1310-19. Right-turn Lane Guidelines:- Two-Lane, Unsignalized.



Notes:

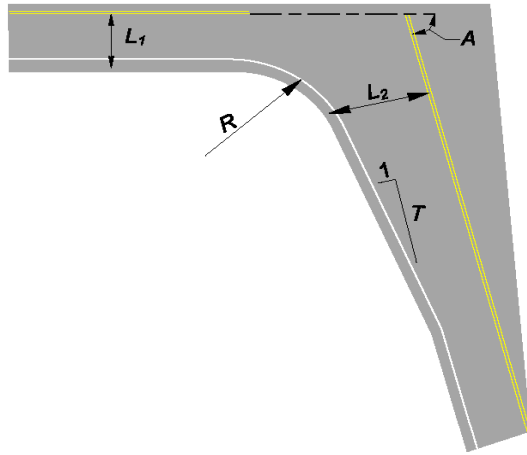
- [1] For two-lane highways, use the peak hour DDHV (through + right-turn).
For multilane, highways (posted speed 45 mph or above), use the right-lane peak hour approach volume (through + right-turn).
- [2] When all three of the following conditions are met, reduce the right-turn DDHV by 20:
 - The posted speed is 45 mph or below
 - The right-turn volume is greater than 40 VPH
 - The peak hour approach volume (DDHV) is less than 300 VPH
- [3] For right-turn corner design, see Exhibit 1310-6.
- [4] For right-turn pocket or taper design, see Exhibit 1310-20.
- [5] For right-turn lane design, see Exhibit 1310-21.

Treatment for critical right-turn movements at unsignalized intersections on 2-lane highways.

Intersection	Mov't	Analysis Period	Speed V (mph)	Peak Hour Approach Volume (DDHV)	Peak Hour Right Turn Volume	Treatment Recommended
Site Access and La Center Rd	EB	2026 Total Traffic-AM Peak	35	318	35	Radius only
	RT	2026 Total Traffic-PM Peak		648	33	Right-turn Pocket or Taper

Source: WSDOT Design Manual, September 2021.

Exhibit 1310-6 Initial Ranges for Right-Turn Corner (Simple Curve-Taper)



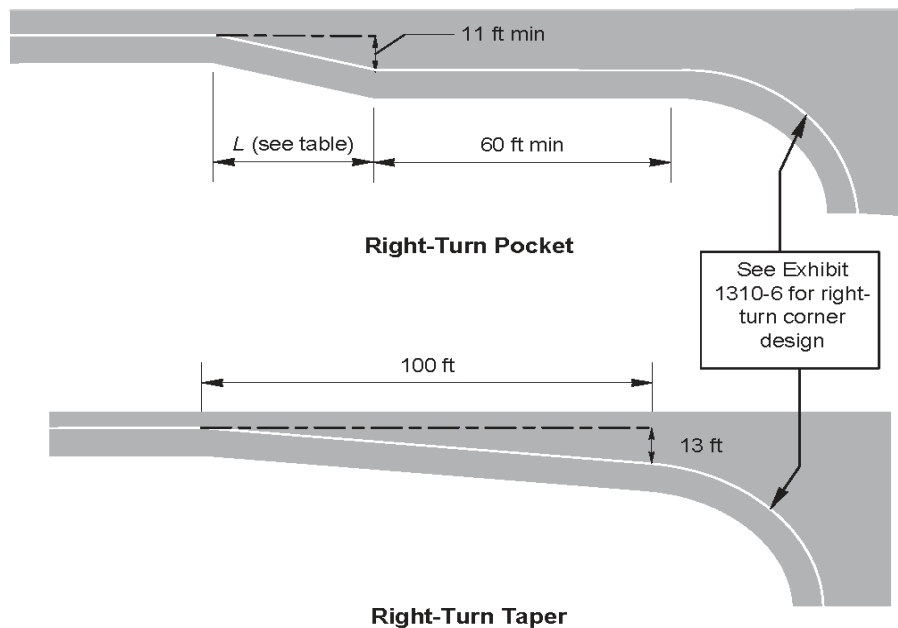
- L_1 = Available roadway width [2] that the vehicle is turning from
- L_2 = Available roadway width [2] for the vehicle leaving the intersection
- R = Radius to the edge of traveled way
- T = Taper rate (length per unit of width of widening)
- A = Delta angle of the turning vehicle

Vehicle	A	R	L_1 [1]	L_2 [2]	T
P	All	30	11	11	25
SU-30 & CITY-BUS	All	50	11	11	25
WB-40	All	55	11	15	7.5
WB-67	All	50-85	11	22-24	7

Notes:

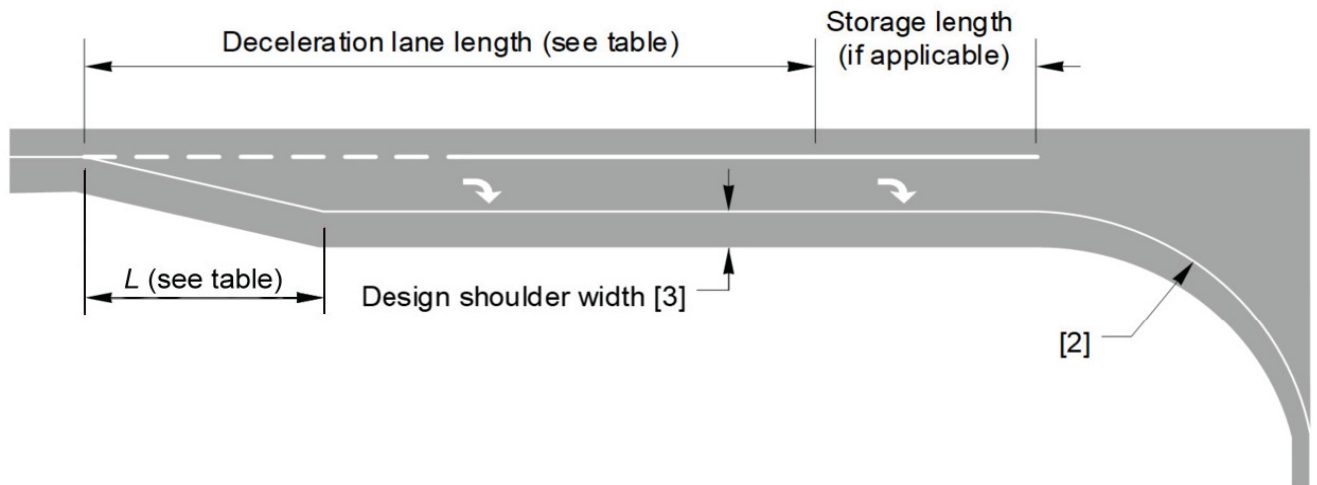
- [1] When available roadway width is less than 11 ft, widen at 25:1.
- [2] Available roadway width includes the shoulder, less a 2-ft clearance to a curb, and all the same-direction lanes of the exit leg at signalized intersections.

Exhibit 1310-20 Right-Turn Pocket and Right-Turn Taper



Posted Speed Limit	L
Below 40 mph	40 ft
40 mph or above	100 ft

Exhibit 1310-21 Right-Turn Lane



Posted Speed Limit	L
Below 40 mph	40 ft
40 mph or above	100 ft

Highway Design Speed (mph)	Deceleration Lane Length (ft)
30	160 [1]
35	220
40	275
45	350
50	425
55	515
60	605
65	715
70	820

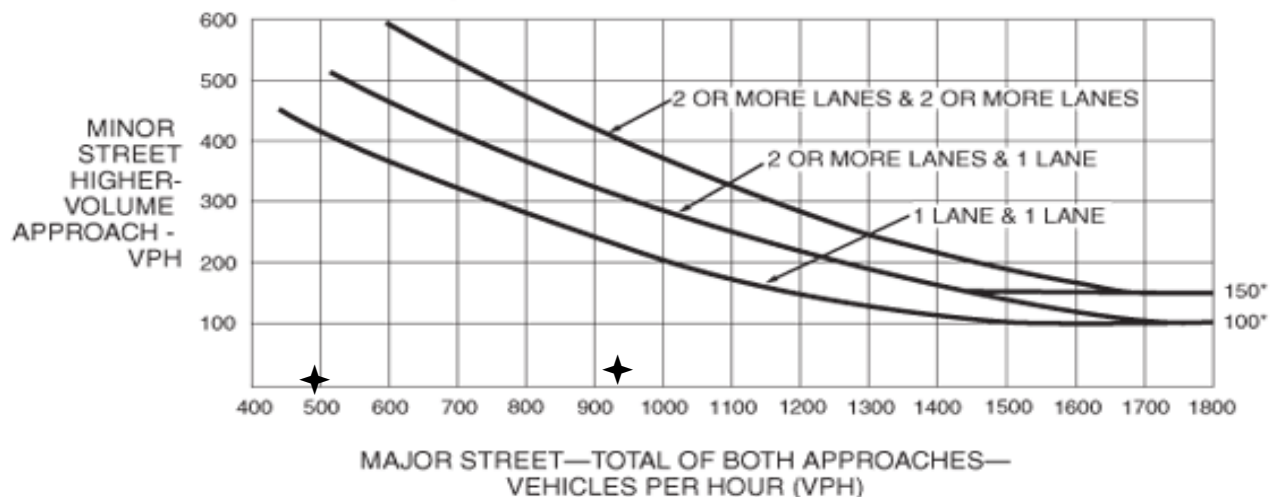
Grade	Upgrade	Downgrade
3% to less than 5%	0.9	1.2
5% or more	0.8	1.35
Adjustment Multiplier for Grades 3% or Greater		

Minimum Deceleration Lane Length (ft)

Notes:

- [1] When adjusting for grade, do not reduce the deceleration lane to less than 150 ft.
- [2] For right-turn corner design, see Exhibit 1310-6.
- [3] See Section 1310.03(6) and Chapter 1230.

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Table for Figure 4C-3

One lane and one lane		Two or more lanes and one lane		Two or more lanes and two or more lanes	
VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)
1800	100	1800	100 or 150*	1800	150
1700	100	1700	100 or 150*	1700	150
1600	100	1600	120 or 150*	1600	170
1500	100	1500	145 or 150*	1500	180
1400	120	1400	155	1400	220
1300	130	1300	190	1300	250
1200	150	1200	220	1200	285
1100	175	1100	250	1100	340
1000	200	1000	285	1000	370
900	245	900	325	900	425
800	285	800	360	800	475
700	325	700	420	700	540
600	360	600	460	600	590
500	420	500	Not available	500	Not available

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Peak hour volume warrant for signalization data.

Intersection	Analysis Period	Major Street Speed (mph)	Major Street		Minor Street High Volume Approach		Signal Warranted?
			Volume (vph)	Lanes (#)	Volume (vph)	Lanes (#)	
Pacific Hwy and W. 5th St	2026 Total Traffic - AM Peak	35	493	1	13	1	No
	2026 Total Traffic - PM Peak		936		27		No
NW La Center Rd and NW Timmen Rd	2026 Total Traffic - AM Peak*	50	1,162	2	50	2	No
	2023 Existing Traffic - PM Peak*		1,021		481		Yes
NW La Center Rd and Paradise Park Rd	2026 Total Traffic - AM Peak	50	1,137	2	27	2	No
	2023 Existing Traffic - PM Peak*		1,180		175		Yes

Source: Manual on Uniform Traffic Control Devices (MUTCD), 2009 Edition.

* Minor Street High Volume Approach calculation includes adjusted right turn volume.

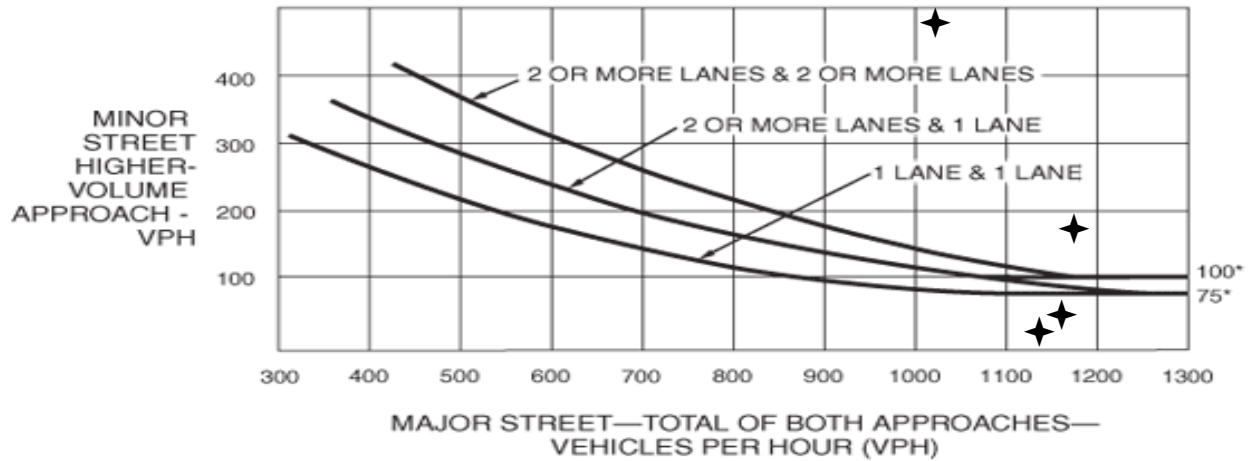


Charbonneau
Engineering LLC

PROJECT: #23-39 La Center Retail Mix

DATE: 12.03.23

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*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.

Table for Figure 4C-4

One lane and one lane		Two or more lanes and one lane		Two or more lanes and two or more lanes	
VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)
1300	75	1300	75 or 100*	1300	100
1200	75	1200	80 or 100*	1200	100
1100	75	1100	100	1100	120
1000	80	1000	120	1000	150
900	100	900	140	900	175
800	120	800	160	800	225
700	145	700	200	700	260
600	170	600	245	600	315
500	220	500	280	500	370
400	260	400	340	400	Not available

* 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.



OFFICER REPORTED CRASHES THAT OCCURRED at OR in the vicinity of MULTIPLE INTERSECTIONS IN THE CITY OF LA CENTER
01/01/2018 - 12/31/2022 See 2nd tab below for road information

Under 23 U.S. Code § 148 and 23 U.S. Code § 407, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	DIST FROM REF POINT	MI or FT	REPORT NUMBER	DATE	MOST SEVERE INJURY TYPE	# I N J U N T	# F A T A L I T I E S	# V E H I C L E S	# P E D E S T R I A N S	# B I K E S	JUNCTION RELATIONSHIP	VEH 1 COMPASS DIR FROM	VEH 1 COMPASS DIR TO	VEH 2 COMPASS DIR FROM	VEH 2 COMPASS DIR TO
NW LA CENTER RD	2798	NW PARADISE PARK RD			EB57965	08/14/2021	No Apparent Injury	0	0	2	0	0	At Intersection and R	West	East	East	South
NW LA CENTER RD	32088	NW TIMMEN RD			EB92925	11/20/2021	No Apparent Injury	0	0	2	0	0	At Driveway within N	SW	NE	NW	SW
NW LA CENTER RD	32088	NW TIMMEN RD			EB98726	12/09/2021	No Apparent Injury	0	0	1	0	0	At Intersection and N	SW	NE		
NW LA CENTER RD	32088	NW TIMMEN RD			ED04764	10/21/2022	Suspected Minor Injury	1	0	2	0	0	At Intersection and R	West	East	West	East
NW LA CENTER RD	32100	REF PT: NW TIMMEN RD	0.19	M	EB67460	08/27/2021	Possible Injury	2	0	2	0	0	Not at Intersection at	North	South	North	South
NW LA CENTER RD	32100	REF PT: NW TIMMEN RD	0.15	M	EC07977	12/30/2021	No Apparent Injury	0	0	1	0	0	Not at Intersection at	NE	SW		
NW LA CENTER RD	32100	REF PT: NW TIMMEN RD	0.1	M	EB79085	10/03/2021	No Apparent Injury	0	0	1	0	0	Not at Intersection at	West	NE		
NW LACENTER RD	0	NW PARADISE PARK RD			E866954	11/26/2018	No Apparent Injury	0	0	2	0	0	At Intersection and R	South	North	West	East
NW LACENTER RD	32100	REF PT: NW TIMMEN RD	100	F	E837059	09/11/2018	No Apparent Injury	0	0	2	0	0	Not at Intersection at	SW	NE	SE	NW
NW LARSON DR	33600	REF PT: NW PACIFIC HWY	249	F	EC29134	03/04/2022	No Apparent Injury	0	0	1	0	0	Not at Intersection at	North	South		
NW TIMMEN RD	31986	NW LACENTER RD			EC15297	12/18/2021	Suspected Minor Injury	1	0	1	0	0	At Intersection and R	SE	NW		
NW TIMMEN RD	0	NW LACENTER RD			E839247	08/29/2018	Possible Injury	1	0	2	0	0	At Intersection and R	North	West	West	East
NW TIMMEN RD	31800	REF PT: NE TIMMEN RD	353	F	EB99807	11/08/2021	No Apparent Injury	0	0	1	0	0	Not at Intersection at	South	North		
NW TIMMEN RD	31800	REF PT: NW LACENTER RD	349	F	EB32270	05/18/2021	Possible Injury	1	0	1	0	0	Not at Intersection at	South	North		

NCHRP 8-51 Internal Trip Capture Estimation Tool					
Project Name:	#23-39 La Center Retail Mix	Organization:	Charbonneau Engineering LLC		
Project Location:	SE corner of Lacerter Rd & Paradise Park Rd	Performed By:	MaryKate Otto (MKO Consulting LLC)		
Scenario Description:	hotel, restaur ant, and coffeeshop w/ DT & seats	Date:	11.30.23		
Analysis Year:		Checked By:			
Analysis Period:	ADT	Date:			

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				0		
Restaurant	930 / 937	3,900 / 2,200	sq. ft.	1553	777	776
Cinema/Entertainment				0		
Residential				0		
Hotel	310	111	rooms	887	443	444
All Other Land Uses ²				0		
Total				2440	1220	1220

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	54
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	39	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	2,440	1,220	1,220
Internal Capture Percentage	8%	8%	8%
External Vehicle-Trips ³	2,254	1,127	1,127
External Transit-Trips ⁴	0	0	0
External Non-Motorized Trips ⁴	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	N/A	N/A
Restaurant	5%	7%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	12%	9%

¹ Land Use Codes (LUCs) from <i>Trip Generation Informational Report</i> , published by the Institute of Transportation Engineers.
² Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator
³ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P
⁴ Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
<i>Estimation Tool Developed by the Texas Transportation Institute</i>

NCHRP 8-51 Internal Trip Capture Estimation Tool					
Project Name:	#23-39 La Center Retail Mix	Organization:	Charbonneau Engineering LLC		
Project Location:	SE corner of Lacerter Rd & Paradise Park Rd	Performed By:	MaryKate Otto (MKO Consulting LLC)		
Scenario Description:	hotel, restaur ant, and coffeeshop w/ DT & seats	Date:	11.30.23		
Analysis Year:		Checked By:			
Analysis Period:	AM Street Peak Hour	Date:			

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				0		
Restaurant	930 / 937	3,900 / 2,200	sq. ft.	195	99	96
Cinema/Entertainment				0		
Residential				0		
Hotel	310	111	rooms	51	29	22
All Other Land Uses ²				0		
Total				246	128	118

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	1
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	2	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	246	128	118
Internal Capture Percentage	2%	2%	3%
External Vehicle-Trips ³	240	125	115
External Transit-Trips ⁴	0	0	0
External Non-Motorized Trips ⁴	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	N/A	N/A
Restaurant	2%	1%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	3%	9%

¹Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

³Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

⁴Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

NCHRP 8-51 Internal Trip Capture Estimation Tool					
Project Name:	#23-39 La Center Retail Mix	Organization:	Charbonneau Engineering LLC		
Project Location:	SE corner of Lacerter Rd & Paradise Park Rd	Performed By:	MaryKate Otto (MKO Consulting LLC)		
Scenario Description:	hotel, restaur ant, and coffeeshop w/ DT & seats	Date:	11.30.23		
Analysis Year:		Checked By:			
Analysis Period:	PM Street Peak Hour	Date:			

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				0		
Restaurant	930 / 937	3,900 / 2,200	sq. ft.	135	70	65
Cinema/Entertainment				0		
Residential				0		
Hotel	310	111	rooms	65	33	32
All Other Land Uses ²				0		
Total				200	103	97

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	5
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	4	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	200	103	97
Internal Capture Percentage	9%	9%	9%
External Vehicle-Trips ³	182	94	88
External Transit-Trips ⁴	0	0	0
External Non-Motorized Trips ⁴	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	N/A	N/A
Restaurant	6%	8%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	15%	13%

¹Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

³Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

⁴Person-Trips

















*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Lanes, Volumes, Timings
1: Pacific Hwy & W 5th Street

2023 Existing Traffic, AM Peak Hour

12/04/2023






												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	6	10	0	2	1	132	15	8	283	2
Future Volume (vph)	0	0	6	10	0	2	1	132	15	8	283	2
Confl. Peds. (#/hr)	4		4	1		1	4		1	1		4
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	33%	33%	33%	8%	8%	8%	10%	10%	10%	3%	3%	3%
Shared Lane Traffic (%)												
Sign Control	Stop			Stop			Free			Free		
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 34.6% ICU Level of Service A												
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	6	10	0	2	1	132	15	8	283	2
Future Vol, veh/h	0	0	6	10	0	2	1	132	15	8	283	2
Conflicting Peds, #/hr	4	0	4	1	0	1	4	0	1	1	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	33	33	33	8	8	8	10	10	10	3	3	3
Mvmt Flow	0	0	8	13	0	3	1	176	20	11	377	3
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	599	604	387	598	595	191	384	0	0	197	0	0
Stage 1	405	405	-	189	189	-	-	-	-	-	-	-
Stage 2	194	199	-	409	406	-	-	-	-	-	-	-
Critical Hdwy	7.43	6.83	6.53	7.18	6.58	6.28	4.2	-	-	4.13	-	-
Critical Hdwy Stg 1	6.43	5.83	-	6.18	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.43	5.83	-	6.18	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.797	4.297	3.597	3.572	4.072	3.372	2.29	-	-	2.227	-	-
Pot Cap-1 Maneuver	371	374	598	405	409	836	1132	-	-	1370	-	-
Stage 1	565	548	-	799	733	-	-	-	-	-	-	-
Stage 2	741	682	-	608	588	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	364	368	593	394	402	832	1128	-	-	1369	-	-
Mov Cap-2 Maneuver	364	368	-	394	402	-	-	-	-	-	-	-
Stage 1	562	540	-	797	732	-	-	-	-	-	-	-
Stage 2	735	681	-	592	580	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.2		13.7		0.1		0.2					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1128	-	-	593	432	1369	-	-				
HCM Lane V/C Ratio	0.001	-	-	0.013	0.037	0.008	-	-				
HCM Control Delay (s)	8.2	0	-	11.2	13.7	7.7	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-				

Lanes, Volumes, Timings
2: NW Timmen Rd & NW La Center Rd

2023 Existing Traffic, AM Peak Hour
12/04/2023





















	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	↱
Traffic Volume (vph)	272	9	84	654	23	49
Future Volume (vph)	272	9	84	654	23	49
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	13%	13%	4%	4%	22%	22%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 44.4%				ICU Level of Service A		
Analysis Period (min) 15						









Intersection								
Int Delay, s/veh	1.8							
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Vol, veh/h	272	9	84	654	23	49		
Future Vol, veh/h	272	9	84	654	23	49		
Conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Stop	Stop		
RT Channelized	-	None	-	None	-	None		
Storage Length	-	-	165	-	0	125		
Veh in Median Storage, #	0	-	-	0	0	-		
Grade, %	0	-	-	0	0	-		
Peak Hour Factor	85	85	85	85	85	85		
Heavy Vehicles, %	13	13	4	4	22	22		
Mvmt Flow	320	11	99	769	27	58		
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	0	0	331	0	1293	326		
Stage 1	-	-	-	-	326	-		
Stage 2	-	-	-	-	967	-		
Critical Hdwy	-	-	4.14	-	6.62	6.42		
Critical Hdwy Stg 1	-	-	-	-	5.62	-		
Critical Hdwy Stg 2	-	-	-	-	5.62	-		
Follow-up Hdwy	-	-	2.236	-	3.698	3.498		
Pot Cap-1 Maneuver	-	-	1217	-	163	671		
Stage 1	-	-	-	-	689	-		
Stage 2	-	-	-	-	339	-		
Platoon blocked, %	-	-		-				
Mov Cap-1 Maneuver	-	-	1217	-	150	671		
Mov Cap-2 Maneuver	-	-	-	-	150	-		
Stage 1	-	-	-	-	689	-		
Stage 2	-	-	-	-	312	-		
Approach	EB		WB		NB			
HCM Control Delay, s	0		0.9		18.3			
HCM LOS	C							
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	EBR	WBL	WBT
Capacity (veh/h)	150		671		-	-	1217	-
HCM Lane V/C Ratio	0.18		0.086		-	-	0.081	-
HCM Control Delay (s)	34.2		10.9		-	-	8.2	-
HCM Lane LOS	D		B		-	-	A	-
HCM 95th %tile Q(veh)	0.6		0.3		-	-	0.3	-

Lanes, Volumes, Timings
4: Paradise Park Rd & NW La Center Rd

2023 Existing Traffic, AM Peak Hour

12/04/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	272	5	1	678	5	8	0	1	8	0	10
Future Volume (vph)	21	272	5	1	678	5	8	0	1	8	0	10
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	12%	12%	12%	5%	5%	5%	44%	44%	44%	61%	61%	61%
Shared Lane Traffic (%)												
Sign Control	Free			Free			Stop			Stop		
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 49.3% ICU Level of Service A												
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	272	5	1	678	5	8	0	1	8	0	10
Future Vol, veh/h	21	272	5	1	678	5	8	0	1	8	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	275	-	-	175	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	12	12	12	5	5	5	44	44	44	61	61	61
Mvmt Flow	24	316	6	1	788	6	9	0	1	9	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	794	0	0	322	0	0	1166	1163	319	1161	1163	791
Stage 1	-	-	-	-	-	-	367	367	-	793	793	-
Stage 2	-	-	-	-	-	-	799	796	-	368	370	-
Critical Hdwy	4.22	-	-	4.15	-	-	7.54	6.94	6.64	7.71	7.11	6.81
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.94	-	6.71	6.11	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.94	-	6.71	6.11	-
Follow-up Hdwy	2.308	-	-	2.245	-	-	3.896	4.396	3.696	4.049	4.549	3.849
Pot Cap-1 Maneuver	785	-	-	1221	-	-	141	163	634	132	152	310
Stage 1	-	-	-	-	-	-	575	555	-	306	326	-
Stage 2	-	-	-	-	-	-	323	344	-	547	529	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	785	-	-	1221	-	-	132	158	634	129	147	310
Mov Cap-2 Maneuver	-	-	-	-	-	-	132	158	-	129	147	-
Stage 1	-	-	-	-	-	-	557	538	-	297	326	-
Stage 2	-	-	-	-	-	-	311	344	-	529	513	-

















Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	31.7	25.1
HCM LOS			D	D





Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	132	634	785	-	-	1221	-	-	129	310
HCM Lane V/C Ratio	0.07	0.002	0.031	-	-	0.001	-	-	0.072	0.038
HCM Control Delay (s)	34.3	10.7	9.7	-	-	8	-	-	35.1	17.1
HCM Lane LOS	D	B	A	-	-	A	-	-	E	C
HCM 95th %tile Q(veh)	0.2	0	0.1	-	-	0	-	-	0.2	0.1

Lanes, Volumes, Timings
1: Pacific Hwy & W 5th Street

2023 Existing Traffic, PM Peak Hour

12/04/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1	3	12	0	13	4	596	12	10	227	3
Future Volume (vph)	2	1	3	12	0	13	4	596	12	10	227	3
Confl. Peds. (#/hr)	6		3	2		5	3		2	5		6
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	6%	6%	6%
Shared Lane Traffic (%)												
Sign Control	Stop			Stop			Free			Free		
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 45.1% ICU Level of Service A												
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1	3	12	0	13	4	596	12	10	227	3
Future Vol, veh/h	2	1	3	12	0	13	4	596	12	10	227	3
Conflicting Peds, #/hr	6	0	3	2	0	5	3	0	2	5	0	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	2	2	2	6	6	6
Mvmt Flow	2	1	3	12	0	13	4	608	12	10	232	3
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	895	893	243	886	888	625	241	0	0	625	0	0
Stage 1	260	260	-	627	627	-	-	-	-	-	-	-
Stage 2	635	633	-	259	261	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.218	-	-	2.254	-	-
Pot Cap-1 Maneuver	264	283	801	267	285	488	1326	-	-	937	-	-
Stage 1	749	697	-	475	479	-	-	-	-	-	-	-
Stage 2	470	476	-	750	696	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	251	275	794	260	277	483	1318	-	-	933	-	-
Mov Cap-2 Maneuver	251	275	-	260	277	-	-	-	-	-	-	-
Stage 1	741	684	-	470	474	-	-	-	-	-	-	-
Stage 2	452	471	-	735	683	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	14.4		16.4			0.1			0.4			
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1318	-	-	390	342	933	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.016	0.075	0.011	-	-				
HCM Control Delay (s)	7.7	0	-	14.4	16.4	8.9	0	-				
HCM Lane LOS	A	A	-	B	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-				

Lanes, Volumes, Timings
2: NW Timmen Rd & NW La Center Rd

2023 Existing Traffic, PM Peak Hour
12/04/2023

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕		↘	↕	↘	↗
Traffic Volume (vph)	496	15	65	445	177	608
Future Volume (vph)	496	15	65	445	177	608
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 71.3%				ICU Level of Service C		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	49.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	↱
Traffic Vol, veh/h	496	15	65	445	177	608
Future Vol, veh/h	496	15	65	445	177	608
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	165	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	4	4	3	3
Mvmt Flow	522	16	68	468	186	640

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	538
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.236
Pot Cap-1 Maneuver	-	-	1020
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1020
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	112.2
HCM LOS			F





















Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	208	547	-	-	1020	-
HCM Lane V/C Ratio	0.896	1.17	-	-	0.067	-
HCM Control Delay (s)	85.6	120	-	-	8.8	-
HCM Lane LOS	F	F	-	-	A	-
HCM 95th %tile Q(veh)	7.1	22.4	-	-	0.2	-









Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lanes, Volumes, Timings
4: Paradise Park Rd & NW La Center Rd

2023 Existing Traffic, PM Peak Hour

12/04/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	492	9	5	599	28	142	9	48	20	1	48
Future Volume (vph)	47	492	9	5	599	28	142	9	48	20	1	48
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	12%	12%	12%
Shared Lane Traffic (%)												
Sign Control	Free			Free			Stop			Stop		
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 60.3%						ICU Level of Service B						
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	27.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	492	9	5	599	28	142	9	48	20	1	48
Future Vol, veh/h	47	492	9	5	599	28	142	9	48	20	1	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	275	-	-	175	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	6	6	6	6	6	6	6	6	12	12	12
Mvmt Flow	49	518	9	5	631	29	149	9	51	21	1	51

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	660	0	0	527	0	0	1303	1291	523	1307	1281	646
Stage 1	-	-	-	-	-	-	621	621	-	656	656	-
Stage 2	-	-	-	-	-	-	682	670	-	651	625	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.16	6.56	6.26	7.22	6.62	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.56	-	6.22	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.56	-	6.22	5.62	-
Follow-up Hdwy	2.254	-	-	2.254	-	-	3.554	4.054	3.354	3.608	4.108	3.408
Pot Cap-1 Maneuver	909	-	-	1020	-	-	~ 135	160	546	130	158	454
Stage 1	-	-	-	-	-	-	468	473	-	438	447	-
Stage 2	-	-	-	-	-	-	433	449	-	441	462	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	909	-	-	1020	-	-	~ 114	151	546	107	149	454
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 114	151	-	107	149	-
Stage 1	-	-	-	-	-	-	443	447	-	414	445	-
Stage 2	-	-	-	-	-	-	382	447	-	371	437	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.1	190.1	23.8
HCM LOS			F	C

















Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	114	386	909	-	-	1020	-	-	107	436
HCM Lane V/C Ratio	1.311	0.155	0.054	-	-	0.005	-	-	0.197	0.118
HCM Control Delay (s)	260	16	9.2	-	-	8.5	-	-	46.7	14.4
HCM Lane LOS	F	C	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	10	0.5	0.2	-	-	0	-	-	0.7	0.4

Notes												
~: Volume exceeds capacity			\$: Delay exceeds 300s			+: Computation Not Defined			*: All major volume in platoon			

Lanes, Volumes, Timings
1: Pacific Hwy & W 5th Street

2026 Background Traffic, AM Peak Hour

12/04/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	6	11	0	2	1	150	16	8	304	2
Future Volume (vph)	0	0	6	11	0	2	1	150	16	8	304	2
Confl. Peds. (#/hr)	4		4	1		1	4		1	1		4
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	33%	33%	33%	8%	8%	8%	10%	10%	10%	3%	3%	3%
Shared Lane Traffic (%)												
Sign Control	Stop			Stop			Free			Free		
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 35.9% ICU Level of Service A												
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	0	0	6	11	0	2	1	150	16	8	304	2
Future Vol, veh/h	0	0	6	11	0	2	1	150	16	8	304	2
Conflicting Peds, #/hr	4	0	4	1	0	1	4	0	1	1	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	33	33	33	8	8	8	10	10	10	3	3	3
Mvmt Flow	0	0	8	15	0	3	1	200	21	11	405	3

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	651	657	415	651	648	216	412	0	0	222	0	0
Stage 1	433	433	-	214	214	-	-	-	-	-	-	-
Stage 2	218	224	-	437	434	-	-	-	-	-	-	-
Critical Hdwy	7.43	6.83	6.53	7.18	6.58	6.28	4.2	-	-	4.13	-	-
Critical Hdwy Stg 1	6.43	5.83	-	6.18	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.43	5.83	-	6.18	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.797	4.297	3.597	3.572	4.072	3.372	2.29	-	-	2.227	-	-
Pot Cap-1 Maneuver	342	348	576	373	382	809	1105	-	-	1341	-	-
Stage 1	545	532	-	775	714	-	-	-	-	-	-	-
Stage 2	719	664	-	587	571	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	335	342	572	363	376	805	1101	-	-	1340	-	-
Mov Cap-2 Maneuver	335	342	-	363	376	-	-	-	-	-	-	-
Stage 1	542	524	-	773	713	-	-	-	-	-	-	-
Stage 2	713	663	-	570	562	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.4		14.5		0		0.2	
HCM LOS	B		B					






Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1101	-	-	572	396	1340	-	-
HCM Lane V/C Ratio	0.001	-	-	0.014	0.044	0.008	-	-
HCM Control Delay (s)	8.3	0	-	11.4	14.5	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Lanes, Volumes, Timings
2: NW Timmen Rd & NW La Center Rd

2026 Background Traffic, AM Peak Hour

12/04/2023





















	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↲	↱	↲
Traffic Volume (vph)	301	10	96	730	24	53
Future Volume (vph)	301	10	96	730	24	53
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	13%	13%	4%	4%	22%	22%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 48.4%				ICU Level of Service A		
Analysis Period (min) 15						









Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	301	10	96	730	24	53
Future Vol, veh/h	301	10	96	730	24	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	165	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	13	13	4	4	22	22
Mvmt Flow	354	12	113	859	28	62
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	366	0	1445	360
Stage 1	-	-	-	-	360	-
Stage 2	-	-	-	-	1085	-
Critical Hdwy	-	-	4.14	-	6.62	6.42
Critical Hdwy Stg 1	-	-	-	-	5.62	-
Critical Hdwy Stg 2	-	-	-	-	5.62	-
Follow-up Hdwy	-	-	2.236	-	3.698	3.498
Pot Cap-1 Maneuver	-	-	1182	-	131	642
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	297	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1182	-	118	642
Mov Cap-2 Maneuver	-	-	-	-	118	-
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	268	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	1		21.7		
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	118	642	-	-	1182	-
HCM Lane V/C Ratio	0.239	0.097	-	-	0.096	-
HCM Control Delay (s)	44.9	11.2	-	-	8.4	-
HCM Lane LOS	E	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	0.3	-	-	0.3	-

Lanes, Volumes, Timings
4: Paradise Park Rd & NW La Center Rd

2026 Background Traffic, AM Peak Hour

12/04/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	301	5	1	756	5	8	0	1	8	0	11
Future Volume (vph)	22	301	5	1	756	5	8	0	1	8	0	11
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	12%	12%	12%	5%	5%	5%	44%	44%	44%	61%	61%	61%
Shared Lane Traffic (%)												
Sign Control	Free				Free				Stop		Stop	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 53.4% ICU Level of Service A												
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	301	5	1	756	5	8	0	1	8	0	11
Future Vol, veh/h	22	301	5	1	756	5	8	0	1	8	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	275	-	-	175	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	12	12	12	5	5	5	44	44	44	61	61	61
Mvmt Flow	26	350	6	1	879	6	9	0	1	9	0	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	885	0	0	356	0	0	1296	1292	353	1290	1292	882
Stage 1	-	-	-	-	-	-	405	405	-	884	884	-
Stage 2	-	-	-	-	-	-	891	887	-	406	408	-
Critical Hdwy	4.22	-	-	4.15	-	-	7.54	6.94	6.64	7.71	7.11	6.81
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.94	-	6.71	6.11	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.94	-	6.71	6.11	-
Follow-up Hdwy	2.308	-	-	2.245	-	-	3.896	4.396	3.696	4.049	4.549	3.849
Pot Cap-1 Maneuver	724	-	-	1186	-	-	114	135	606	106	125	272
Stage 1	-	-	-	-	-	-	547	532	-	270	293	-
Stage 2	-	-	-	-	-	-	285	310	-	520	507	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	724	-	-	1186	-	-	106	130	606	103	120	272
Mov Cap-2 Maneuver	-	-	-	-	-	-	106	130	-	103	120	-
Stage 1	-	-	-	-	-	-	527	513	-	260	293	-
Stage 2	-	-	-	-	-	-	271	310	-	500	489	-

















Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	38.7	29.2
HCM LOS			E	D





Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	106	606	724	-	-	1186	-	-	103	272
HCM Lane V/C Ratio	0.088	0.002	0.035	-	-	0.001	-	-	0.09	0.047
HCM Control Delay (s)	42.2	11	10.2	-	-	8	-	-	43.4	18.9
HCM Lane LOS	E	B	B	-	-	A	-	-	E	C
HCM 95th %tile Q(veh)	0.3	0	0.1	-	-	0	-	-	0.3	0.1

Lanes, Volumes, Timings
1: Pacific Hwy & W 5th Street

2026 Background Traffic, PM Peak Hour

12/04/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1	3	13	0	14	4	638	13	11	252	3
Future Volume (vph)	2	1	3	13	0	14	4	638	13	11	252	3
Confl. Peds. (#/hr)	6		3	2		5	3		2	5		6
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	6%	6%	6%
Shared Lane Traffic (%)												
Sign Control	Stop			Stop			Free			Free		
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 47.3%												
ICU Level of Service A												
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1	3	13	0	14	4	638	13	11	252	3
Future Vol, veh/h	2	1	3	13	0	14	4	638	13	11	252	3
Conflicting Peds, #/hr	6	0	3	2	0	5	3	0	2	5	0	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	2	2	2	6	6	6
Mvmt Flow	2	1	3	13	0	14	4	651	13	11	257	3
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	966	964	268	957	959	669	266	0	0	669	0	0
Stage 1	287	287	-	671	671	-	-	-	-	-	-	-
Stage 2	679	677	-	286	288	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.218	-	-	2.254	-	-
Pot Cap-1 Maneuver	236	257	776	239	259	461	1298	-	-	902	-	-
Stage 1	725	678	-	449	458	-	-	-	-	-	-	-
Stage 2	445	455	-	726	677	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	223	249	769	232	251	456	1291	-	-	898	-	-
Mov Cap-2 Maneuver	223	249	-	232	251	-	-	-	-	-	-	-
Stage 1	717	664	-	445	453	-	-	-	-	-	-	-
Stage 2	426	450	-	710	663	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	15.3		17.7			0			0.4			
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1291	-	-	355	311	898	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.017	0.089	0.012	-	-				
HCM Control Delay (s)	7.8	0	-	15.3	17.7	9.1	0	-				
HCM Lane LOS	A	A	-	C	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-				

Lanes, Volumes, Timings
2: NW Timmen Rd & NW La Center Rd

2026 Background Traffic, PM Peak Hour

12/04/2023

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↲	↱	↲
Traffic Volume (vph)	568	16	75	498	188	647
Future Volume (vph)	568	16	75	498	188	647
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 77.6%				ICU Level of Service D		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	84.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↰	↰	↰	↰
Traffic Vol, veh/h	568	16	75	498	188	647
Future Vol, veh/h	568	16	75	498	188	647
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	165	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	4	4	3	3
Mvmt Flow	598	17	79	524	198	681

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	615
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.236
Pot Cap-1 Maneuver	-	-	955
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	955
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	201.3
HCM LOS			F





















Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	165	495	-	-	955	-
HCM Lane V/C Ratio	1.199	1.376	-	-	0.083	-
HCM Control Delay (s)	189.1	204.8	-	-	9.1	-
HCM Lane LOS	F	F	-	-	A	-
HCM 95th %tile Q(veh)	10.9	31.4	-	-	0.3	-









Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lanes, Volumes, Timings
4: Paradise Park Rd & NW La Center Rd

2026 Background Traffic, PM Peak Hour

12/04/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	564	10	5	661	30	151	10	51	20	1	51
Future Volume (vph)	50	564	10	5	661	30	151	10	51	20	1	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	12%	12%	12%
Shared Lane Traffic (%)												
Sign Control	Free			Free			Stop			Stop		
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 63.3%						ICU Level of Service B						
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	48.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	564	10	5	661	30	151	10	51	20	1	51
Future Vol, veh/h	50	564	10	5	661	30	151	10	51	20	1	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	275	-	-	175	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	6	6	6	6	6	6	6	6	12	12	12
Mvmt Flow	53	594	11	5	696	32	159	11	54	21	1	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	728	0	0	605	0	0	1456	1444	600	1460	1433	712
Stage 1	-	-	-	-	-	-	706	706	-	722	722	-
Stage 2	-	-	-	-	-	-	750	738	-	738	711	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.16	6.56	6.26	7.22	6.62	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.56	-	6.22	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.56	-	6.22	5.62	-
Follow-up Hdwy	2.254	-	-	2.254	-	-	3.554	4.054	3.354	3.608	4.108	3.408
Pot Cap-1 Maneuver	857	-	-	954	-	-	~ 106	129	494	102	128	416
Stage 1	-	-	-	-	-	-	420	433	-	403	417	-
Stage 2	-	-	-	-	-	-	397	418	-	394	422	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	857	-	-	954	-	-	~ 87	120	494	81	119	416
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 87	120	-	81	119	-
Stage 1	-	-	-	-	-	-	394	406	-	378	415	-
Stage 2	-	-	-	-	-	-	343	416	-	321	396	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.1	\$ 357.5	29.1
HCM LOS			F	D

















Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	87	327	857	-	-	954	-	-	81	397
HCM Lane V/C Ratio	1.827	0.196	0.061	-	-	0.006	-	-	0.26	0.138
HCM Control Delay (s)	\$ 494.4	18.7	9.5	-	-	8.8	-	-	64.4	15.5
HCM Lane LOS	F	C	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	13.4	0.7	0.2	-	-	0	-	-	0.9	0.5

Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Lanes, Volumes, Timings
1: Pacific Hwy & W 5th Street

2026 Total Traffic, AM Peak Hour

12/04/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	6	11	0	2	1	158	16	8	308	2
Future Volume (vph)	0	0	6	11	0	2	1	158	16	8	308	2
Confl. Peds. (#/hr)	4		4	1		1	4		1	1		4
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	33%	33%	33%	8%	8%	8%	10%	10%	10%	3%	3%	3%
Shared Lane Traffic (%)												
Sign Control	Stop			Stop			Free			Free		
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 36.1% ICU Level of Service A												
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	6	11	0	2	1	158	16	8	308	2
Future Vol, veh/h	0	0	6	11	0	2	1	158	16	8	308	2
Conflicting Peds, #/hr	4	0	4	1	0	1	4	0	1	1	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	33	33	33	8	8	8	10	10	10	3	3	3
Mvmt Flow	0	0	8	15	0	3	1	211	21	11	411	3

Major/Minor	Minor2		Minor1		Major1		Major2		Major2		Major2	
Conflicting Flow All	668	674	421	668	665	227	418	0	0	233	0	0
Stage 1	439	439	-	225	225	-	-	-	-	-	-	-
Stage 2	229	235	-	443	440	-	-	-	-	-	-	-
Critical Hdwy	7.43	6.83	6.53	7.18	6.58	6.28	4.2	-	-	4.13	-	-
Critical Hdwy Stg 1	6.43	5.83	-	6.18	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.43	5.83	-	6.18	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.797	4.297	3.597	3.572	4.072	3.372	2.29	-	-	2.227	-	-
Pot Cap-1 Maneuver	333	339	571	364	373	798	1099	-	-	1329	-	-
Stage 1	541	529	-	764	707	-	-	-	-	-	-	-
Stage 2	709	657	-	582	567	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	326	333	567	354	367	794	1095	-	-	1328	-	-
Mov Cap-2 Maneuver	326	333	-	354	367	-	-	-	-	-	-	-
Stage 1	538	521	-	762	706	-	-	-	-	-	-	-
Stage 2	703	656	-	565	558	-	-	-	-	-	-	-






Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.4		14.7		0		0.2	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1095	-	-	567	387	1328	-	-
HCM Lane V/C Ratio	0.001	-	-	0.014	0.045	0.008	-	-
HCM Control Delay (s)	8.3	0	-	11.4	14.7	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Lanes, Volumes, Timings
2: NW Timmen Rd & NW La Center Rd

2026 Total Traffic, AM Peak Hour
12/04/2023




	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↗	↘	↗
Traffic Volume (vph)	311	14	96	741	29	53
Future Volume (vph)	311	14	96	741	29	53
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	13%	13%	4%	4%	22%	22%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 49.0%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection								
Int Delay, s/veh	2.3							
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Vol, veh/h	311	14	96	741	29	53		
Future Vol, veh/h	311	14	96	741	29	53		
Conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Stop	Stop		
RT Channelized	-	None	-	None	-	None		
Storage Length	-	-	165	-	0	125		
Veh in Median Storage, #	0	-	-	0	0	-		
Grade, %	0	-	-	0	0	-		
Peak Hour Factor	85	85	85	85	85	85		
Heavy Vehicles, %	13	13	4	4	22	22		
Mvmt Flow	366	16	113	872	34	62		
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	0	0	382	0	1472	374		
Stage 1	-	-	-	-	374	-		
Stage 2	-	-	-	-	1098	-		
Critical Hdwy	-	-	4.14	-	6.62	6.42		
Critical Hdwy Stg 1	-	-	-	-	5.62	-		
Critical Hdwy Stg 2	-	-	-	-	5.62	-		
Follow-up Hdwy	-	-	2.236	-	3.698	3.498		
Pot Cap-1 Maneuver	-	-	1166	-	126	630		
Stage 1	-	-	-	-	654	-		
Stage 2	-	-	-	-	292	-		
Platoon blocked, %	-	-		-				
Mov Cap-1 Maneuver	-	-	1166	-	114	630		
Mov Cap-2 Maneuver	-	-	-	-	114	-		
Stage 1	-	-	-	-	654	-		
Stage 2	-	-	-	-	264	-		
Approach	EB		WB		NB			
HCM Control Delay, s	0		1		24.8			
HCM LOS	C							
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	EBR	WBL	WBT
Capacity (veh/h)	114		630		-	-	1166	-
HCM Lane V/C Ratio	0.299		0.099		-	-	0.097	-
HCM Control Delay (s)	49.5		11.3		-	-	8.4	-
HCM Lane LOS	E		B		-	-	A	-
HCM 95th %tile Q(veh)	1.1		0.3		-	-	0.3	-

Lanes, Volumes, Timings
3: Site Access & La Center Rd

2026 Total Traffic, AM Peak Hour
12/04/2023





















	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↘↙	
Traffic Volume (vph)	283	35	53	725	56	40
Future Volume (vph)	283	35	53	725	56	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	13%	13%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 73.7%				ICU Level of Service D		
Analysis Period (min) 15						









Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	283	35	53	725	56	40
Future Vol, veh/h	283	35	53	725	56	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	13	13	5	5	2	2
Mvmt Flow	314	39	59	806	62	44

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	353
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.15
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.245
Pot Cap-1 Maneuver	-	-	1189
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1189
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	29.5
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	251	-	-	1189	-
HCM Lane V/C Ratio	0.425	-	-	0.05	-
HCM Control Delay (s)	29.5	-	-	8.2	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	2	-	-	0.2	-

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	309	25	16	760	5	26	0	1	8	0	11
Future Volume (vph)	22	309	25	16	760	5	26	0	1	8	0	11
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	12%	12%	12%	5%	5%	5%	44%	44%	44%	61%	61%	61%
Shared Lane Traffic (%)												
Sign Control	Free			Free			Stop			Stop		
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 55.1%												

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	309	25	16	760	5	26	0	1	8	0	11
Future Vol, veh/h	22	309	25	16	760	5	26	0	1	8	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	275	-	-	175	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	12	12	12	5	5	5	44	44	44	61	61	61
Mvmt Flow	26	359	29	19	884	6	30	0	1	9	0	13










Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	890	0	0	388	0	0	1358	1354	374	1351	1365	887
Stage 1	-	-	-	-	-	-	426	426	-	925	925	-
Stage 2	-	-	-	-	-	-	932	928	-	426	440	-
Critical Hdwy	4.22	-	-	4.15	-	-	7.54	6.94	6.64	7.71	7.11	6.81
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.94	-	6.71	6.11	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.94	-	6.71	6.11	-
Follow-up Hdwy	2.308	-	-	2.245	-	-	3.896	4.396	3.696	4.049	4.549	3.849
Pot Cap-1 Maneuver	721	-	-	1154	-	-	103	123	588	96	112	270
Stage 1	-	-	-	-	-	-	532	520	-	255	279	-
Stage 2	-	-	-	-	-	-	270	296	-	506	489	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	721	-	-	1154	-	-	94	117	588	92	106	270
Mov Cap-2 Maneuver	-	-	-	-	-	-	94	117	-	92	106	-
Stage 1	-	-	-	-	-	-	513	501	-	246	275	-
Stage 2	-	-	-	-	-	-	253	291	-	487	471	-




Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.2	58.7	31.4
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	94	588	721	-	-	1154	-	-	92	270
HCM Lane V/C Ratio	0.322	0.002	0.035	-	-	0.016	-	-	0.101	0.047
HCM Control Delay (s)	60.5	11.1	10.2	-	-	8.2	-	-	48.5	19
HCM Lane LOS	F	B	B	-	-	A	-	-	E	C
HCM 95th %tile Q(veh)	1.2	0	0.1	-	-	0	-	-	0.3	0.1

Lanes, Volumes, Timings
5: Paradise Park Rd & Site Access

2026 Total Traffic, AM Peak Hour
12/04/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	2	18	9	2	35	6
Future Volume (vph)	2	18	9	2	35	6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	44%	44%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free		Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 18.9%			ICU Level of Service A			
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	5.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	18	9	2	35	6
Future Vol, veh/h	2	18	9	2	35	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	44	44	0	0
Mvmt Flow	2	20	10	2	39	7

















Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	96	11	0	0	12
Stage 1	11	-	-	-	-
Stage 2	85	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.1
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.2
Pot Cap-1 Maneuver	903	1070	-	-	1620
Stage 1	1012	-	-	-	-
Stage 2	938	-	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	881	1070	-	-	1620
Mov Cap-2 Maneuver	881	-	-	-	-
Stage 1	1012	-	-	-	-
Stage 2	915	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	6.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1048	1620
HCM Lane V/C Ratio	-	-	0.021	0.024
HCM Control Delay (s)	-	-	8.5	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

Lanes, Volumes, Timings
1: Pacific Hwy & W 5th Street

2026 Total Traffic, PM Peak Hour
12/04/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1	3	13	0	14	4	648	13	11	257	3
Future Volume (vph)	2	1	3	13	0	14	4	648	13	11	257	3
Confl. Peds. (#/hr)	6		3	2		5	3		2	5		6
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	6%	6%	6%
Shared Lane Traffic (%)												
Sign Control	Stop			Stop			Free			Free		
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 47.9% ICU Level of Service A												
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	1	3	13	0	14	4	648	13	11	257	3
Future Vol, veh/h	2	1	3	13	0	14	4	648	13	11	257	3
Conflicting Peds, #/hr	6	0	3	2	0	5	3	0	2	5	0	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	2	2	2	6	6	6
Mvmt Flow	2	1	3	13	0	14	4	661	13	11	262	3

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	981	979	273	972	974	679	271	0	0	679	0	0
Stage 1	292	292	-	681	681	-	-	-	-	-	-	-
Stage 2	689	687	-	291	293	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.218	-	-	2.254	-	-
Pot Cap-1 Maneuver	231	252	771	234	254	455	1292	-	-	895	-	-
Stage 1	720	675	-	444	453	-	-	-	-	-	-	-
Stage 2	439	450	-	721	674	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	218	244	764	227	246	450	1285	-	-	891	-	-
Mov Cap-2 Maneuver	218	244	-	227	246	-	-	-	-	-	-	-
Stage 1	712	662	-	440	448	-	-	-	-	-	-	-
Stage 2	421	446	-	705	661	-	-	-	-	-	-	-






Approach	EB		WB		NB		SB	
HCM Control Delay, s	15.5		18		0		0.4	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1285	-	-	349	305	891	-	-
HCM Lane V/C Ratio	0.003	-	-	0.018	0.09	0.013	-	-
HCM Control Delay (s)	7.8	0	-	15.5	18	9.1	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Lanes, Volumes, Timings
2: NW Timmen Rd & NW La Center Rd

2026 Total Traffic, PM Peak Hour
12/04/2023

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↲	↱	↲
Traffic Volume (vph)	580	21	75	510	193	647
Future Volume (vph)	580	21	75	510	193	647
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 78.5%				ICU Level of Service D		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	91					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	580	21	75	510	193	647
Future Vol, veh/h	580	21	75	510	193	647
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	165	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	4	4	3	3
Mvmt Flow	611	22	79	537	203	681

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	633
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.236
Pot Cap-1 Maneuver	-	-	940
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	940
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	218.7
HCM LOS			F




Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	158	485	-	-	940	-
HCM Lane V/C Ratio	1.286	1.404	-	-	0.084	-
HCM Control Delay (s)	223.7	217.2	-	-	9.2	-
HCM Lane LOS	F	F	-	-	A	-
HCM 95th %tile Q(veh)	12	32.4	-	-	0.3	-





















Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon









Lanes, Volumes, Timings
3: Site Access & La Center Rd

2026 Total Traffic, PM Peak Hour
12/04/2023

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↘↙	
Traffic Volume (vph)	615	33	32	681	37	36
Future Volume (vph)	615	33	32	681	37	36
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	6%	6%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 72.8%				ICU Level of Service C		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	615	33	32	681	37	36
Future Vol, veh/h	615	33	32	681	37	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	6	6	2	2
Mvmt Flow	683	37	36	757	41	40
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	720	0	1531	702
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	829	-
Critical Hdwy	-	-	4.16	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.254	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	863	-	129	438
Stage 1	-	-	-	-	491	-
Stage 2	-	-	-	-	429	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	863	-	120	438
Mov Cap-2 Maneuver	-	-	-	-	120	-
Stage 1	-	-	-	-	491	-
Stage 2	-	-	-	-	398	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.4		38.2		
HCM LOS	E					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	187	-	-	863	-	
HCM Lane V/C Ratio	0.434	-	-	0.041	-	
HCM Control Delay (s)	38.2	-	-	9.4	0	
HCM Lane LOS	E	-	-	A	A	
HCM 95th %tile Q(veh)	2	-	-	0.1	-	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	577	28	13	675	30	164	10	51	21	1	51
Future Volume (vph)	50	577	28	13	675	30	164	10	51	21	1	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	12%	12%	12%
Shared Lane Traffic (%)												
Sign Control	Free			Free			Stop			Stop		
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 64.0%												
ICU Level of Service B												
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	67.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	577	28	13	675	30	164	10	51	21	1	51
Future Vol, veh/h	50	577	28	13	675	30	164	10	51	21	1	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	275	-	-	175	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	6	6	6	6	6	6	6	6	12	12	12
Mvmt Flow	53	607	29	14	711	32	173	11	54	22	1	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	743	0	0	636	0	0	1511	1499	622	1515	1497	727
Stage 1	-	-	-	-	-	-	728	728	-	755	755	-
Stage 2	-	-	-	-	-	-	783	771	-	760	742	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.16	6.56	6.26	7.22	6.62	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.56	-	6.22	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.56	-	6.22	5.62	-
Follow-up Hdwy	2.254	-	-	2.254	-	-	3.554	4.054	3.354	3.608	4.108	3.408
Pot Cap-1 Maneuver	846	-	-	928	-	-	~ 97	120	479	93	117	408
Stage 1	-	-	-	-	-	-	409	423	-	386	402	-
Stage 2	-	-	-	-	-	-	381	404	-	383	408	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	846	-	-	928	-	-	~ 79	111	479	72	108	408
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 79	111	-	72	108	-
Stage 1	-	-	-	-	-	-	383	396	-	362	396	-
Stage 2	-	-	-	-	-	-	325	398	-	310	382	-










Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.2	\$ 484.7	33.1
HCM LOS			F	D




Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	79	310	846	-	-	928	-	-	72	387
HCM Lane V/C Ratio	2.185	0.207	0.062	-	-	0.015	-	-	0.307	0.141
HCM Control Delay (s)	\$ 657.7	19.6	9.5	-	-	8.9	-	-	75.8	15.8
HCM Lane LOS	F	C	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	15.8	0.8	0.2	-	-	0	-	-	1.1	0.5

Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Lanes, Volumes, Timings
5: Paradise Park Rd & Site Access

2026 Total Traffic, PM Peak Hour
12/04/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	2	13	211	3	26	14
Future Volume (vph)	2	13	211	3	26	14
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	6%	6%	8%	8%
Shared Lane Traffic (%)						
Sign Control	Stop		Free		Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 28.0%			ICU Level of Service A			
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	13	211	3	26	14
Future Vol, veh/h	2	13	211	3	26	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	6	6	8	8
Mvmt Flow	2	14	234	3	29	16
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	310	236	0	0	237	0
Stage 1	236	-	-	-	-	-
Stage 2	74	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.18	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.272	-
Pot Cap-1 Maneuver	682	803	-	-	1296	-
Stage 1	803	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	666	803	-	-	1296	-
Mov Cap-2 Maneuver	666	-	-	-	-	-
Stage 1	803	-	-	-	-	-
Stage 2	927	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.7	0	5.1			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	782	1296	-	
HCM Lane V/C Ratio	-	-	0.021	0.022	-	
HCM Control Delay (s)	-	-	9.7	7.8	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-	





















	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻		↻	↻	↻	↻
Traffic Volume (vph)	568	16	75	498	188	647
Future Volume (vph)	568	16	75	498	188	647
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Shared Lane Traffic (%)						
Sign Control	Yield			Yield	Yield	
Intersection Summary						
Control Type: Roundabout						
Intersection Capacity Utilization 77.6%				ICU Level of Service D		
Analysis Period (min) 15						

Intersection					
Intersection Delay, s/veh	14.9				
Intersection LOS	B				
Approach	EB	WB		NB	
Entry Lanes	1	2		2	
Conflicting Circle Lanes	1	1		1	
Adj Approach Flow, veh/h	615	603		879	
Demand Flow Rate, veh/h	627	627		905	
Vehicles Circulating, veh/h	82	204		610	
Vehicles Exiting, veh/h	749	1311		99	
Ped Vol Crossing Leg, #/h	0	0		0	
Ped Cap Adj	1.000	1.000		1.000	
Approach Delay, s/veh	8.2	7.6		24.7	
Approach LOS	A	A		C	
Lane	Left	Left	Right	Left	Right
Designated Moves	TR	L	TR	L	TR
Assumed Moves	TR	L	TR	L	TR
RT Channelized					
Lane Util	1.000	0.131	0.869	0.225	0.775
Follow-Up Headway, s	2.609	2.535	2.535	2.535	2.535
Critical Headway, s	4.976	4.544	4.544	4.544	4.544
Entry Flow, veh/h	627	82	545	204	701
Cap Entry Lane, veh/h	1269	1179	1179	815	815
Entry HV Adj Factor	0.981	0.963	0.962	0.971	0.971
Flow Entry, veh/h	615	79	524	198	681
Cap Entry, veh/h	1245	1136	1134	791	792
V/C Ratio	0.494	0.070	0.462	0.250	0.860
Control Delay, s/veh	8.2	3.8	8.2	7.3	29.8
LOS	A	A	A	A	D
95th %tile Queue, veh	3	0	2	1	10

Lanes, Volumes, Timings
4: Paradise Park Rd & NW La Center Rd

2026 Background Traffic-MIT, PM Peak Hour

12/04/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	564	10	5	661	30	151	10	51	20	1	51
Future Volume (vph)	50	564	10	5	661	30	151	10	51	20	1	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	12%	12%	12%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	36.0	36.0		36.0	36.0		24.0	24.0		24.0	24.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	22.7	22.7		22.7	22.7		11.2	11.2		11.2	11.2	
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.26	0.26		0.26	0.26	
v/c Ratio	0.25	0.65		0.02	0.78		0.48	0.15		0.07	0.13	
Control Delay	9.8	11.7		5.8	16.1		21.0	7.3		14.9	6.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	9.8	11.7		5.8	16.1		21.0	7.3		14.9	6.3	
LOS	A	B		A	B		C	A		B	A	
Approach Delay		11.5			16.0			17.0			8.7	
Approach LOS		B			B			B			A	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 43.6

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 14.1

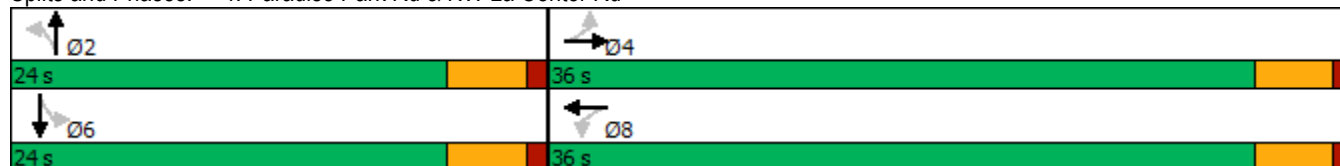
Intersection LOS: B

Intersection Capacity Utilization 64.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Paradise Park Rd & NW La Center Rd












































HCM 6th Signalized Intersection Summary

4: Paradise Park Rd & NW La Center Rd

2026 Background Traffic-MIT, PM Peak Hour

12/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	564	10	5	661	30	151	10	51	20	1	51
Future Volume (veh/h)	50	564	10	5	661	30	151	10	51	20	1	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1722	1722	1722
Adj Flow Rate, veh/h	53	594	11	5	696	32	159	11	54	21	1	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	12	12	12
Cap, veh/h	352	947	18	436	918	42	442	58	283	424	6	311
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	704	1772	33	789	1718	79	1306	267	1309	1231	27	1437
Grp Volume(v), veh/h	53	0	605	5	0	728	159	0	65	21	0	55
Grp Sat Flow(s),veh/h/ln	704	0	1805	789	0	1797	1306	0	1575	1231	0	1464
Q Serve(g_s), s	2.3	0.0	8.5	0.2	0.0	11.5	4.1	0.0	1.2	0.5	0.0	1.1
Cycle Q Clear(g_c), s	13.8	0.0	8.5	8.6	0.0	11.5	5.2	0.0	1.2	1.7	0.0	1.1
Prop In Lane	1.00		0.02	1.00		0.04	1.00		0.83	1.00		0.98
Lane Grp Cap(c), veh/h	352	0	964	436	0	960	442	0	341	424	0	317
V/C Ratio(X)	0.15	0.00	0.63	0.01	0.00	0.76	0.36	0.00	0.19	0.05	0.00	0.17
Avail Cap(c_a), veh/h	590	0	1575	702	0	1567	865	0	851	822	0	790
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.0	0.0	5.9	8.9	0.0	6.6	13.6	0.0	11.6	12.3	0.0	11.5
Incr Delay (d2), s/veh	0.2	0.0	0.7	0.0	0.0	1.3	0.5	0.0	0.3	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.0	0.0	0.0	1.4	1.0	0.0	0.3	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.2	0.0	6.6	8.9	0.0	7.8	14.1	0.0	11.8	12.3	0.0	11.8
LnGrp LOS	B	A	A	A	A	A	B	A	B	B	A	B
Approach Vol, veh/h	658			733			224			76		
Approach Delay, s/veh	7.0			7.8			13.5			11.9		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	12.3			23.8			12.3			23.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			31.5			19.5			31.5		
Max Q Clear Time (g_c+l1), s	7.2			15.8			3.7			13.5		
Green Ext Time (p_c), s	0.6			3.5			0.2			4.3		
Intersection Summary												
HCM 6th Ctrl Delay	8.5											
HCM 6th LOS	A											

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	309	25	16	760	5	26	0	1	8	0	11
Future Volume (vph)	22	309	25	16	760	5	26	0	1	8	0	11
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	12%	12%	12%	5%	5%	5%	44%	44%	44%	61%	61%	61%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	36.0	36.0		36.0	36.0		24.0	24.0		24.0	24.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effect Green (s)	28.1	28.1		28.1	28.1		7.0	7.0		7.0	7.0	
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.16	0.16		0.16	0.16	
v/c Ratio	0.12	0.36		0.03	0.78		0.19	0.00		0.06	0.05	
Control Delay	5.0	5.0		3.4	12.4		20.7	0.0		18.1	0.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	5.0	5.0		3.4	12.4		20.7	0.0		18.1	0.4	
LOS	A	A		A	B		C	A		B	A	
Approach Delay		5.0			12.2			20.0			7.6	
Approach LOS		A			B			B			A	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 44.3

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 10.1

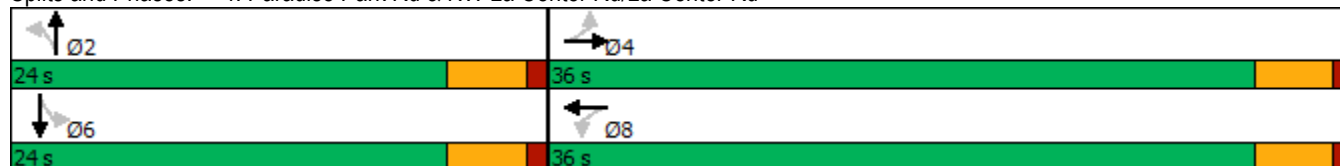
Intersection LOS: B

Intersection Capacity Utilization 55.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Paradise Park Rd & NW La Center Rd/La Center Rd























HCM 6th Signalized Intersection Summary

2026 Total Traffic-MIT, AM Peak Hour

4: Paradise Park Rd & NW La Center Rd/La Center Rd












12/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	309	25	16	760	5	26	0	1	8	0	11
Future Volume (veh/h)	22	309	25	16	760	5	26	0	1	8	0	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1722	1722	1722	1826	1826	1826	1248	1248	1248	996	996	996
Adj Flow Rate, veh/h	26	359	29	19	884	6	30	0	1	9	0	13
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	12	12	12	5	5	5	44	44	44	61	61	61
Cap, veh/h	331	941	76	673	1084	7	328	0	152	314	0	121
Arrive On Green	0.60	0.60	0.60	0.60	0.60	0.60	0.14	0.00	0.14	0.14	0.00	0.14
Sat Flow, veh/h	575	1572	127	972	1811	12	935	0	1058	754	0	844
Grp Volume(v), veh/h	26	0	388	19	0	890	30	0	1	9	0	13
Grp Sat Flow(s),veh/h/ln	575	0	1699	972	0	1824	935	0	1058	754	0	844
Q Serve(g_s), s	1.3	0.0	4.1	0.4	0.0	13.3	1.0	0.0	0.0	0.4	0.0	0.5
Cycle Q Clear(g_c), s	14.6	0.0	4.1	4.5	0.0	13.3	1.5	0.0	0.0	0.4	0.0	0.5
Prop In Lane	1.00		0.07	1.00		0.01	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	331	0	1017	673	0	1091	328	0	152	314	0	121
V/C Ratio(X)	0.08	0.00	0.38	0.03	0.00	0.82	0.09	0.00	0.01	0.03	0.00	0.11
Avail Cap(c_a), veh/h	506	0	1535	969	0	1647	717	0	591	628	0	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.2	0.0	3.6	4.8	0.0	5.5	13.6	0.0	12.8	13.0	0.0	13.0
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.0	0.0	2.0	0.1	0.0	0.0	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.0	0.0	0.8	0.2	0.0	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.3	0.0	3.9	4.8	0.0	7.5	13.8	0.0	12.8	13.0	0.0	13.4
LnGrp LOS	B	A	A	A	A	A	B	A	B	B	A	B
Approach Vol, veh/h	414			909			31			22		
Approach Delay, s/veh	4.3			7.4			13.7			13.2		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	9.5			25.4			9.5			25.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			31.5			19.5			31.5		
Max Q Clear Time (g_c+l1), s	3.5			16.6			2.5			15.3		
Green Ext Time (p_c), s	0.1			2.0			0.1			5.5		
Intersection Summary												
HCM 6th Ctrl Delay	6.7											
HCM 6th LOS	A											

Lanes, Volumes, Timings
2: NW Timmen Rd & NW La Center Rd

2026 Total Traffic-MIT, PM Peak Hour

12/04/2023





















						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	580	21	75	510	193	647
Future Volume (vph)	580	21	75	510	193	647
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Shared Lane Traffic (%)						
Sign Control	Yield			Yield	Yield	
Intersection Summary						
Control Type: Roundabout						
Intersection Capacity Utilization 78.5%				ICU Level of Service D		
Analysis Period (min) 15						

Intersection					
Intersection Delay, s/veh	15.4				
Intersection LOS	C				
Approach	EB	WB	NB		
Entry Lanes	1	2	2		
Conflicting Circle Lanes	1	1	1		
Adj Approach Flow, veh/h	633	616	884		
Demand Flow Rate, veh/h	645	640	910		
Vehicles Circulating, veh/h	82	209	623		
Vehicles Exiting, veh/h	767	1324	104		
Ped Vol Crossing Leg, #/h	0	0	0		
Ped Cap Adj	1.000	1.000	1.000		
Approach Delay, s/veh	8.4	7.8	25.8		
Approach LOS	A	A	D		
Lane	Left	Left	Right	Left	Right
Designated Moves	TR	L	TR	L	TR
Assumed Moves	TR	L	TR	L	TR
RT Channelized					
Lane Util	1.000	0.128	0.872	0.230	0.770
Follow-Up Headway, s	2.609	2.535	2.535	2.535	2.535
Critical Headway, s	4.976	4.544	4.544	4.544	4.544
Entry Flow, veh/h	645	82	558	209	701
Cap Entry Lane, veh/h	1269	1174	1174	806	806
Entry HV Adj Factor	0.981	0.963	0.962	0.971	0.971
Flow Entry, veh/h	633	79	537	203	681
Cap Entry, veh/h	1245	1131	1129	782	783
V/C Ratio	0.508	0.070	0.475	0.259	0.870
Control Delay, s/veh	8.4	3.8	8.4	7.5	31.3
LOS	A	A	A	A	D
95th %tile Queue, veh	3	0	3	1	11

Lanes, Volumes, Timings
4: Paradise Park Rd & NW La Center Rd

2026 Total Traffic-MIT, PM Peak Hour

12/04/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	577	28	13	675	30	164	10	51	21	1	51
Future Volume (vph)	50	577	28	13	675	30	164	10	51	21	1	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	12%	12%	12%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	36.0	36.0		36.0	36.0		24.0	24.0		24.0	24.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effect Green (s)	23.5	23.5		23.5	23.5		11.8	11.8		11.8	11.8	
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.26	0.26		0.26	0.26	
v/c Ratio	0.26	0.68		0.05	0.80		0.51	0.14		0.07	0.13	
Control Delay	10.6	12.8		6.6	17.3		21.7	7.2		15.0	6.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	10.6	12.8		6.6	17.3		21.7	7.2		15.0	6.2	
LOS	B	B		A	B		C	A		B	A	
Approach Delay		12.6			17.1			17.7			8.7	
Approach LOS		B			B			B			A	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 45

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 15.1

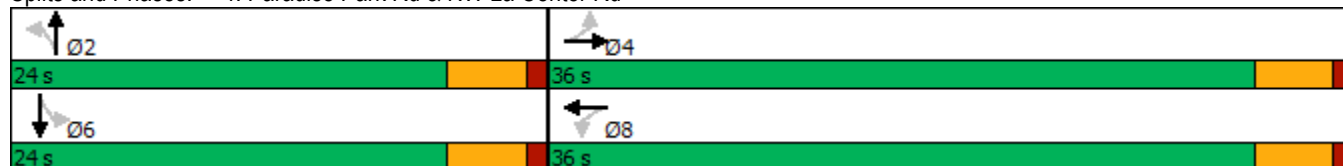
Intersection LOS: B

Intersection Capacity Utilization 64.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Paradise Park Rd & NW La Center Rd























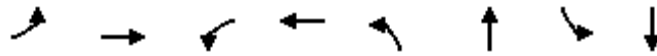
HCM 6th Signalized Intersection Summary

4: Paradise Park Rd & NW La Center Rd

2026 Total Traffic-MIT, PM Peak Hour

12/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	577	28	13	675	30	164	10	51	21	1	51
Future Volume (veh/h)	50	577	28	13	675	30	164	10	51	21	1	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1722	1722	1722
Adj Flow Rate, veh/h	53	607	29	14	711	32	173	11	54	22	1	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	12	12	12
Cap, veh/h	338	924	44	409	927	42	442	60	293	424	6	321
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	694	1714	82	767	1720	77	1306	267	1309	1231	27	1437
Grp Volume(v), veh/h	53	0	636	14	0	743	173	0	65	22	0	55
Grp Sat Flow(s),veh/h/ln	694	0	1796	767	0	1797	1306	0	1575	1231	0	1464
Q Serve(g_s), s	2.5	0.0	9.6	0.5	0.0	12.3	4.7	0.0	1.3	0.6	0.0	1.1
Cycle Q Clear(g_c), s	14.8	0.0	9.6	10.1	0.0	12.3	5.8	0.0	1.3	1.8	0.0	1.1
Prop In Lane	1.00		0.05	1.00		0.04	1.00		0.83	1.00		0.98
Lane Grp Cap(c), veh/h	338	0	968	409	0	969	442	0	352	424	0	327
V/C Ratio(X)	0.16	0.00	0.66	0.03	0.00	0.77	0.39	0.00	0.18	0.05	0.00	0.17
Avail Cap(c_a), veh/h	541	0	1492	633	0	1492	822	0	810	781	0	752
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	6.2	9.8	0.0	6.9	14.2	0.0	11.9	12.7	0.0	11.9
Incr Delay (d2), s/veh	0.2	0.0	0.8	0.0	0.0	1.3	0.6	0.0	0.2	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.2	0.1	0.0	1.7	1.1	0.0	0.4	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.9	0.0	7.0	9.9	0.0	8.2	14.8	0.0	12.2	12.7	0.0	12.1
LnGrp LOS	B	A	A	A	A	A	B	A	B	B	A	B
Approach Vol, veh/h	689			757			238			77		
Approach Delay, s/veh	7.5			8.2			14.1			12.3		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	13.0			24.9			13.0			24.9		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			31.5			19.5			31.5		
Max Q Clear Time (g_c+l1), s	7.8			16.8			3.8			14.3		
Green Ext Time (p_c), s	0.7			3.7			0.2			4.4		
Intersection Summary												
HCM 6th Ctrl Delay	8.9											
HCM 6th LOS	A											



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	53	605	5	728	159	65	21	55
v/c Ratio	0.25	0.65	0.02	0.78	0.48	0.15	0.07	0.13
Control Delay	9.8	11.7	5.8	16.1	21.0	7.3	14.9	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	11.7	5.8	16.1	21.0	7.3	14.9	6.3
Queue Length 50th (ft)	6	89	1	119	33	2	4	0
Queue Length 95th (ft)	28	222	5	#304	90	25	18	21
Internal Link Dist (ft)		397		616		491		463
Turn Bay Length (ft)	190		275		175		120	
Base Capacity (vph)	309	1337	436	1332	621	782	583	723
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.45	0.01	0.55	0.26	0.08	0.04	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

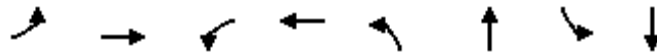
Queue shown is maximum after two cycles.

Queues

2026 Total Traffic-MIT, AM Peak Hour

4: Paradise Park Rd & NW La Center Rd/La Center Rd

12/04/2023



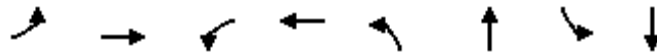
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	26	388	19	890	30	1	9	13
v/c Ratio	0.12	0.36	0.03	0.78	0.19	0.00	0.06	0.05
Control Delay	5.0	5.0	3.4	12.4	20.7	0.0	18.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.0	5.0	3.4	12.4	20.7	0.0	18.1	0.4
Queue Length 50th (ft)	2	34	1	120	7	0	2	0
Queue Length 95th (ft)	9	73	6	257	24	0	11	0
Internal Link Dist (ft)		397		600		411		463
Turn Bay Length (ft)	190		275		175		120	
Base Capacity (vph)	247	1214	695	1306	441	751	399	513
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.32	0.03	0.68	0.07	0.00	0.02	0.03
Intersection Summary								

Queues

2026 Total Traffic-MIT, PM Peak Hour

4: Paradise Park Rd & NW La Center Rd

12/04/2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	53	636	14	743	173	65	22	55
v/c Ratio	0.26	0.68	0.05	0.80	0.51	0.14	0.07	0.13
Control Delay	10.6	12.8	6.6	17.3	21.7	7.2	15.0	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	12.8	6.6	17.3	21.7	7.2	15.0	6.2
Queue Length 50th (ft)	6	101	2	129	38	2	4	0
Queue Length 95th (ft)	30	251	9	#360	97	25	19	21
Internal Link Dist (ft)		397		616		491		463
Turn Bay Length (ft)	190		275		175		120	
Base Capacity (vph)	285	1300	392	1302	601	759	564	702
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.49	0.04	0.57	0.29	0.09	0.04	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.