MILWAUKIE PLANNING
10501 SE Main St.
Milwaukie OR 97222
503-786-7630
planning@milwaukieoregon.gov

Application for Land Use Action

Primary File #: TFR-2024-002

Review type*: ☐ I ☒ II ☐ III ☐ IV ☐ V

CHECK ALL APPLICATION TYPES THAT APPLY:

- ❑ Amendment to Maps and/or
  - ❑ Comprehensive Plan Map Amendment
  - ❑ Zoning Text Amendment
  - ❑ Zoning Map Amendment
- ❑ Code Interpretation
- ❑ Community Service Use
- ❑ Conditional Use
- ❑ Development Review
- ❑ Director Determination
- ❑ Downtown Design Review
- ❑ Extension to Expiring Approval
- ❑ Historic Resource:
  - ❑ Alteration
  - ❑ Demolition
    - ❑ Status Designation
    - ❑ Status Deletion
- ❑ Land Division:
  - ❑ Final Plat
  - ❑ Lot Consolidation
  - ❑ Partition
  - ❑ Property Line Adjustment
  - ❑ Replat
  - ❑ Subdivision
- ❑ Mixed Use Overlay Review
- ❑ Modification to Existing Approval
- ❑ Natural Resource Review**
- ❑ Nonconforming Use Alteration
- ❑ Parking:
  - ❑ Quantity Determination
  - ❑ Quantity Modification
    - ❑ Shared Parking
    - ❑ Structured Parking
- ❑ Planned Development
- ❑ Residential Dwelling
  - ❑ Manufactured Dwelling Park
  - ❑ Manufactured Dwelling
  - ❑ Temporary Dwelling Unit
- ☒ Transportation Facilities Review**
- ❑ Variance:
- ❑ Use Exception
  - ❑ Variance
  - ❑ Willamette Greenway Review
- ❑ Other: _____

Use separate application forms for:
Annexation and/or Boundary Change
- Compensation for Reduction in Property Value (Measure 37)
- Daily Display Sign
- Appeal

RESPONSIBLE PARTIES:

APPLICANT (owner or other eligible applicant—see reverse): Jerrett Daw

Mailing address: 727 NE Marshall Ave State/Zip: Bend, OR 97701

Phone(s): (541)-556-1945 Email: jerrett.daw@parnellengineeringinc.com

Please note: The information submitted in this application may be subject to public records law.

APPLICANT'S REPRESENTATIVE (if different than above):

Mailing address: State/Zip:

Phone(s): Email:

SITE INFORMATION:

Address: 5606 SE Monroe Map & Tax Lot(s): 12E31AB13300

Comprehensive Plan Designation: R-MD Zoning: R-MD Size of property: 2.22 Acres

PROPOSAL (describe briefly):

Transportation Facilities Report for the proposed development of 44 cottages (5 cottage clusters) with associated parking, utilities and drainage on 2.22 acres.

SIGNATURE: I attest that I am the property owner or I am eligible to initiate this application per Milwaukie Municipal Code Subsection 19.1001.6.A. If required, I have attached written authorization to submit this application. To the best of my knowledge, the information provided within this application package is complete and accurate.

Submitted by: Jerrett Daw Date: 02/13/2024

IMPORTANT INFORMATION ON REVERSE SIDE

*For multiple applications, this is based on the highest required review type. See MMC Subsection 19.1001.6.B.1.
** Natural Resource and Transportation Review applications **may require a refundable deposit.**

WHO IS ELIGIBLE TO SUBMIT A LAND USE APPLICATION (excerpted from MMC Subsection 19.1001.6.A)**:**

Type I, II, III, and IV applications may be initiated by the property owner or contract purchaser of the subject property, any person authorized in writing to represent the property owner or contract purchaser, and any agency that has statutory rights of eminent domain for projects they have the authority to construct.

Type V applications may be initiated by any individual.

PREAPPLICATION CONFERENCE:

A preapplication conference may be required or desirable prior to submitting this application. Please discuss with Planning staff.

DEPOSITS:

Deposits require completion of a Deposit Authorization Form, found at www.milwaukieoregon.gov/building/deposit-authorization-form

REVIEW TYPES:

This application will be processed per the assigned review type, as described in the following sections of the Milwaukie Municipal Code:

- Type I: Section 19.1004
- Type II: Section 19.1005
- Type III: Section 19.1006
- Type IV: Section 19.1007
- Type V: Section 19.1008

THIS SECTION FOR OFFICE USE ONLY:

FILE TYPE	FILE NUMBER	AMOUNT (after discount, if any)	PERCENT DISCOUNT	DISCOUNT TYPE	DATE STAMP
Primary file	TFR-2024-002	$ 1,000			
Concurrent application files		$			
		$			
		$			
		$			
Deposit (NR/TFR only)				☐ **Deposit Authorization Form received**	
TOTAL AMOUNT RECEIVED: $			**RECEIPT #:**		**RCD BY:**

Associated application file #s (appeals, modifications, previous approvals, etc.)**:**

Neighborhood District Association(s): Linwood

Notes:

---------- Forwarded message ---------
From: **Frank Charbonneau** <frank@charbonneauengineer.com>
Date: Tue, Feb 13, 2024 at 9:33 AM
Subject: Monroe Street Housing - Trip Generation Change
To: Nile Hagen <nilehagen@gmail.com>

Nile – We have performed a trip generation comparison for the Monroe Street housing project as requested.

Shown below is a summary table. The newest proposal with 52 units will generate approximately 65% of the traffic originally calculated for 80 housing units.

Table 1. Projected trip generation for Monroe Street 4-Plexes.

ITE Land Use	Units (#)	Weekday						
		ADT	AM Peak Hour			PM Peak Hour		
			Total	Enter	Exit	Total	Enter	Exit
Single-Family Attached Housing (#215)	52							
Generation Rate [1]		7.20	0.48	31%	69%	0.57	57%	43%
Site Trips		**374**	**25**	8	17	**30**	17	13

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

Table 2. Trip Generation Comparison.

Site Development Scenario	Weekday						
	ADT	AM Peak Hour			PM Peak Hour		
		Total	Enter	Exit	Total	Enter	Exit
May 2023 Analysis (80 homes)	**576**	**38**	12	26	**46**	26	20
February 2024 Trip Generation (52 homes)	**-374**	**-25**	-8	-17	**-30**	-17	-13
Trip Generation Difference[2]	**202**	**13**	4	9	**16**	9	7

[2] Trip Generation Difference = May 2023 Trip Generation Estimate - February 2024 Trip Generation Estimate.

Overall there will be less impact to the surrounding transportation system with the new development plan. Parking demand will also be less.

For documentation purposes it is recommended that this email be copied to the City with your application, or if necessary a memorandum can be prepared.

Frank Charbonneau, PE, PTOE
Charbonneau Engineering
971.322.8003

TRAFFIC ANALYSIS REPORT

FOR

MONROE STREET 4-PLEXES

5606 SE MONROE STREET

CITY OF MILWAUKIE

PREPARED BY

CHARBONNEAU ENGINEERING LLC

JUNE 2023

PROJECT 23-14

TRAFFIC ANALYSIS REPORT

FOR

MONROE STREET 4-PLEXES

5606 SE MONROE STREET

CITY OF MILWAUKIE

PREPARED BY

Charbonneau Engineering LLC

10211 SW Barber Boulevard, Suite 210A, Portland, OR 97219
(503) 293-1118 • FAX (503) 293-1119

6/8/23

RENEWS: 12/31/23

JUNE 2023

PROJECT 23-14

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INTRODUCTION

This traffic study has been prepared to evaluate and document the operations and safety conditions for the Monroe Street 4-Plexes development being planned in Milwaukie. The development will construct a total of 80 single-family attached units on 20 lots south of SE Monroe Street between SE 55th Avenue and SE Stanley Avenue. Figure 'a' in the appendix is a vicinity map highlighting the project location.

In accordance with the City and their designated transportation consultant (Kittelson & Associates) the study area was defined as the half-mile area along SE Monroe Street between SE Home Avenue and SE Stanley Avenue (east). Several intersections on SE Monroe Street were specified for analysis.

TRAFFIC ANALYSIS CONSIDERATIONS

The project scope included a number of important elements that were addressed in this study.

- Inventory and record pertinent information such as traffic control devices, circulation patterns, lane conditions, pedestrian & bicycle facilities, transit zones, parking, and street characteristics.
- New traffic counts were recorded in May 2023 at the following intersections. The data was recorded on typical weekdays during the AM and PM peak traffic hours.

    - SE Monroe Street at SE Home Avenue
    - SE Monroe Street at SE Wood Avenue
    - SE Monroe Street at SE Stanley Avenue (west)
    - SE Monroe Street at SE Stanley Avenue (east)

- For background traffic three years of traffic growth at 2.0% per year was applied. City staff confirmed that in-process traffic was applicable for this project and provided the data.
- Level of service (LOS) analysis of the study intersections to measure the approach delays for comparison to Milwaukie standards.
- Determination of vehicular queuing at the study intersections.
- Review intersection sight distance at the proposed access location.
- Review traffic accident data furnished by ODOT. Determine the intersection crash rates at the study intersections and compare to the 90th percentile values presented in the ODOT Analysis Procedures Manual (APM).
- Estimation of the site's parking capacity.

SITE DESCRIPTION, STREETS, ACCESS, AND CRITICAL INTERSECTIONS

Development of the Monroe Street 4-Plexes project will construct a total of 80 attached units on 20 lots. The property currently is vacant. Vehicular access as shown on the site plan will include a single street connection to SE Monroe Street approximately 280 feet east of SE 55th Avenue. The new street approach will be controlled by stop signing. The project site plan (Figure 'b') illustrates the proposed street alignment and connection to SE Monroe Street.

The development site is surrounded by single-family housing on the east, west, north (including SE Monroe Street), and south. There is no available right-of-way to create a future street connection beyond the site's boundaries such as to SE 55th Avenue on the west or SE Stanley Avenue to the east.

All of the study intersections are currently controlled by stop signing on the approaches to SE Monroe Street. The existing and proposed lane configurations and traffic control are presented in Figure `c` in the report's appendix.

SE Monroe Street near the site's frontage is classified as a collector street providing one travel lane in each direction. There are no sidewalk or bike lanes and the travel speed is posted at 25 MPH. The alignment is basically tangent. On-Street parking is permitted.

SE Home Avenue at SE Monroe Street is a four-way intersection with stop control on all approaches. There are no separate turn lanes at this location. Pedestrian crosswalks are not marked.

SE Wood Avenue at SE Monroe Street is a three-way intersection with stop control on the northbound approach. There are no separate turn lanes at this location. Pedestrian crosswalks are not marked.

SE Stanley Avenue (west) at SE Monroe Street is a three-way intersection with stop control on the southbound approach. There are no separate turn lanes at this location. Pedestrian crosswalks are not marked.

SE Stanley Avenue (east) at SE Monroe Street is a three-way intersection with stop control on the northbound approach. There are no separate turn lanes at this location. Pedestrian crosswalks are not marked.

TRAFFIC OPERATIONAL ANALYSIS

To evaluate traffic flow and delay the study intersections were analyzed for level of service (LOS) conditions, delay, and safety. A total of four intersections and the site access on SE Monroe Street were evaluated. LOS and queuing analyses were completed in the AM and PM peak hour periods for the following scenarios:

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

In order to perform the LOS analysis, year 2023 traffic counts were collected in May. The counts were recorded during the AM peak (7:00-9:00 AM) and PM peak (4:00-6:00 PM) traffic hours.

Figure 1 illustrates the Year 2023 volume data.

For the year 2026 background traffic three years of traffic growth at 2.0% per year has been added to the Year 2023 volumes. The year 2026 background traffic volumes are illustrated in Figure 3. Milwaukie staff confirmed that it was necessary to account for in-process traffic and provided the data. Several development projects were included with the corresponding traffic flow data shown on Figures 2a & 2b. Data for the following in-process developments are contained in the appendix. For sites where a traffic analysis was not required, the associated trip generation has been calculated and the trip assignments have been estimated.

- Hillside Master Plan
- Monroe Apartments (Seven Acres)
- 52nd Avenue Townhomes
- Home Avenue-Harrison Subdivision
- Railroad Avenue Estates

The year 2026 total traffic (the summation of background traffic volumes and site generated traffic) is presented in Figure 6.

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 for land-use code #215, single-family attached housing.

Table 1 Trip Generation Summary

ITE Land Use	Units (#)	Weekday						
		ADT	AM Peak Hour			PM Peak Hour		
			Total	Enter	Exit	Total	Enter	Exit
Single-Family Attached Housing (#215)	80							
Generation Rate [1]		7.20	0.48	31%	69%	0.57	57%	43%
Site Trips		**576**	**38**	12	26	**46**	26	20

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

Development of project is expected to generate 576 daily trips, 38 AM peak hour trips, and 46 PM peak hour trips.

The Monroe Street 4-Plexes trip distribution was based on the traffic count data and engineering judgment. This information is presented on Figure 4. The corresponding trip assignments are presented in Figures 5a & 5b for the AM and 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 was used to determine the approach delays and level of

service for the study intersections. The program is based on the year 2016 Highway Capacity Manual methodology. Table 2 summarizes the analysis results. 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
SE Home Avenue and SE Monroe St	Two-way Stop	AM		A	7.5	0.05	-	A	7.5	0.06	-	A	7.6	0.06
		PM	-	A	7.8	0.09	-	A	7.9	0.10	-	A	8.0	0.11
SE Wood Avenue and SE Monroe St	Two-way Stop	AM	NB	A	9.0	0.05	-	A	9.1	0.05	NB	A	9.1	0.05
		PM	NB	A	9.6	0.03	NB	A	9.7	0.03	NB	A	9.8	0.03
Site Access and SE Monroe St	Two-way Stop	AM	-	-	-	-	-	-	-	-	NB	A	8.9	0.03
		PM	-	-	-	-	-	-	-	-	NB	A	9.3	0.03
Stanley Avenue (W) and SE Monroe St	Two-way Stop	AM	SB	A	9.7	0.04	SB	A	9.8	0.04	SB	B	10.0	0.05
		PM	SB	A	9.5	0.03	SB	A	9.6	0.03	SB	A	9.8	0.03
Stanley Avenue (E) and SE Monroe St	Two-way Stop	AM	NB	B	10.0	0.17	NB	B	10.1	0.18	NB	B	10.3	0.19
		PM	NB	A	9.6	0.06	NB	A	9.7	0.07	NB	A	9.9	0.08

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

All of the study intersections will operate at acceptable LOS `B` or better through the year 2026 total traffic scenario with the greatest average intersection delay not exceeding 11 seconds. The resulting delay values meet the City's operational standards.

As a result 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 long delays indicating 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 Highway Capacity Manual

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

Queue lengths based on the 95th percentile demand values for the study intersections were established in the Synchro analysis. Copies of the reports are included in the appendix.

The results confirm that on all stop approaches the queues will not exceed one to two vehicles in the peak hours.

SIGHT DISTANCE

Intersection sight distance on SE Monroe Street at the site access street was reviewed in accordance with AASHTO standards. Based on the posted speed of 25 miles per hour, the requirement equates to 280 feet of sight distance. Currently, over 400 feet of intersection sight distance is available to the east and west at the future stop approach. Therefore, the intersection sight distance standard will be met in both directions. With development of the Monroe Street 4-Plexes site, the access to SE Monroe Street should be designed such that AASHTO's minimum sight distance recommendation is met or exceeded.

TURN LANE REQUIREMENTS

No left turn lanes are currently available at the study intersections on SE Monroe Street.

Left turn lane warrants and right turn lane warrants were prepared for the eastbound and westbound movements on SE Monroe Street. The warrants were not met through the year 2026 total traffic scenario and thus, no left turn lanes or right turn lanes are recommended. The warrants are included in the appendix.

TRAFFIC SIGNAL WARRANTS

The stop-controlled study intersections on SE Monroe Street were evaluated for signalization using the peak hour signal warrant. The intersection volumes did not meet the warrant. The warrants are included in the appendix.

ACCIDENT HISTORY

Crash data reported from 2017 through 2021 was obtained from the ODOT Crash Analysis and Reporting Unit for the SE Monroe Street intersections with SE Home Avenue, SE Wood Avenue, and SE Stanley Avenue. The crash data was reviewed to help identify any traffic safety problems and that the resulting crash rate does not exceed the 1.00 crashes per million entering vehicles (CMEV). A copy of the crash data is included in the appendix.

Regarding crash severity, ODOT classifies crashes in the following categories:

- Property Damage Only (PDO)
- Possible Injury (Injury C)
- Suspected Minor Injury or Non-Incapacitating Injury (Injury B)
- Suspected Serious Injury or Incapacitating Injury (Injury A)
- Fatality or Fatal Injury

At the direction of the City's traffic consulting engineering firm (Kittelson & Associates), the study intersection crash rates should also be evaluated considering the 90th percentile values presented in the ODOT Analysis Procedures Manual (APM). According to Section 4.1.1 of the APM, intersections with crash rates that exceed the 90th percentile values shown in Table 4-1 should be flagged for further analysis. Table 4-1 identifies that for three-leg minor stop-control unsignalized urban intersections, the 90th percentile rate is 0.29 CMEV.

Table 3 provides a summary of crash types and Table 4 summarizes crash severities and rates for each study intersection.

Table 3 Crash Type Summary

Intersection	Crash Type				Total Crashes
	Rear End	Turn	Angle	Fixed Object	
SE Home Ave at Monroe St	0	1	2	0	3
SE Wood Ave at Monroe St	0	1	0	0	1
Stanley Ave (W) at Monroe St	0	0	0	0	0
Stanley Ave (E) at Monroe St	0	1	0	1	2

Table 4 Crash Severity and Rate Summary

Intersection	Crash Severity					Total Crashes	Annual Traffic Entering (veh/yr)	Crash rate per M.E.V.*
	PDO	C	B	A	Fatal			
SE Home Ave at Monroe St	1	1	0	1	0	3	945972	0.63
SE Wood Ave at Monroe St	1	0	0	0	0	1	708566	0.28
Stanley Ave (W) at Monroe St	0	0	0	0	0	0	672042	0.00
Stanley Ave (E) at Monroe St	1	1	0	0	0	2	686651	**0.58**

BOLDED text indicates a crash rate in excess of the 90th Percentile CMEV per ODOT's APM.

Based on a review of the crash data only one location resulted in an injury consistent with *Injury A* classification; however, the crash, which was reported at SE Home Avenue and SE Monroe Street is not subject to the ODOT APM because it is configured as an all-way stop-control intersection.

At the SE Stanley Ave (E) and SE Monroe Street intersection, one crash occurred when a driver with a suspended license was traveling too fast, took a wide left turn, and collided with a fixed object. The second crash occurred when a northbound left-turning vehicle did not yield right-of-way to an eastbound vehicle traveling through the intersection resulting in possible injury. If the suspended license driver's crash is neglected the resulting rate equates to 0.29 CMEV and just meets the 90th percentile rate, and need for further analysis is marginal. Another factor that contributes to crash rate being high in this case is the low existing traffic volume. Since the crash severity is not considered critical, it is recommended that further analysis is not necessary.

PEDESTRIANS, BICYCLES, & BUSES

Figures d1, d2, & d3 have been developed to illustrate the existing pedestrian amenities including sidewalks and bike lanes within the study area and connectivity to the surrounding neighborhood schools. The map legend identifies where sidewalks and bike lanes are located. According to the North Clackamas School District's school boundary maps, there are three schools which may reasonably serve the site.

- Linwood Elementary School
- Rowe Middle School
- Milwaukie High School / Milwaukie Academy of the Arts

Linwood Elementary School

Linwood Elementary School is located within a 1-mile walking/biking distance to the south of the site. Pedestrian travel between the school and the site is available via SE Monroe Street and SE Linwood Avenue. Complete sidewalks are available on both sides of SE Linwood Avenue.

Rowe Middle School

Rowe Middle School is located within a 1.9-mile walking/biking distance southwest of the site. Pedestrian travel between the school and the site is available via SE Monroe Street, SE Garrett Drive, SE Washington Street, SE 37th Avenue (north of Hwy 224), SE Edison Street, SE 37th Avenue (south of Hwy 224), SE Grogan Avenue, SE 36th Avenue, SE Lake Road, and SE Shell Lane. Sidewalks are generally located on both sides of SE Garrett Drive; generally on both sides on SE Washington Street; on the west side of SE 37th Avenue (north of Hwy 224); on the both sides of SE Edison Street (near Hwy 224); on the east side of SE 37th Avenue (south of Hwy 224); on the north side of SE Grogan Avenue; on both sides of SE 36th Avenue; along the south side of SE Lake Road; and, on the west side of SE Shell Lane. Marked crosswalks are available on the south approach of SE 37th Avenue (at SE Washington Street); on the east approach of SE Edison Street (at Hwy 224); on the south

approach of Hwy 224 (at SE Edison Street); and, on the west approach of SE Lake Road (at SE 36th Avenue).

Milwaukie High School / Milwaukie Academy of the Arts
Milwaukie High School / Milwaukie Academy of the Arts are located within a 1.8-mile walking/biking distance west of the site. Pedestrian travel between the school and the site is available via SE Monroe Street, SE Oak Street, SE Washington Street, SE 27th Avenue, and SE Willard Street. Complete sidewalks are available generally along the north side of SE Monroe Street (east of SE 42nd Avenue); along both sides of SE Monroe Street (west of SE 42nd Avenue); both sides of SE Oak Street; both sides of SE Washington Street; both sides of SE 27th Avenue; and, both sides of SE Willard Street. Marked crosswalks are available on the south approach of SE 42nd Avenue (at SE Monroe Street); on the east approach of Highway 224 (at SE Oak Street); on the east approach of SE Washington (at SE Oak Street); and, on the south approach of SE 27th Avenue (at SE Washington Street).

Sidewalk will be constructed on Monroe Street along the development's property frontage and within the site on one side of the new street connecting to SE Monroe Street.

Bicycle lanes are not provided on SE Monroe Street near the study area. No additional bike lanes will be constructed with the development project.

Tri-Met does not provide bus service on SE Monroe Street or the other local streets within the study area.

PARKING CAPACITY

City code does not require a minimum number of parking spaces or a parking lot for this project. However, ample parking capacity will be provided. Each 4-plex lot will have enough driveway space for two cars. Additional parking capacity will be available on one side of the new access street leading to and within the site (50% of the available 400 lineal feet was used in the calculation for street parking).

The parking capacity has been established as follows.

Parking on 4-plex driveways:	2 spaces x 20 driveways	= 40 spaces
On-Street parking within the site:	200 lineal ft/20 ft car length	= 10 spaces
	Total Parking Capacity	= 50 spaces

A published parking demand rate is not available in the ITE Parking Generation manual for the development's land use code (LUC #215).

Service vehicles normally arrive on weekdays during regular business hours and therefore will not synchronize with the peak parking demand periods that generally occur during the later evenings and early mornings. Emergency vehicles such as ambulances and fire trucks will park on the street as necessary if curb parking is not available. The hammerhead street

design in front of lot #'s 7-#10 will allow the larger vehicles to make a three-stage turning maneuver to exit the site moving forward. Smaller vehicles will be able to turn around within the partial cul-de-sac area in front of lots #15 & #16, and Tract `A`. The final site plan will exhibit the details and radii to illustrate the turning maneuvers.

SUMMARY AND RECOMMENDATIONS

The traffic study has been prepared to evaluate and document the operations and safety conditions for the Monroe Street 4-Plexes development being planned in Milwaukie. The development will construct a total of 80 single-family attached housing units south of SE Monroe Street between SE 55th Avenue and SE Stanley Avenue. A new street will be constructed south from SE Monroe Street to provide connectivity to the property. The development will generate 576 daily site trips with 38 trips in the AM peak hour and 46 trips in the PM peak hour.

Intersection sight distance on SE Monroe Street at the site access street was reviewed in accordance with AASHTO standards. Based on the posted speed of 25 miles per hour, the requirement equates 280 feet of sight distance. Currently, over 400 feet of intersection sight distance is available to the east and west at the future stop approach. Therefore, the intersection sight distance standard will be met in both directions. With development of the Monroe Street 4-Plexes site, the access to SE Monroe Street should be designed such that AASHTO's minimum sight distance recommendation is met or exceeded.

All of the study intersections will operate at acceptable LOS `B` or better through the year 2026 total traffic scenario with the greatest average intersection delay not exceeding 11 seconds. The resulting delay values meet the City's operational standards. No intersection improvements are necessary in conjunction with the proposed development.

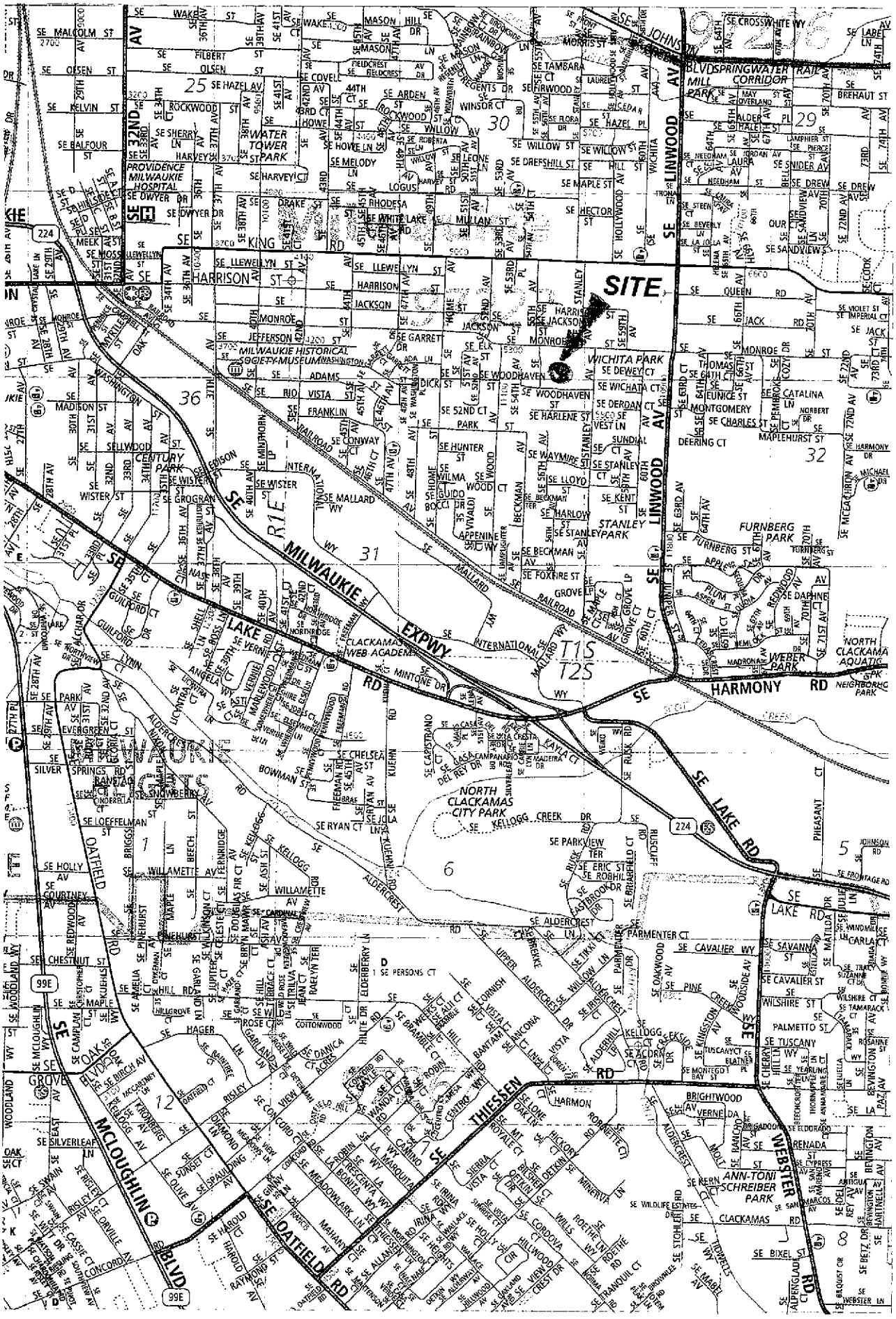
Based on a review of the crash data only one location resulted in an injury consistent with the *Injury A* type classification; however, the crash, which was reported at SE Home Avenue and SE Monroe Street is not subject to the ODOT APM because it is configured as an all-way stop-control intersection.

At the SE Stanley Ave (E) and SE Monroe Street intersection two crashes were reported. One crash occurred when a driver with a suspended license was traveling too fast and struck a fixed object. The second crash occurred when a northbound vehicle failed to yield right-of-way to an eastbound vehicle, resulting in possible injury. If the suspended license driver's crash is removed from the calculations the resulting rate equates to 0.29 CMEV and just meets the 90th percentile rate, so the need for further analysis is marginal. Another factor that contributes to the high rate is the low existing traffic volume. Since the crash severity is not considered critical, further safety analysis will not be conducted.

No off-site intersection improvements are recommended in conjunction with the proposed development. Stop signing with a stop bar pavement marking is recommended on the site's street approach to SE Monroe Street when the development is completed.

APPENDIX

- Vicinity Map — Figure `a`
- Site Plan — Figure `b`
- Lane Configurations &Traffic Control — Figure `c`
- Pedestrian Walking Paths — Figures `d1`, `d2`, & `d3`
- Traffic Flow Diagrams
  - Figure 1 — Year 2023 Existing Traffic, AM & PM Peak Hours
  - Figures 2a & 2b — In-Process Traffic, AM & PM Peak Hours
  - Figure 3 — Year 2026 Background Traffic, AM & PM Peak Hours
  - Figure 4 — Trip Distribution
  - Figure 5a & 5b — Trip Assignment, AM & PM Peak Hours
  - Figure 6 — Year 2026 Total Traffic
- Traffic Count Data
- In-Process Development Data
- Accident History Summary (furnished by ODOT)
- Left Turn Lane Warrant
- Right Turn Lane Warrant
- Peak Hour Signal Warrant
- Synchro Capacity Analysis Reports



FILE NAME: 2314flow.dwg

PLOT DATE: 05.21.23

CHARBONNEAU ENGINEERING LLC

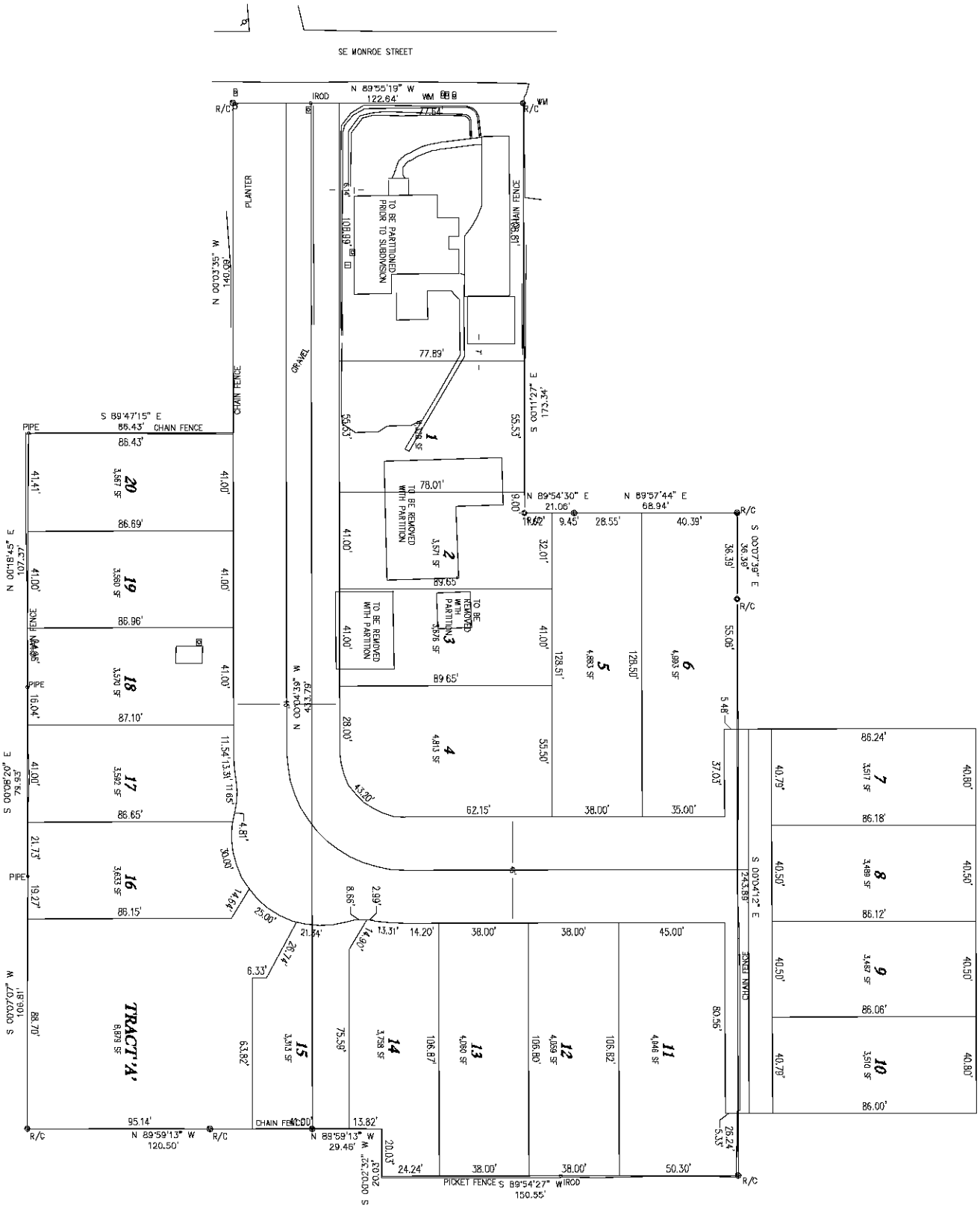
PROJECT: 23-14

NOTES:
NO SCALE

N

VICINITY MAP
MONROE STREET 4-PLEXES

FIGURE
a



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PLOT DATE: 05.21.23

CHARBONNEAU ENGINEERING LLC

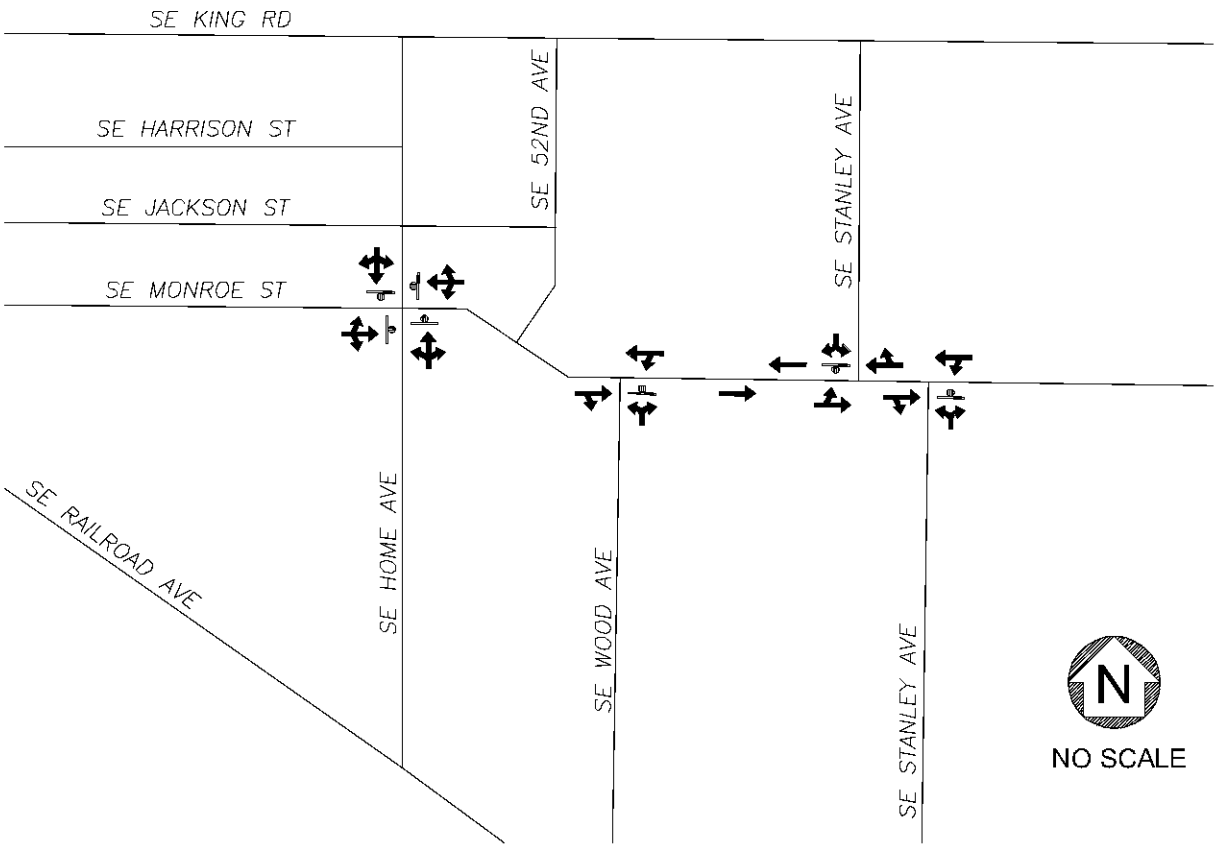
PROJECT: 23-14

NOTES:
NO SCALE

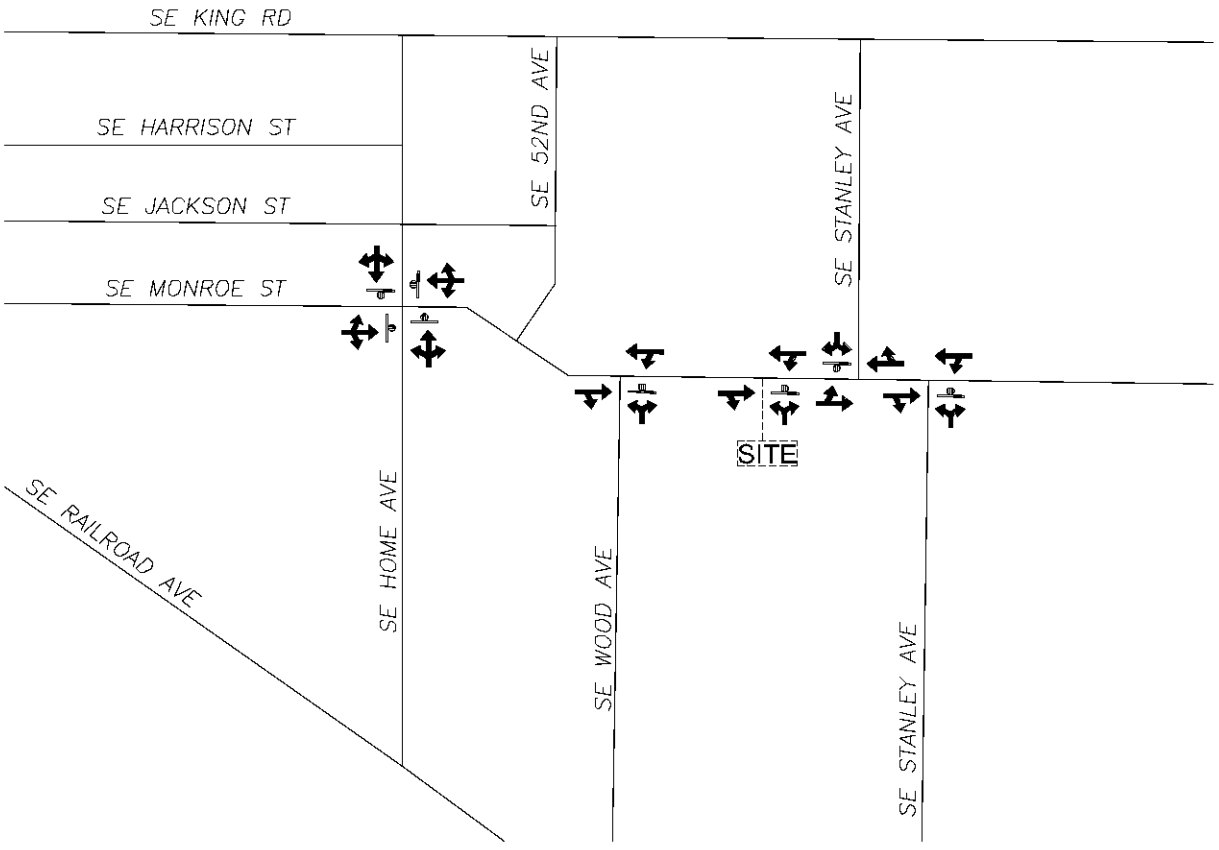
N

SITE PLAN
MONROE STREET 4-PLEXES

FIGURE
b



EXISTING



PROPOSED

FILE NAME: 2314flow.dwg

PLOT DATE: 05.21.23

CHARBONNEAU ENGINEERING LLC

PROJECT: 23-14

NOTES:

LANE CONFIGURATIONS
AND TRAFFIC CONTROL
MONROE STREET 4-PLEXES

FIGURE

C

PLOT DATE: 06.01.23 FILE: 2314flow.dwg

STREET	SIDEWALKS	BICYCLE LANES
SE MONROE STREET	NONE	NONE
SE LINWOOD AVENUE	BOTH SIDES	NONE

CHARBONNEAU ENGINEERING LLC
PROJECT: 23-14

NOTES: NO SCALE

------- suggested pedestrian/bicycle route

N

PEDESTRIAN WALKING PATHS
- LINWOOD ELEMENTARY SCHOOL -
MONROE STREET 4-PLEXES

FIGURE
d1

PLOT DATE: 06.01.23 FILE: 2314flow.dwg

STREET	SIDEWALKS	BICYCLE LANES
SE MONROE STREET	NONE	NONE
SE GARRETT DRIVE	GENERALLY BOTH SIDES	NONE
SE WASHINGTON ST	GENERALLY BOTH SIDES	NONE
SE 37TH AVENUE (NORTH OF HWY 224)	WEST SIDE	NONE
SE EDISON STREET (NEAR HWY 224)	BOTH SIDES OF ROAD	NONE
SE 37TH AVENUE (SOUTH OF HWY 224)	EAST SIDE	NONE
SE GROGAN AVENUE	NORTH SIDE	NONE
SE 36TH AVENUE	BOTH SIDES OF ROAD	NONE
SE LAKE ROAD	SOUTH SIDE	BOTH SIDES
SE SHELL LANE	WEST SIDE	NONE

CHARBONNEAU ENGINEERING LLC

PROJECT: 23-14

NOTES: NO SCALE

------- suggested pedestrian/bicycle route

N

PEDESTRIAN WALKING PATHS
- ROWE MIDDLE SCHOOL -
MONROE STREET 4-PLEXES

FIGURE

d2

PLOT DATE: 06.01.23 FILE: 2314flow.dwg

STREET	SIDEWALKS	BICYCLE LANES
SE MONROE STREET	NORTH SIDE, BETWEEN 42ND & 44TH AVENUES	NONE
	BOTH SIDES, WEST OF 42ND AVENUE	NONE
SE OAK STREET	BOTH SIDES OF ROAD	NONE
SE WASHINGTON ST	BOTH SIDES OF ROAD	NONE
SE 27TH AVENUE	BOTH SIDES OF ROAD	NONE
SE WILLARD STREET	BOTH SIDES OF ROAD	NONE

CHARBONNEAU ENGINEERING LLC
PROJECT: 23-14

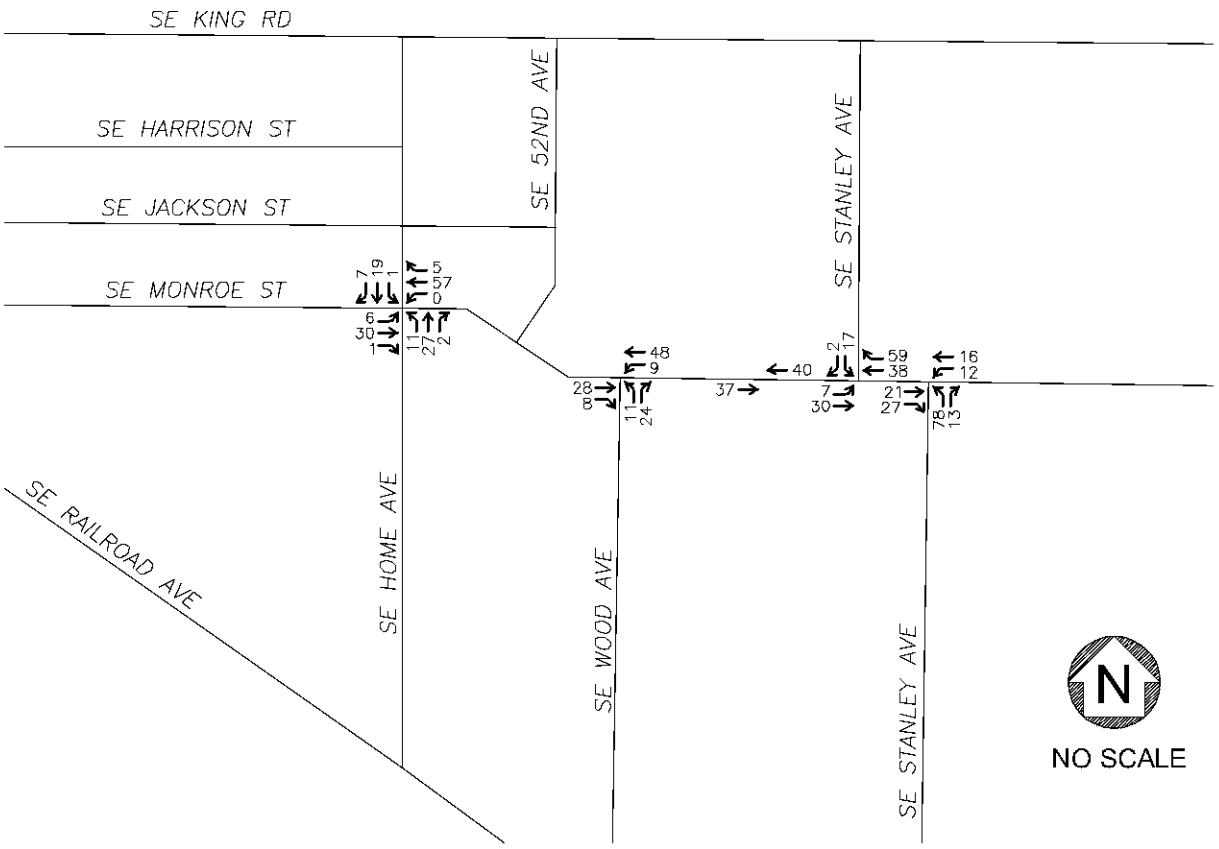
NOTES: NO SCALE

------- suggested pedestrian/bicycle route

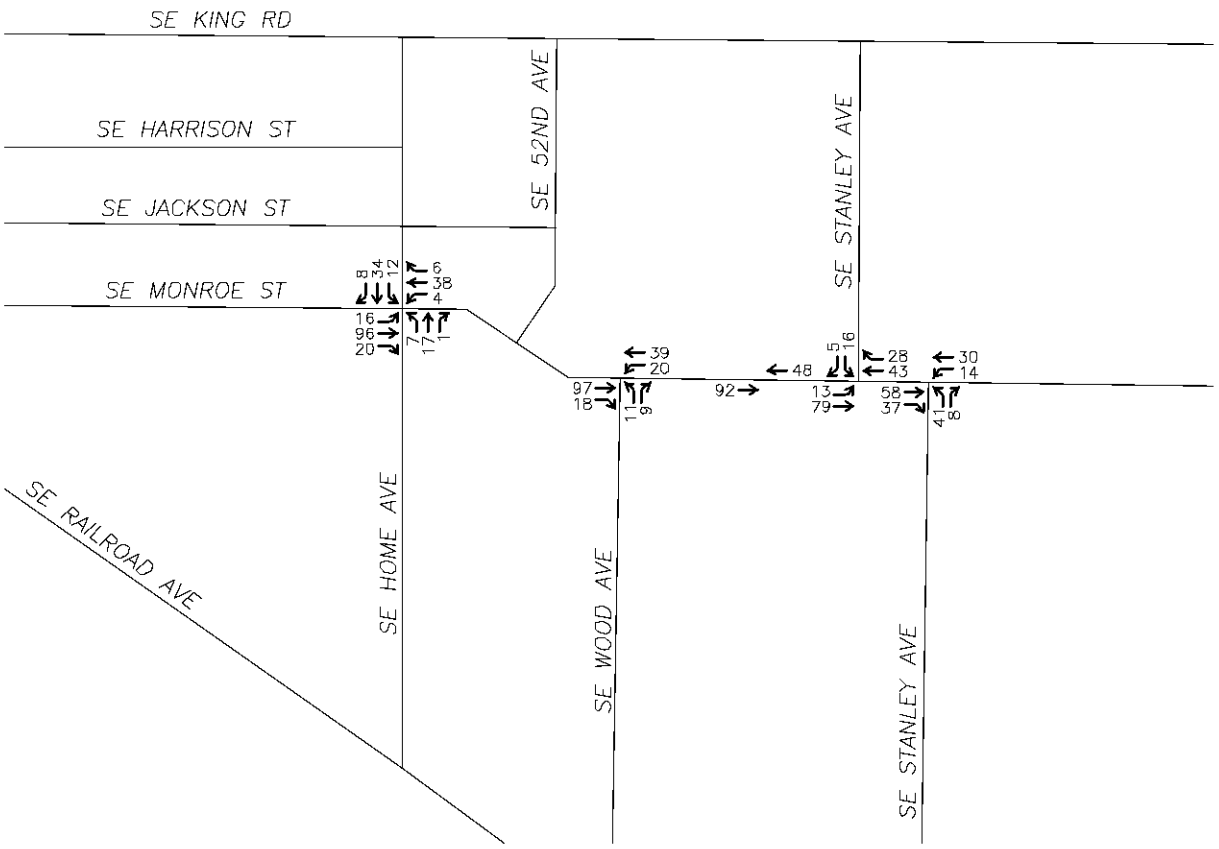
N

PEDESTRIAN WALKING PATHS
- MILWAUKIE HIGH SCHOOL -
MONROE STREET 4-PLEXES

FIGURE
d3



AM PEAK HOUR



PM PEAK HOUR

FILE NAME: 2314flow.dwg

PLOT DATE: 05.21.23

CHARBONNEAU ENGINEERING LLC

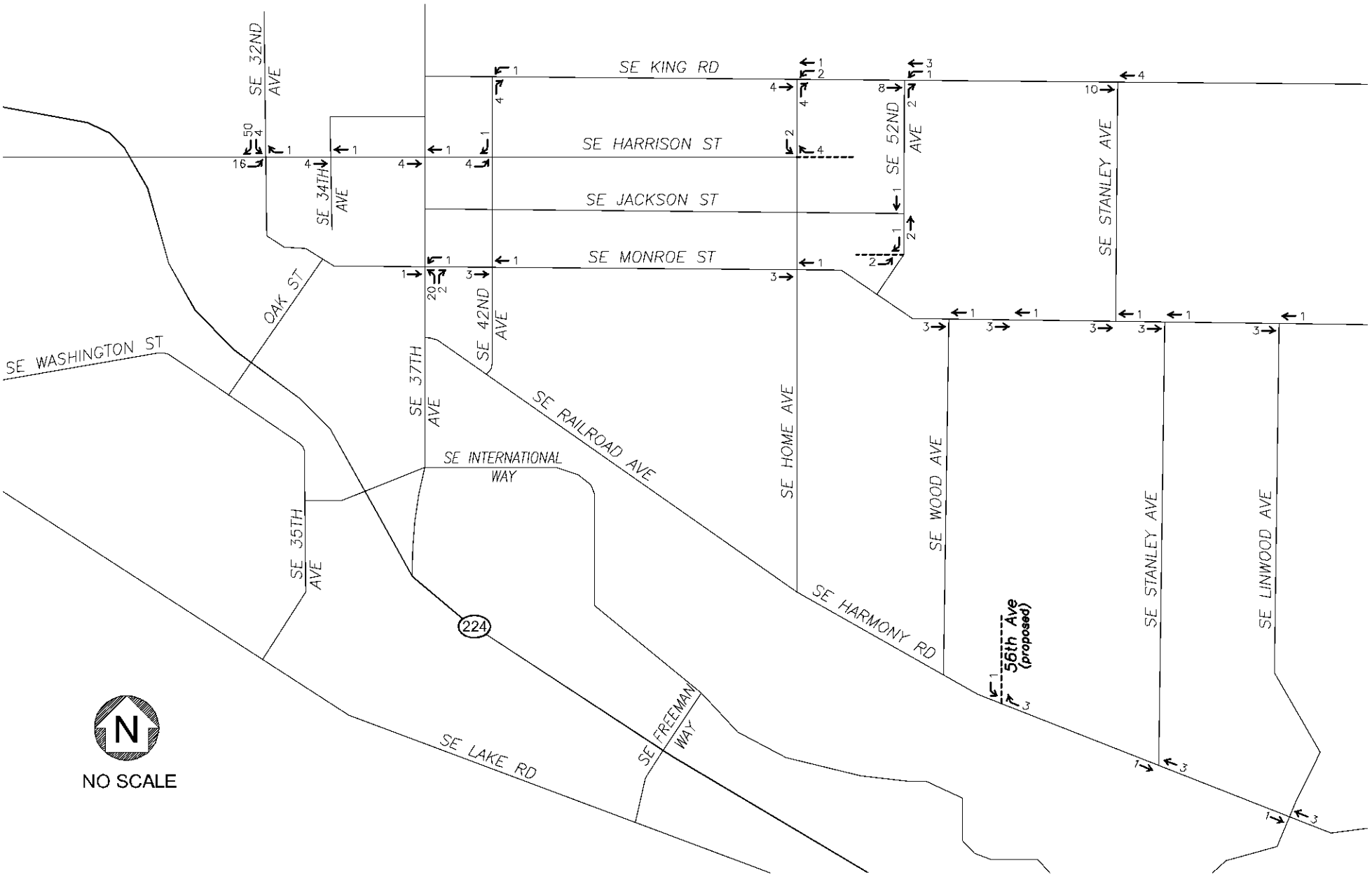
PROJECT: 23-14

NOTES:

2023 EXISTING TRAFFIC
MONROE STREET 4-PLEXES

FIGURE 1

PLOT DATE: 05.23.23 FILE: 2314flow.dwg



CHARBONNEAU ENGINEERING LLC

PROJECT: 23-14

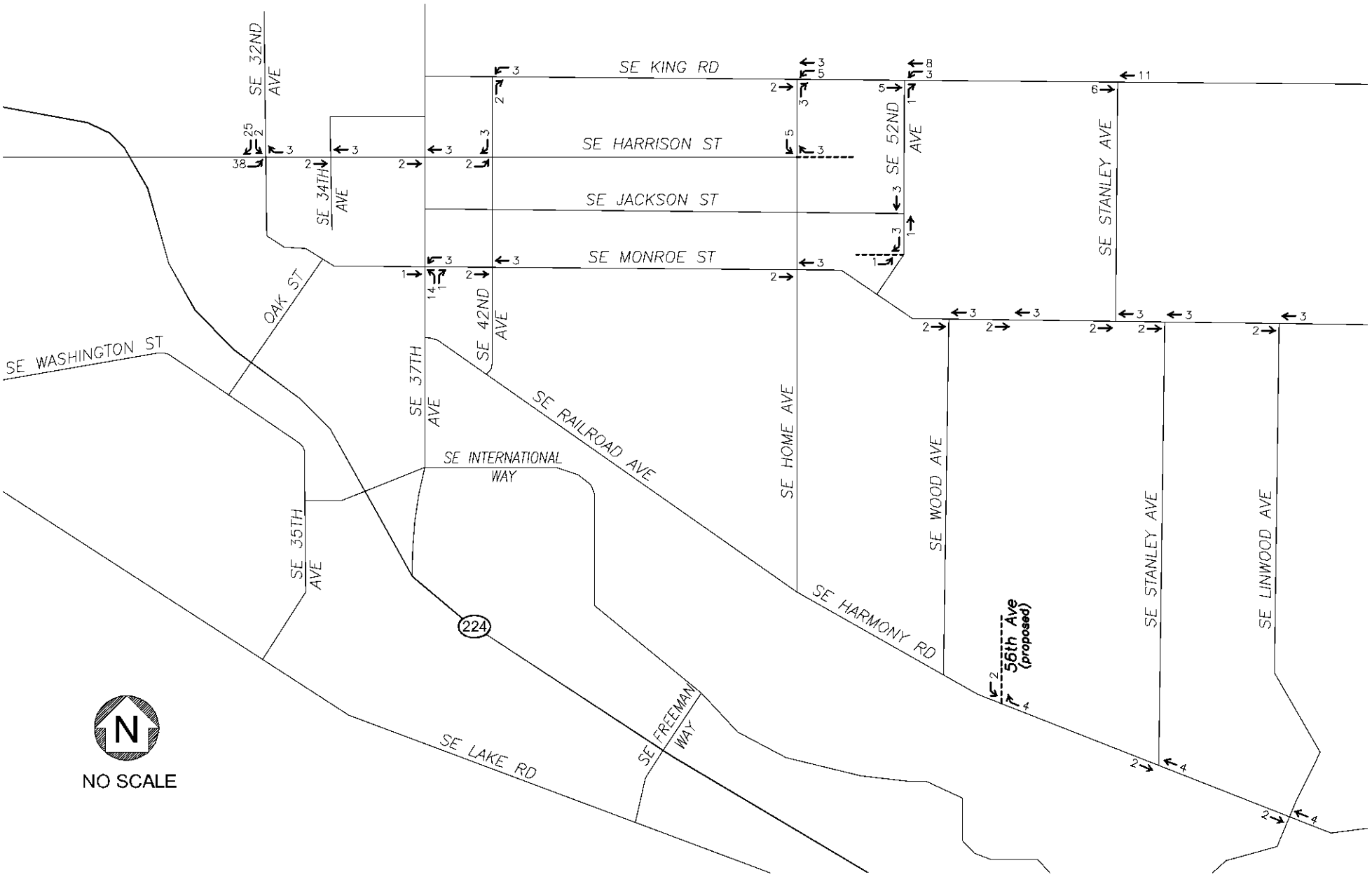
NOTES: In-process Traffic includes Hillside Master Plan, Monroe Apartments (aka Seven Acres), 52nd Avenue Townhouse Development, Home Avenue-Harrison Subdivision, and Railroad Avenue Estates.

IN-PROCESS TRAFFIC
AM PEAK HOUR
MONROE STREET 4-PLEXES

FIGURE

2a

PLOT DATE: 05.23.23 FILE: 2314flow.dwg



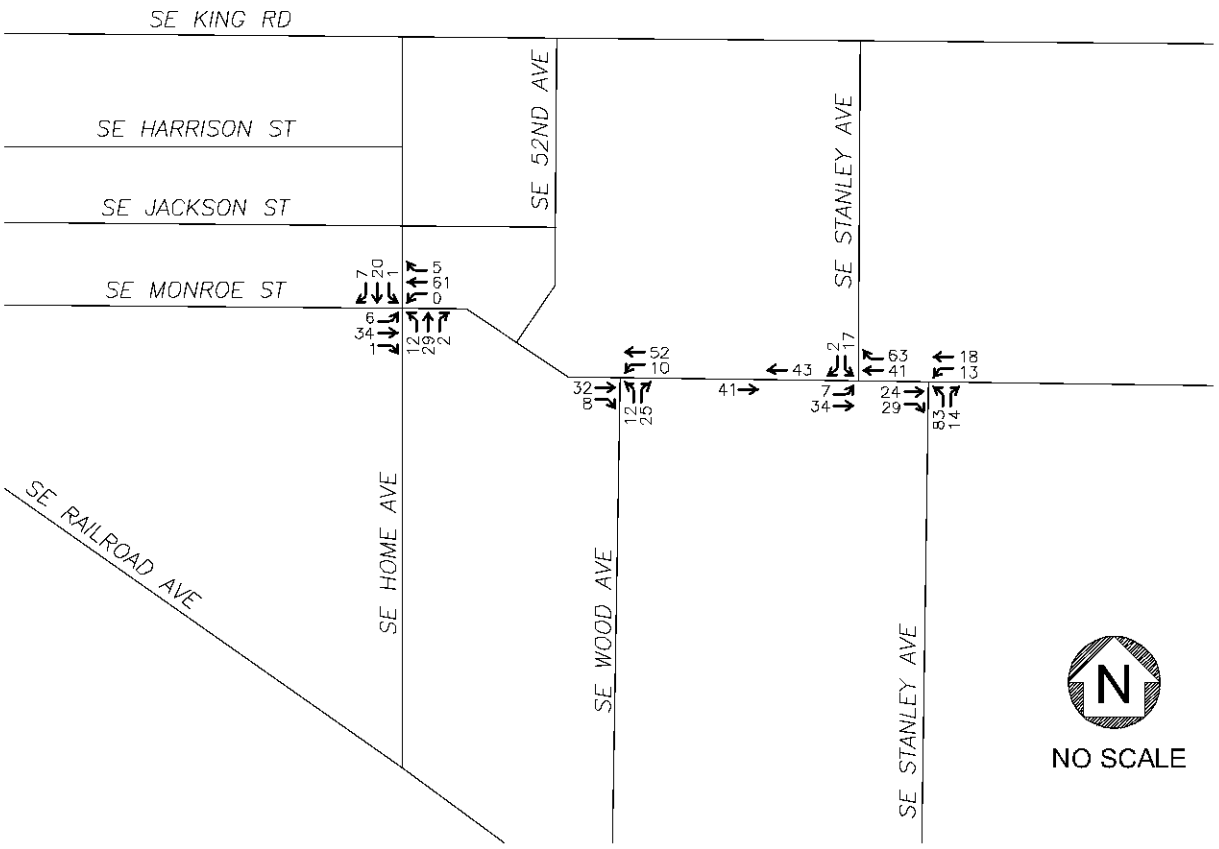
CHARBONNEAU ENGINEERING LLC

PROJECT: 23-14

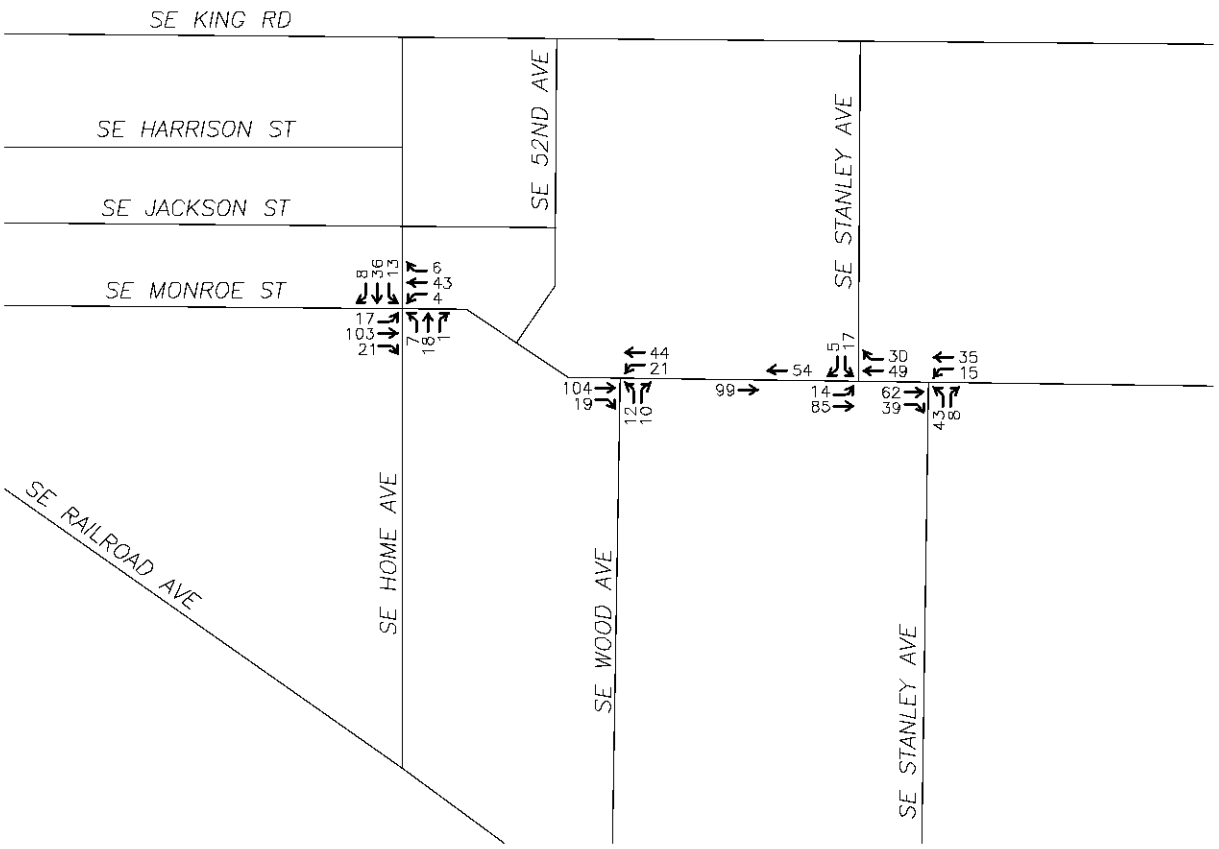
NOTES: In-process Traffic includes Hillside Master Plan, Monroe Apartments (aka Seven Acres), 52nd Avenue Townhouse Development, Home Avenue-Harrison Subdivision, and Railroad Avenue Estates.

IN-PROCESS TRAFFIC
PM PEAK HOUR
MONROE STREET 4-PLEXES

FIGURE 2b



AM PEAK HOUR



PM PEAK HOUR

FILE NAME: 2314flow.dwg

PLOT DATE: 05.21.23

CHARBONNEAU ENGINEERING LLC

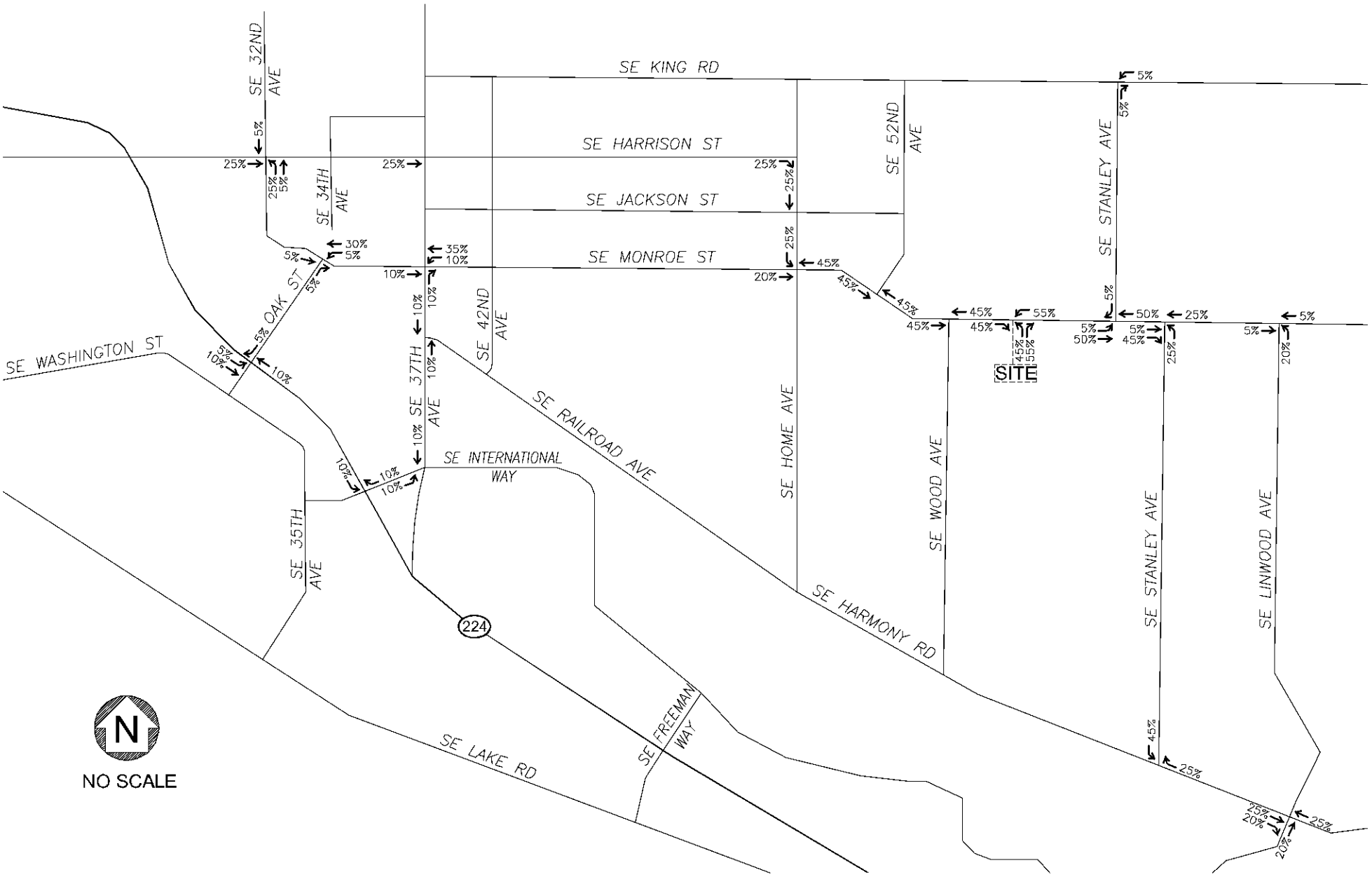
PROJECT: 23-14

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

2026 BACKGROUND TRAFFIC MONROE STREET 4-PLEXES

FIGURE 3

PLOT DATE: 06.01.23 FILE: 2314flow.dwg



CHARBONNEAU ENGINEERING LLC

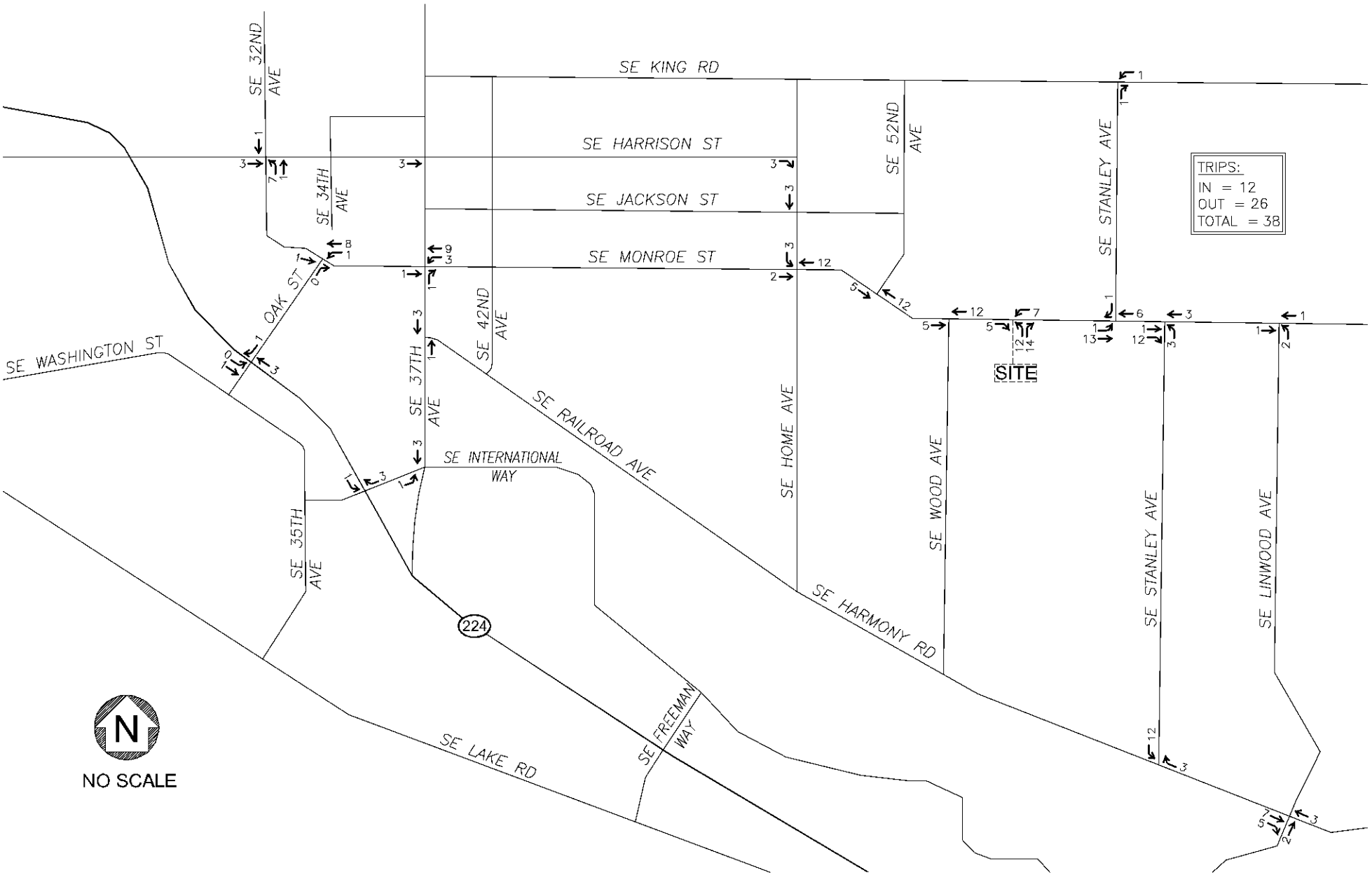
PROJECT: 23-14

NOTES: The site's trip distribution is based on engineering judgment and existing traffic counts.

TRIP DISTRIBUTION
AM PEAK HOUR & PM PEAK HOUR
MONROE STREET 4-PLEXES

FIGURE
4

PLOT DATE: 05.23.23 FILE: 2314flow.dwg



CHARBONNEAU ENGINEERING LLC

PROJECT: 23-14

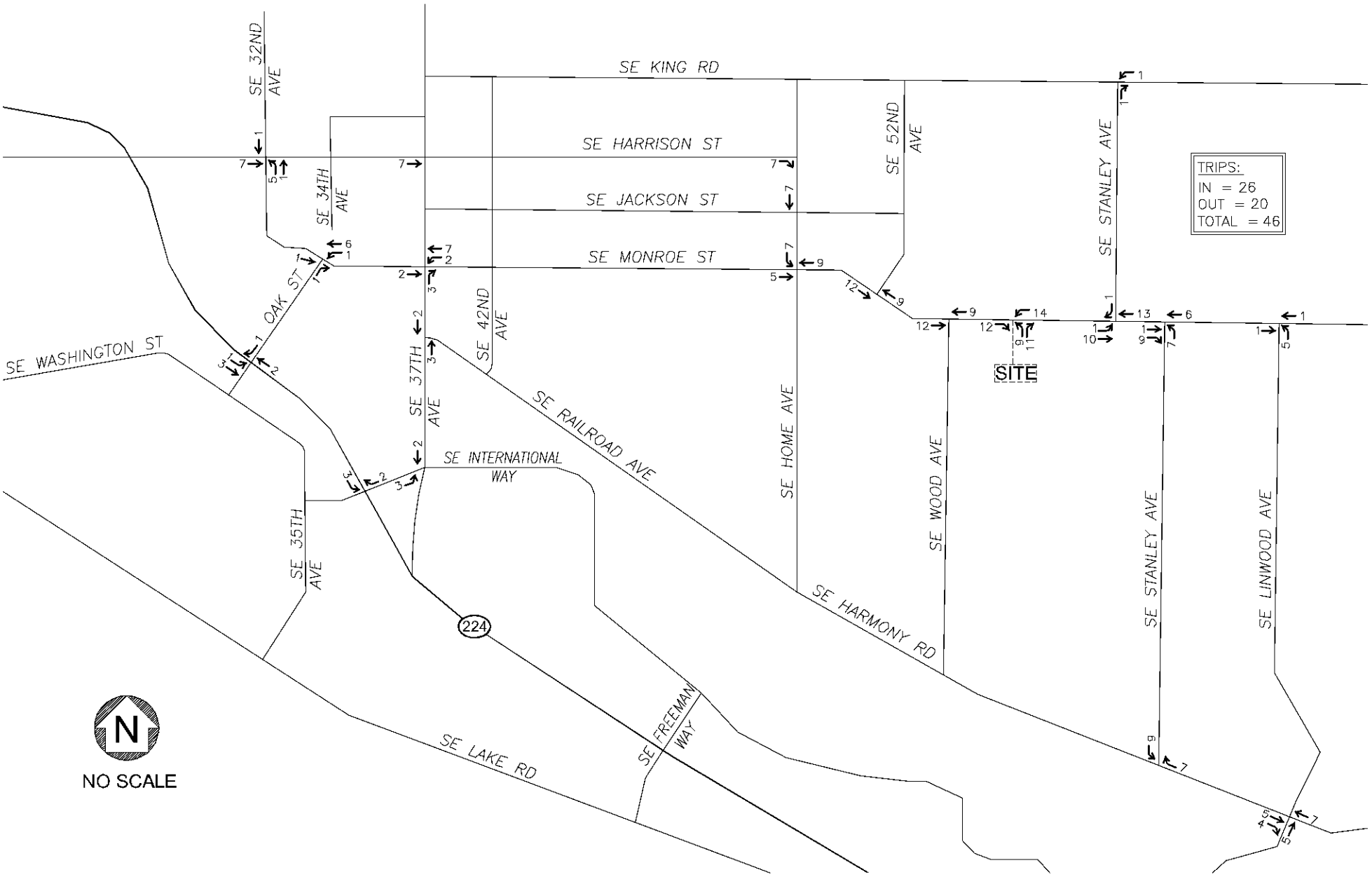
NOTES: The site's trip generation is based on Single-Family Attached Housing (ITE 215) trip rates.

TRIP ASSIGNMENT
AM PEAK HOUR
MONROE STREET 4-PLEXES

FIGURE

5a

PLOT DATE: 05.23.23 FILE: 2314flow.dwg



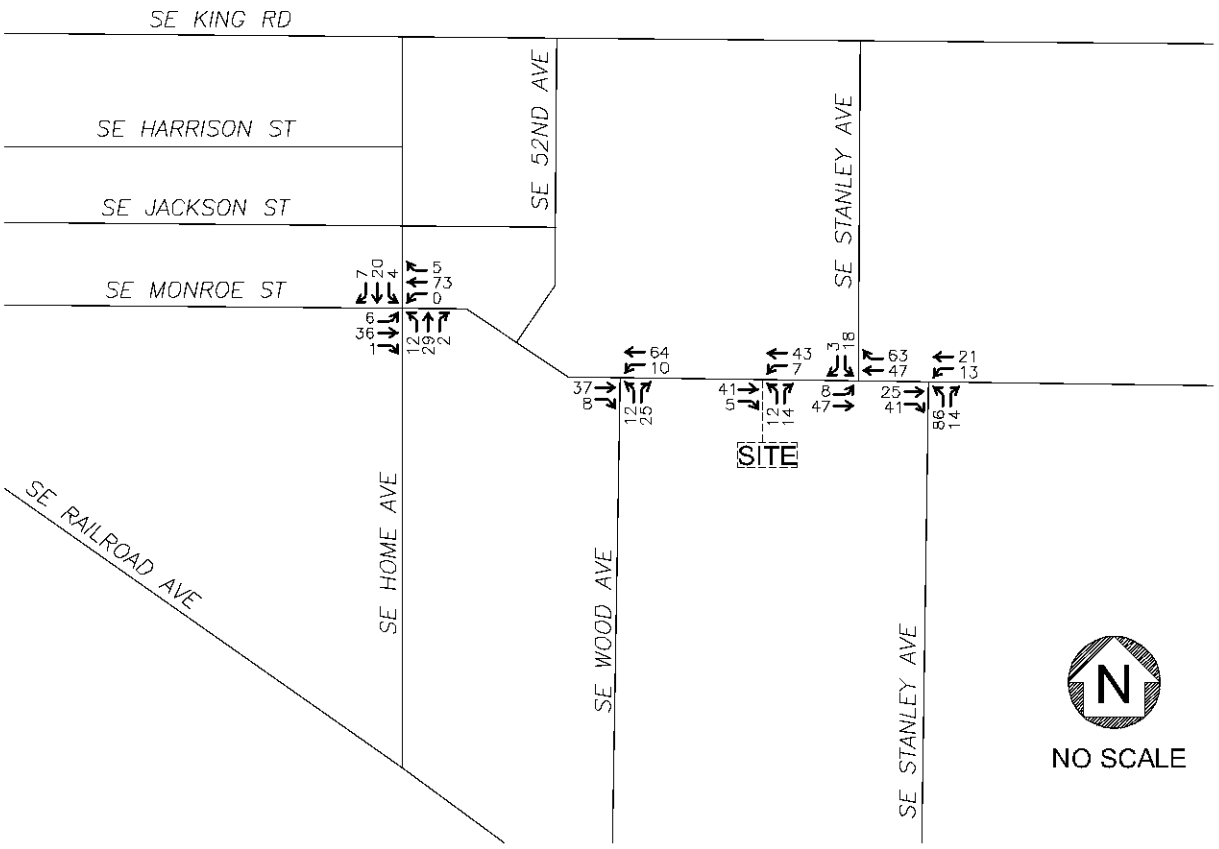
CHARBONNEAU ENGINEERING LLC

PROJECT: 23-14

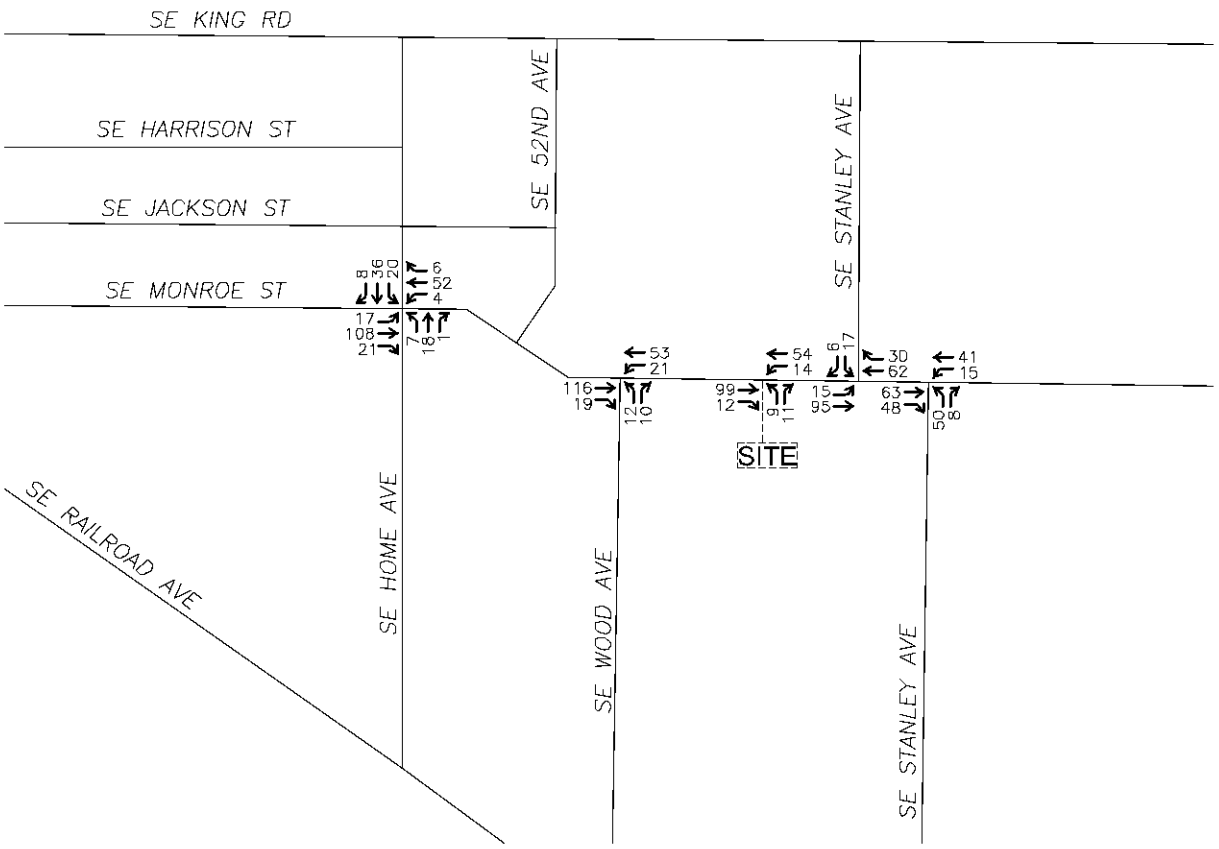
NOTES: The site's trip generation is based on Single-Family Attached Housing (ITE 215) trip rates.

TRIP ASSIGNMENT
PM PEAK HOUR
MONROE STREET 4-PLEXES

FIGURE 5b



AM PEAK HOUR



PM PEAK HOUR

FILE NAME: 2314flow.dwg

PLOT DATE: 05.21.23

CHARBONNEAU ENGINEERING LLC

PROJECT: 23-14

NOTES: 2026 Total Traffic = 2026 Background Traffic + Trip Assignment.

2026 TOTAL TRAFFIC
MONROE STREET 4-PLEXES

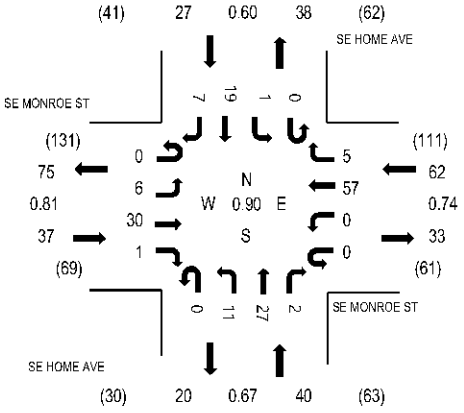
FIGURE 6

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

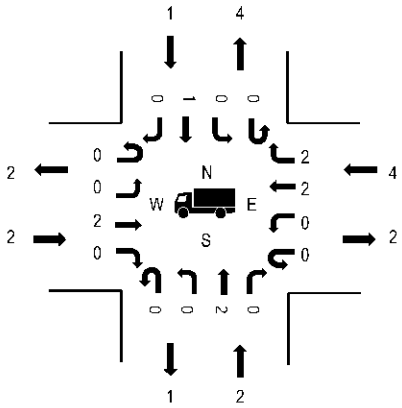
Location: 1 SE HOME AVE & SE MONROE ST AM
Date: Tuesday, May 2, 2023
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:35 AM - 07:50 AM

Peak Hour

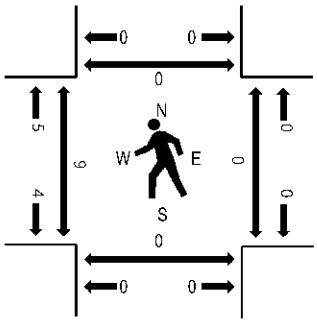
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	5.4%	0.81
WB	6.5%	0.74
NB	5.0%	0.67
SB	3.7%	0.60
All	5.4%	0.90

Traffic Counts - Motorized Vehicles

Interval Start Time	SE MONROE ST Eastbound				SE MONROE ST Westbound				SE HOME AVE Northbound				SE HOME AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	0	0	0	0	0	4	0	0	0	2	0	0	0	0	0	6	132
7:05 AM	0	1	1	0	0	0	6	1	0	1	0	0	0	0	1	1	12	138
7:10 AM	0	1	2	0	0	0	5	0	0	0	3	0	0	0	0	0	11	143
7:15 AM	0	1	1	0	0	0	5	1	0	1	1	0	0	0	0	0	10	145
7:20 AM	0	0	0	0	0	0	4	0	0	0	2	0	0	0	0	0	6	147
7:25 AM	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	3	154
7:30 AM	0	0	3	0	0	0	6	0	0	0	3	0	0	0	2	0	14	166
7:35 AM	0	0	4	0	0	0	3	0	0	0	4	1	0	1	0	0	13	164
7:40 AM	0	1	3	1	0	0	6	0	0	2	1	0	0	0	1	2	17	164
7:45 AM	0	0	1	0	0	0	8	1	0	2	2	0	0	0	1	1	16	160
7:50 AM	0	1	3	0	0	0	6	0	0	0	0	0	0	0	3	0	13	153
7:55 AM	0	1	3	0	0	0	2	1	0	1	1	0	0	0	1	1	11	152
8:00 AM	0	2	1	0	0	0	2	1	0	0	2	1	0	0	1	2	12	152
8:05 AM	0	0	0	0	0	0	6	0	0	4	5	0	0	0	1	1	17	
8:10 AM	0	0	2	0	0	0	7	1	0	0	3	0	0	0	0	0	13	
8:15 AM	0	1	4	0	0	0	4	0	0	0	2	0	0	0	1	0	12	
8:20 AM	0	0	4	0	0	0	4	0	0	0	3	0	0	0	2	0	13	
8:25 AM	0	0	2	0	0	0	3	1	0	2	1	0	0	0	6	0	15	
8:30 AM	0	0	4	0	0	0	3	0	0	1	1	0	0	1	1	1	12	
8:35 AM	0	0	3	1	0	0	3	0	0	0	2	0	0	1	2	1	13	
8:40 AM	0	0	4	0	0	0	6	1	0	0	0	0	0	0	1	1	13	
8:45 AM	0	0	2	0	0	0	2	0	0	1	1	0	0	0	2	1	9	
8:50 AM	0	0	3	1	0	0	6	0	0	1	1	0	0	0	0	0	12	
8:55 AM	0	0	5	0	0	0	2	0	0	0	3	1	0	0	0	0	11	
Count Total	0	10	55	4	0	0	103	8	0	16	44	3	0	3	26	12	284	
Peak Hour	0	6	30	1	0	0	57	5	0	11	27	2	0	1	19	7	166	

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

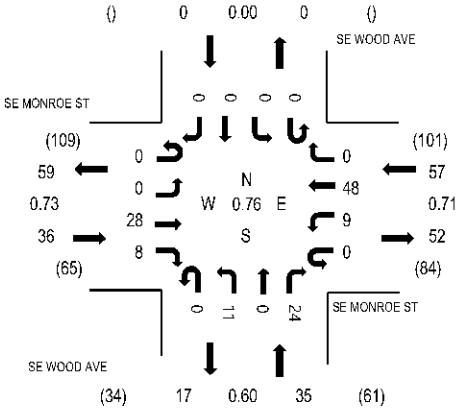
Interval	Heavy Vehicles					Interval	Bicycles on Roadway					Interval	Pedestrians/Bicycles on Crosswalk				
Start Time	EB	NB	WB	SB	Total	Start Time	EB	NB	WB	SB	Total	Start Time	EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0	7:00 AM	2	0	0	0	2
7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	1	1	0	0	2	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	0	1	0	1	7:15 AM	0	0	0	0	0	7:15 AM	1	0	0	0	1
7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0	7:20 AM	1	0	0	0	1
7:25 AM	0	0	0	0	0	7:25 AM	1	0	0	0	1	7:25 AM	0	0	0	0	0
7:30 AM	0	0	0	1	1	7:30 AM	0	0	1	0	1	7:30 AM	0	0	0	0	0
7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0	7:45 AM	2	0	0	0	2
7:50 AM	0	0	1	0	1	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	0	1	0	0	1	7:55 AM	0	0	0	0	0	7:55 AM	2	0	0	0	2
8:00 AM	1	0	1	0	2	8:00 AM	0	0	0	0	0	8:00 AM	1	0	0	0	1
8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0	8:05 AM	2	0	0	0	2
8:10 AM	0	1	1	0	2	8:10 AM	0	0	0	0	0	8:10 AM	1	0	0	0	1
8:15 AM	1	0	0	0	1	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0	8:20 AM	1	0	0	0	1
8:25 AM	0	0	1	0	1	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0	8:30 AM	1	0	0	1	2
8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	1	0	0	0	1	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0	8:50 AM	0	1	1	0	2
8:55 AM	0	1	0	0	1	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	4	4	5	1	14	Count Total	1	0	1	0	2	Count Total	14	1	1	1	17
Peak Hour	2	2	4	1	9	Peak Hour	0	0	1	0	1	Peak Hour	9	0	0	0	9

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

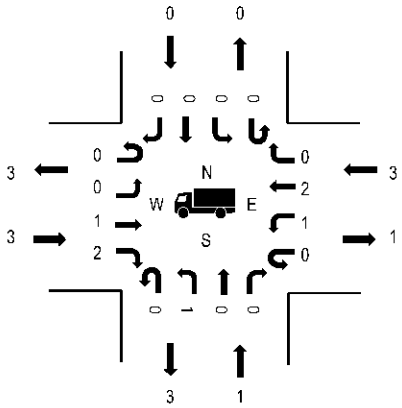
Location: 2 SE WOOD AVE & SE MONROE ST AM
Date: Tuesday, May 2, 2023
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour

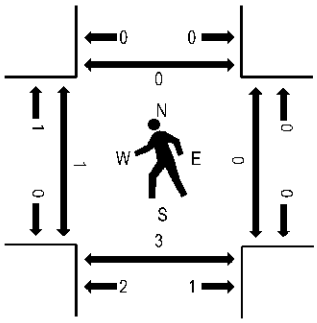
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	8.3%	0.73
WB	5.3%	0.71
NB	2.9%	0.60
SB	0.0%	0.00
All	5.5%	0.76

Traffic Counts - Motorized Vehicles

Interval Start Time	SE MONROE ST Eastbound				SE MONROE ST Westbound				SE WOOD AVE Northbound				SE WOOD AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	0	0	0	0	1	4	0	0	1	0	0	0	0	0	0	6	104
7:05 AM	0	0	1	1	0	0	4	0	0	1	0	1	0	0	0	0	8	104
7:10 AM	0	0	1	1	0	1	3	0	0	1	0	2	0	0	0	0	9	107
7:15 AM	0	0	0	0	0	0	4	0	0	2	0	1	0	0	0	0	7	112
7:20 AM	0	0	0	0	0	0	2	0	0	3	0	1	0	0	0	0	6	115
7:25 AM	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	3	122
7:30 AM	0	0	3	1	0	1	4	0	0	3	0	6	0	0	0	0	18	128
7:35 AM	0	0	6	2	0	0	3	0	0	0	0	1	0	0	0	0	12	121
7:40 AM	0	0	1	1	0	0	5	0	0	3	0	2	0	0	0	0	12	119
7:45 AM	0	0	1	0	0	0	9	0	0	0	0	1	0	0	0	0	11	117
7:50 AM	0	0	3	1	0	0	1	0	0	0	0	0	0	0	0	0	5	114
7:55 AM	0	0	3	0	0	0	3	0	0	0	0	1	0	0	0	0	7	119
8:00 AM	0	0	1	1	0	2	1	0	0	1	0	0	0	0	0	0	6	123
8:05 AM	0	0	0	0	0	0	4	0	0	2	0	5	0	0	0	0	11	
8:10 AM	0	0	2	0	0	0	9	0	0	1	0	2	0	0	0	0	14	
8:15 AM	0	0	3	1	0	1	2	0	0	0	0	3	0	0	0	0	10	
8:20 AM	0	0	3	0	0	2	6	0	0	0	0	2	0	0	0	0	13	
8:25 AM	0	0	2	1	0	3	1	0	0	1	0	1	0	0	0	0	9	
8:30 AM	0	0	4	1	0	0	3	0	0	1	0	2	0	0	0	0	11	
8:35 AM	0	0	3	1	0	0	3	0	0	2	0	1	0	0	0	0	10	
8:40 AM	0	0	4	0	0	0	4	0	0	1	0	1	0	0	0	0	10	
8:45 AM	0	0	1	1	0	2	2	0	0	0	0	2	0	0	0	0	8	
8:50 AM	0	0	2	2	0	0	4	0	0	1	0	1	0	0	0	0	10	
8:55 AM	0	0	2	3	0	2	4	0	0	0	0	0	0	0	0	0	11	
Count Total	0	0	47	18	0	16	85	0	0	24	0	37	0	0	0	0	227	
Peak Hour	0	0	28	8	0	9	48	0	0	11	0	24	0	0	0	0	128	

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

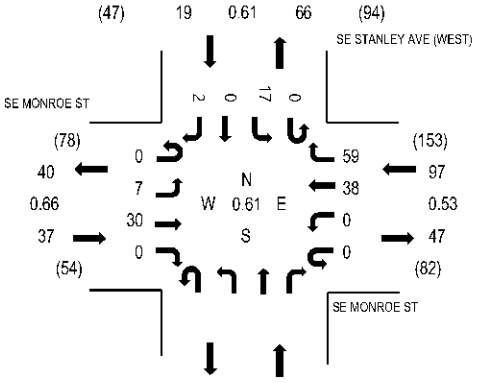
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0	7:05 AM	0	1	0	0	1
7:10 AM	1	0	0	0	1	7:10 AM	0	0	0	0	0	7:10 AM	1	0	0	0	1
7:15 AM	0	0	1	0	1	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	1	0	0	1	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	0	0	0	0	0	7:25 AM	1	0	0	0	1	7:25 AM	0	1	0	0	1
7:30 AM	0	0	0	0	0	7:30 AM	0	0	1	0	1	7:30 AM	0	0	0	0	0
7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	0	0	1	0	1	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	0	0	0	0	0	7:55 AM	0	0	1	0	1	7:55 AM	0	0	0	0	0
8:00 AM	1	0	1	0	2	8:00 AM	0	0	0	0	0	8:00 AM	1	0	0	0	1
8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	0	1	0	1	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	2	0	0	0	2	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0	8:20 AM	0	2	0	0	2
8:25 AM	0	1	0	0	1	8:25 AM	0	0	0	0	0	8:25 AM	0	1	0	0	1
8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	1	0	0	0	1	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	1	0	0	1	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	0	1	0	1	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	5	3	5	0	13	Count Total	1	0	2	0	3	Count Total	2	5	0	0	7
Peak Hour	3	1	3	0	7	Peak Hour	0	0	2	0	2	Peak Hour	1	3	0	0	4

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

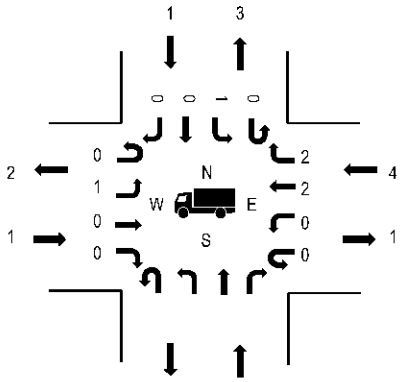
Location: 3 SE STANLEY AVE (WEST) & SE MONROE ST AM
Date: Tuesday, May 2, 2023
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:35 AM - 07:50 AM

Peak Hour

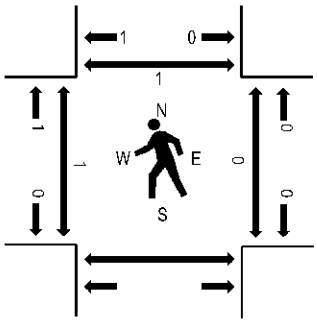
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.7%	0.66
WB	4.1%	0.53
NB		
SB	5.3%	0.61
All	3.9%	0.61

Traffic Counts - Motorized Vehicles

Interval Start Time	SE MONROE ST Eastbound				SE MONROE ST Westbound				Northbound				SE STANLEY AVE (WEST) Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	0	1	0	0	0	5	1					0	1	0	0	8	128
7:05 AM	0	0	1	0	0	0	3	1					0	1	0	0	6	126
7:10 AM	0	0	1	0	0	0	2	2					0	2	0	0	7	126
7:15 AM	0	1	0	0	0	0	1	1					0	0	0	1	4	136
7:20 AM	0	0	0	0	0	0	2	3					0	0	0	0	5	143
7:25 AM	0	0	0	0	0	0	0	1					0	5	0	0	6	150
7:30 AM	0	0	5	0	0	0	2	4					0	1	0	0	12	153
7:35 AM	0	0	2	0	0	0	3	9					0	3	0	0	17	152
7:40 AM	0	2	5	0	0	0	5	14					0	2	0	0	28	143
7:45 AM	0	0	2	0	0	0	7	8					0	0	0	1	18	127
7:50 AM	0	1	1	0	0	0	1	2					0	3	0	0	8	122
7:55 AM	0	1	2	0	0	0	2	4					0	0	0	0	9	123
8:00 AM	0	1	2	0	0	0	2	1					0	0	0	0	6	126
8:05 AM	0	1	2	0	0	0	1	2					0	0	0	0	6	
8:10 AM	0	0	3	0	0	0	8	6					0	0	0	0	17	
8:15 AM	0	1	3	0	0	0	1	2					0	4	0	0	11	
8:20 AM	0	0	1	0	0	0	5	4					0	2	0	0	12	
8:25 AM	0	0	2	0	0	0	1	3					0	2	0	1	9	
8:30 AM	0	1	2	0	0	0	3	3					0	2	0	0	11	
8:35 AM	0	0	3	0	0	0	2	1					0	1	0	1	8	
8:40 AM	0	0	1	0	0	0	6	0					0	4	0	1	12	
8:45 AM	0	3	1	0	0	0	2	3					0	3	0	1	13	
8:50 AM	0	0	0	0	0	0	4	3					0	2	0	0	9	
8:55 AM	0	1	1	0	0	0	4	3					0	3	0	0	12	
Count Total	0	13	41	0	0	0	72	81					0	41	0	6	254	
Peak Hour	0	7	30	0	0	0	38	59					0	17	0	2	153	

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	7:00 AM	0		0	0	0	7:00 AM	0		0	0	0
7:05 AM	0		0	0	0	7:05 AM	0		0	0	0	7:05 AM	0		0	0	0
7:10 AM	0		0	0	0	7:10 AM	0		0	0	0	7:10 AM	0		0	1	1
7:15 AM	0		0	1	1	7:15 AM	0		1	0	1	7:15 AM	0		0	0	0
7:20 AM	0		0	0	0	7:20 AM	0		0	0	0	7:20 AM	0		0	1	1
7:25 AM	0		0	0	0	7:25 AM	0		1	0	1	7:25 AM	0		0	0	0
7:30 AM	0		0	0	0	7:30 AM	1		2	1	4	7:30 AM	0		0	0	0
7:35 AM	0		0	1	1	7:35 AM	0		0	0	0	7:35 AM	0		0	0	0
7:40 AM	0		0	0	0	7:40 AM	0		0	0	0	7:40 AM	0		0	0	0
7:45 AM	0		1	0	1	7:45 AM	0		0	0	0	7:45 AM	0		0	0	0
7:50 AM	0		0	0	0	7:50 AM	0		0	0	0	7:50 AM	0		0	0	0
7:55 AM	0		0	0	0	7:55 AM	0		2	0	2	7:55 AM	1		0	0	1
8:00 AM	0		0	0	0	8:00 AM	0		0	0	0	8:00 AM	0		0	0	0
8:05 AM	1		0	0	1	8:05 AM	0		0	0	0	8:05 AM	0		0	0	0
8:10 AM	0		2	0	2	8:10 AM	0		0	0	0	8:10 AM	0		0	1	1
8:15 AM	0		0	0	0	8:15 AM	0		0	0	0	8:15 AM	0		0	0	0
8:20 AM	0		0	0	0	8:20 AM	0		0	0	0	8:20 AM	0		0	0	0
8:25 AM	0		1	0	1	8:25 AM	0		0	0	0	8:25 AM	0		0	0	0
8:30 AM	0		0	0	0	8:30 AM	0		1	0	1	8:30 AM	0		0	0	0
8:35 AM	0		1	0	1	8:35 AM	0		0	0	0	8:35 AM	0		0	0	0
8:40 AM	0		0	1	1	8:40 AM	0		0	0	0	8:40 AM	0		0	0	0
8:45 AM	0		0	0	0	8:45 AM	0		0	0	0	8:45 AM	0		0	0	0
8:50 AM	0		1	0	1	8:50 AM	0		0	0	0	8:50 AM	0		0	0	0
8:55 AM	0		1	0	1	8:55 AM	0		0	0	0	8:55 AM	0		0	0	0
Count Total	1		7	3	11	Count Total	1		7	1	9	Count Total	1		0	3	4
Peak Hour	1		4	1	6	Peak Hour	1		4	1	6	Peak Hour	1		0	1	2

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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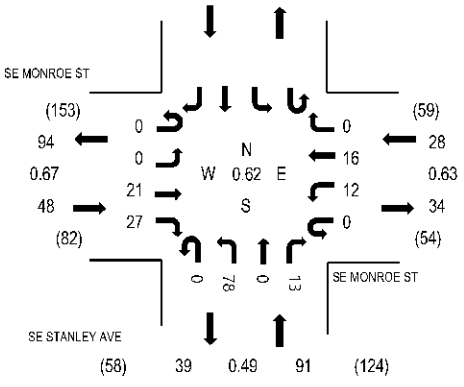
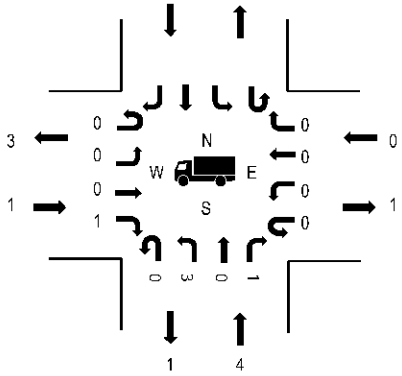
Location: 4 SE STANLEY AVE & SE MONROE ST AM
Date: Tuesday, May 2, 2023
Peak Hour: 07:25 AM - 08:25 AM
Peak 15-Minutes: 07:35 AM - 07:50 AM

Peak Hour

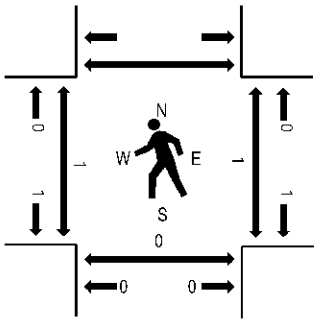
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.1%	0.67
WB	0.0%	0.63
NB	4.4%	0.49
SB		
All	3.0%	0.62

Traffic Counts - Motorized Vehicles

Interval Start Time	SE MONROE ST Eastbound				SE MONROE ST Westbound				SE STANLEY AVE Northbound				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	1	1	0	0	2	0	0	4	0	0					8	134
7:05 AM	0	0	1	1	0	0	3	0	0	1	0	0					6	131
7:10 AM	0	0	2	1	0	0	4	0	0	0	0	0					7	134
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0					2	147
7:20 AM	0	0	0	0	0	0	3	0	0	2	0	0					5	159
7:25 AM	0	0	3	2	0	1	0	0	0	1	0	2					9	167
7:30 AM	0	0	3	3	0	1	2	0	0	4	0	1					14	166
7:35 AM	0	0	1	4	0	0	0	0	0	12	0	2					19	162
7:40 AM	0	0	3	4	0	1	1	0	0	18	0	0					27	150
7:45 AM	0	0	2	0	0	1	4	0	0	11	0	3					21	135
7:50 AM	0	0	2	2	0	0	0	0	0	3	0	1					8	124
7:55 AM	0	0	2	0	0	0	2	0	0	4	0	0					8	125
8:00 AM	0	0	1	1	0	0	1	0	0	2	0	0					5	131
8:05 AM	0	0	1	1	0	4	0	0	0	3	0	0					9	
8:10 AM	0	0	0	3	0	2	4	0	0	10	0	1					20	
8:15 AM	0	0	3	4	0	2	1	0	0	2	0	2					14	
8:20 AM	0	0	0	3	0	0	1	0	0	8	0	1					13	
8:25 AM	0	0	3	1	0	0	2	0	0	2	0	0					8	
8:30 AM	0	0	3	1	0	0	2	0	0	4	0	0					10	
8:35 AM	0	0	2	2	0	0	2	0	0	1	0	0					7	
8:40 AM	0	0	3	2	0	0	2	0	0	4	0	1					12	
8:45 AM	0	0	0	4	0	1	3	0	0	2	0	0					10	
8:50 AM	0	0	1	1	0	0	3	0	0	4	0	0					9	
8:55 AM	0	0	1	3	0	1	2	0	0	5	0	2					14	
Count Total	0	0	38	44	0	14	45	0	0	108	0	16					265	
Peak Hour	0	0	21	27	0	12	16	0	0	78	0	13					167	

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

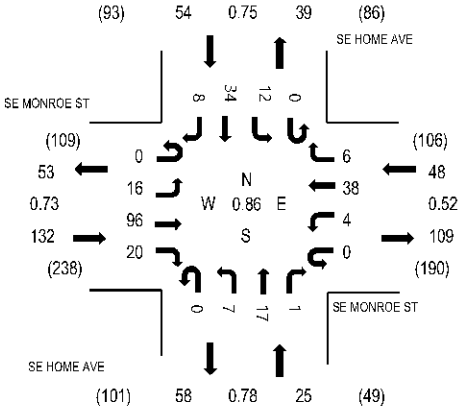
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0		0	7:00 AM	0	0	0		0	7:00 AM	0	0	0		0
7:05 AM	0	0	0		0	7:05 AM	0	0	0		0	7:05 AM	0	0	0		0
7:10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

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

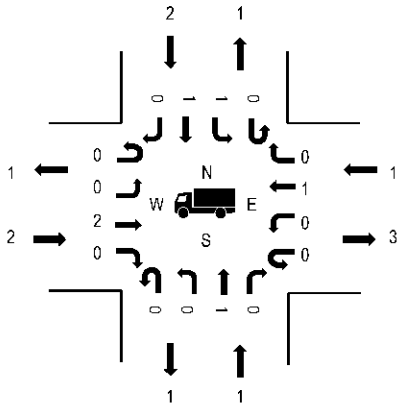
Location: 1 SE HOME AVE & SE MONROE ST PM
Date: Tuesday, May 2, 2023
Peak Hour: 04:40 PM - 05:40 PM
Peak 15-Minutes: 04:55 PM - 05:10 PM

Peak Hour

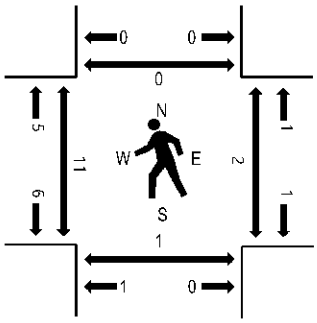
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.5%	0.73
WB	2.1%	0.52
NB	4.0%	0.78
SB	3.7%	0.75
All	2.3%	0.86

Traffic Counts - Motorized Vehicles

Interval Start Time	SE MONROE ST Eastbound				SE MONROE ST Westbound				SE HOME AVE Northbound				SE HOME AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	3	1	0	0	0	2	1	0	0	1	0	0	0	4	2	14	250
4:05 PM	0	2	4	2	0	0	8	1	0	1	2	0	0	2	1	0	23	255
4:10 PM	0	1	6	4	0	1	7	0	0	0	0	0	0	1	1	0	21	255
4:15 PM	0	5	7	1	0	1	8	1	0	0	3	0	0	2	1	0	29	251
4:20 PM	0	1	7	0	0	0	2	3	0	1	0	0	0	1	1	0	16	247
4:25 PM	0	0	9	3	0	0	2	0	0	0	4	0	0	1	2	0	21	250
4:30 PM	0	2	6	0	0	0	0	0	0	1	2	0	0	0	3	0	14	250
4:35 PM	0	0	6	0	0	0	2	0	0	0	2	0	0	1	5	0	16	257
4:40 PM	0	3	13	3	0	0	1	0	0	0	1	0	0	0	5	1	27	259
4:45 PM	0	0	8	1	0	0	2	0	0	1	2	0	0	1	4	0	19	247
4:50 PM	0	0	1	1	0	0	5	1	0	1	1	0	0	2	4	1	17	246
4:55 PM	0	1	13	2	0	0	7	1	0	2	1	0	0	1	3	2	33	243
5:00 PM	0	1	10	4	0	0	2	0	0	0	0	0	0	1	0	1	19	236
5:05 PM	0	3	12	1	0	0	3	1	0	1	1	0	0	1	0	0	23	
5:10 PM	0	1	4	0	0	0	4	0	0	0	2	0	0	3	2	1	17	
5:15 PM	0	2	13	2	0	1	3	0	0	1	1	0	0	0	1	1	25	
5:20 PM	0	3	6	3	0	0	2	0	0	0	0	1	0	0	4	0	19	
5:25 PM	0	0	8	0	0	0	1	2	0	1	5	0	0	1	2	1	21	
5:30 PM	0	1	6	2	0	2	5	0	0	0	1	0	0	1	3	0	21	
5:35 PM	0	1	2	1	0	1	3	1	0	0	2	0	0	1	6	0	18	
5:40 PM	0	1	6	0	0	0	3	0	0	1	3	0	0	1	0	0	15	
5:45 PM	0	1	6	1	0	0	4	1	0	1	0	0	0	0	3	1	18	
5:50 PM	0	1	4	1	0	1	7	0	0	0	0	0	0	0	0	0	14	
5:55 PM	0	4	8	3	0	0	3	0	0	0	2	0	0	2	4	0	26	
Count Total	0	37	166	35	0	7	86	13	0	12	36	1	0	23	59	11	486	
Peak Hour	0	16	96	20	0	4	38	6	0	7	17	1	0	12	34	8	259	

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

Interval	Heavy Vehicles					Interval	Bicycles on Roadway					Interval	Pedestrians/Bicycles on Crosswalk				
Start Time	EB	NB	WB	SB	Total	Start Time	EB	NB	WB	SB	Total	Start Time	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	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	1	0	0	0	1	4:15 PM	0	0	0	0	0	4:15 PM	1	0	0	0	1
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	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	1	0	1	0	2
4:35 PM	1	0	0	0	1	4:35 PM	0	0	0	0	0	4:35 PM	1	1	0	0	2
4:40 PM	1	0	0	0	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	1	0	1
4:45 PM	1	0	0	0	1	4:45 PM	0	0	1	1	2	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	1	0	0	2
4:55 PM	0	0	0	1	1	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	1	0	0	0	1
5:05 PM	0	0	1	0	1	5:05 PM	0	0	0	0	0	5:05 PM	3	0	0	0	3
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	2	0	0	0	2
5:15 PM	0	0	0	0	0	5:15 PM	0	1	0	0	1	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	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	2	0	0	0	2
5:35 PM	0	0	0	1	1	5:35 PM	0	0	0	0	0	5:35 PM	2	0	0	0	2
5:40 PM	1	0	0	0	1	5:40 PM	0	0	2	0	2	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	1	0	1	5:45 PM	1	0	0	0	1
5:50 PM	0	0	0	0	0	5:50 PM	2	0	0	0	2	5:50 PM	1	0	0	0	1
5:55 PM	0	0	0	0	0	5:55 PM	0	0	1	0	1	5:55 PM	2	1	0	0	3
Count Total	5	1	1	3	10	Count Total	2	1	5	1	9	Count Total	18	3	3	0	24
Peak Hour	2	1	1	2	6	Peak Hour	0	1	1	1	3	Peak Hour	11	1	2	0	14

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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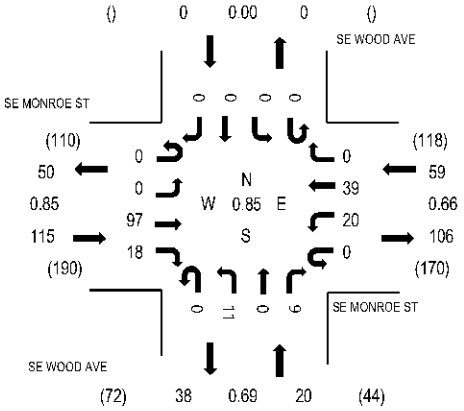
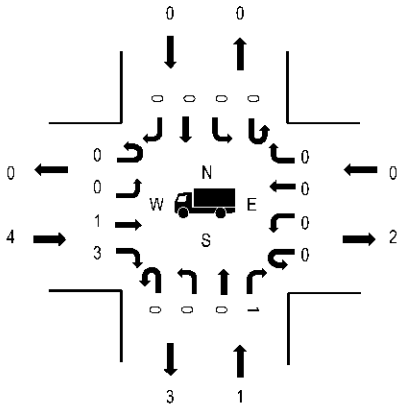
Location: 2 SE WOOD AVE & SE MONROE ST PM
Date: Tuesday, May 2, 2023
Peak Hour: 04:10 PM - 05:10 PM
Peak 15-Minutes: 04:10 PM - 04:25 PM

Peak Hour

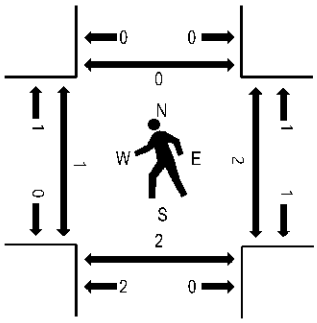
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.5%	0.85
WB	0.0%	0.66
NB	5.0%	0.69
SB	0.0%	0.00
All	2.6%	0.85

Traffic Counts - Motorized Vehicles

Interval Start Time	SE MONROE ST Eastbound				SE MONROE ST Westbound				SE WOOD AVE Northbound				SE WOOD AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	0	1	1	0	0	4	0	0	1	0	0	0	0	0	0	7	185
4:05 PM	0	0	5	2	0	1	7	0	0	2	0	0	0	0	0	0	17	193
4:10 PM	0	0	6	1	0	1	7	0	0	2	0	0	0	0	0	0	17	194
4:15 PM	0	0	8	1	0	4	5	0	0	1	0	0	0	0	0	0	19	190
4:20 PM	0	0	10	2	0	1	5	0	0	1	0	2	0	0	0	0	21	188
4:25 PM	0	0	8	0	0	3	1	0	0	2	0	3	0	0	0	0	17	176
4:30 PM	0	0	8	1	0	1	0	0	0	0	0	0	0	0	0	0	10	178
4:35 PM	0	0	4	3	0	2	2	0	0	0	0	0	0	0	0	0	11	182
4:40 PM	0	0	10	3	0	2	1	0	0	1	0	0	0	0	0	0	17	182
4:45 PM	0	0	9	1	0	1	6	0	0	1	0	1	0	0	0	0	19	178
4:50 PM	0	0	5	1	0	1	1	0	0	1	0	1	0	0	0	0	10	171
4:55 PM	0	0	7	2	0	1	9	0	0	0	0	1	0	0	0	0	20	172
5:00 PM	0	0	9	2	0	3	0	0	0	1	0	0	0	0	0	0	15	167
5:05 PM	0	0	13	1	0	0	2	0	0	1	0	1	0	0	0	0	18	
5:10 PM	0	0	3	3	0	0	2	0	0	2	0	3	0	0	0	0	13	
5:15 PM	0	0	7	3	0	4	1	0	0	1	0	1	0	0	0	0	17	
5:20 PM	0	0	4	1	0	2	2	0	0	0	0	0	0	0	0	0	9	
5:25 PM	0	0	7	2	0	2	2	0	0	4	0	2	0	0	0	0	19	
5:30 PM	0	0	5	3	0	1	4	0	0	1	0	0	0	0	0	0	14	
5:35 PM	0	0	2	1	0	2	4	0	0	1	0	1	0	0	0	0	11	
5:40 PM	0	0	4	2	0	1	6	0	0	0	0	0	0	0	0	0	13	
5:45 PM	0	0	4	1	0	0	5	0	0	1	0	1	0	0	0	0	12	
5:50 PM	0	0	5	0	0	0	4	0	0	2	0	0	0	0	0	0	11	
5:55 PM	0	0	8	1	0	1	4	0	0	0	0	1	0	0	0	0	15	
Count Total	0	0	152	38	0	34	84	0	0	26	0	18	0	0	0	0	352	
Peak Hour	0	0	97	18	0	20	39	0	0	11	0	9	0	0	0	0	194	

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

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

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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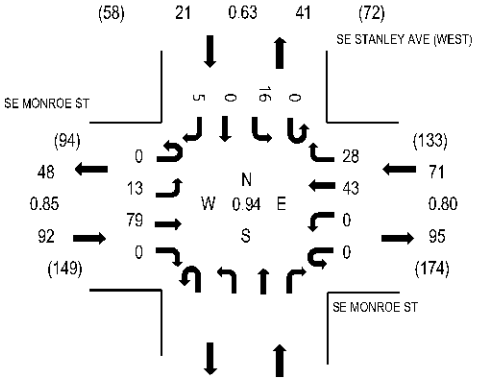
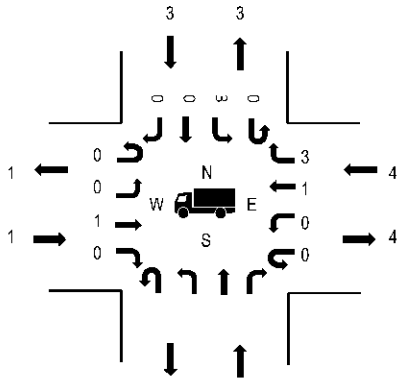
Location: 3 SE STANLEY AVE (WEST) & SE MONROE ST PM
Date: Tuesday, May 2, 2023
Peak Hour: 04:10 PM - 05:10 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour

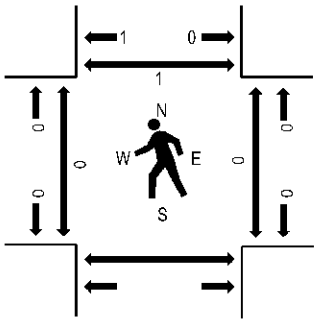
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.1%	0.85
WB	5.6%	0.80
NB		
SB	14.3%	0.63
All	4.3%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	SE MONROE ST Eastbound				SE MONROE ST Westbound				Northbound				SE STANLEY AVE (WEST) Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	0	1	0	0	0	0	2					0	4	0	2	9	174
4:05 PM	0	1	2	0	0	0	5	3					0	0	0	0	11	179
4:10 PM	0	2	7	0	0	0	8	2					0	0	0	0	19	184
4:15 PM	0	0	6	0	0	0	5	0					0	2	0	1	14	172
4:20 PM	0	1	6	0	0	0	5	3					0	0	0	0	15	172
4:25 PM	0	3	6	0	0	0	4	5					0	1	0	1	20	165
4:30 PM	0	0	7	0	0	0	2	2					0	2	0	1	14	161
4:35 PM	0	0	4	0	0	0	3	2					0	2	0	0	11	165
4:40 PM	0	2	7	0	0	0	1	3					0	3	0	0	16	167
4:45 PM	0	1	5	0	0	0	4	4					0	3	0	0	17	168
4:50 PM	0	1	7	0	0	0	1	2					0	1	0	2	14	161
4:55 PM	0	1	5	0	0	0	7	1					0	0	0	0	14	158
5:00 PM	0	1	9	0	0	0	1	1					0	2	0	0	14	166
5:05 PM	0	1	10	0	0	0	2	3					0	0	0	0	16	
5:10 PM	0	1	2	0	0	0	2	0					0	1	0	1	7	
5:15 PM	0	0	9	0	0	0	2	0					0	3	0	0	14	
5:20 PM	0	0	3	0	0	0	3	2					0	0	0	0	8	
5:25 PM	0	1	6	0	0	0	3	3					0	3	0	0	16	
5:30 PM	0	1	5	0	0	0	4	4					0	3	0	1	18	
5:35 PM	0	2	2	0	0	0	4	1					0	4	0	0	13	
5:40 PM	0	0	3	0	0	0	6	3					0	4	0	1	17	
5:45 PM	0	0	3	0	0	0	2	1					0	3	0	1	10	
5:50 PM	0	0	4	0	0	0	4	2					0	1	0	0	11	
5:55 PM	0	1	10	0	0	0	3	3					0	3	0	2	22	
Count Total	0	20	129	0	0	0	81	52					0	45	0	13	340	
Peak Hour	0	13	79	0	0	0	43	28					0	16	0	5	184	

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

Interval	Heavy Vehicles					Interval	Bicycles on Roadway					Interval	Pedestrians/Bicycles on Crosswalk				
Start Time	EB	NB	WB	SB	Total	Start Time	EB	NB	WB	SB	Total	Start Time	EB	NB	WB	SB	Total
4:00 PM	0		0	0	0	4:00 PM	0		0	0	0	4:00 PM	0		0	0	0
4:05 PM	0		0	0	0	4:05 PM	0		0	0	0	4:05 PM	0		0	0	0
4:10 PM	0		0	0	0	4:10 PM	1		0	0	1	4:10 PM	0		0	0	0
4:15 PM	0		0	0	0	4:15 PM	0		0	0	0	4:15 PM	0		0	0	0
4:20 PM	0		0	0	0	4:20 PM	0		0	0	0	4:20 PM	0		0	0	0
4:25 PM	0		1	0	1	4:25 PM	0		0	0	0	4:25 PM	0		0	0	0
4:30 PM	0		1	0	1	4:30 PM	0		0	0	0	4:30 PM	0		0	0	0
4:35 PM	0		0	0	0	4:35 PM	0		0	0	0	4:35 PM	0		0	0	0
4:40 PM	0		0	1	1	4:40 PM	0		0	0	0	4:40 PM	0		0	0	0
4:45 PM	1		1	2	4	4:45 PM	0		1	0	1	4:45 PM	0		0	0	0
4:50 PM	0		0	0	0	4:50 PM	0		0	0	0	4:50 PM	0		0	0	0
4:55 PM	0		0	0	0	4:55 PM	0		0	0	0	4:55 PM	0		0	1	1
5:00 PM	0		1	0	1	5:00 PM	0		0	0	0	5:00 PM	0		0	0	0
5:05 PM	0		0	0	0	5:05 PM	0		0	0	0	5:05 PM	0		0	0	0
5:10 PM	0		0	0	0	5:10 PM	0		0	0	0	5:10 PM	0		0	0	0
5:15 PM	0		0	0	0	5:15 PM	0		0	0	0	5:15 PM	0		0	0	0
5:20 PM	0		0	0	0	5:20 PM	0		0	0	0	5:20 PM	0		0	1	1
5:25 PM	0		0	0	0	5:25 PM	0		0	1	1	5:25 PM	0		0	0	0
5:30 PM	0		0	1	1	5:30 PM	0		0	1	1	5:30 PM	0		0	0	0
5:35 PM	0		0	0	0	5:35 PM	0		0	1	1	5:35 PM	0		0	0	0
5:40 PM	1		0	0	1	5:40 PM	0		0	0	0	5:40 PM	0		0	1	1
5:45 PM	0		0	0	0	5:45 PM	0		1	0	1	5:45 PM	0		0	0	0
5:50 PM	1		0	0	1	5:50 PM	1		0	0	1	5:50 PM	0		0	0	0
5:55 PM	1		0	0	1	5:55 PM	1		1	0	2	5:55 PM	0		0	0	0
Count Total	4		4	4	12	Count Total	3		3	3	9	Count Total	0		0	3	3
Peak Hour	1		4	3	8	Peak Hour	1		1	0	2	Peak Hour	0		0	1	1

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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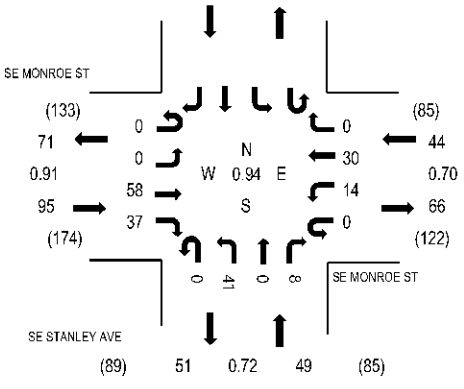
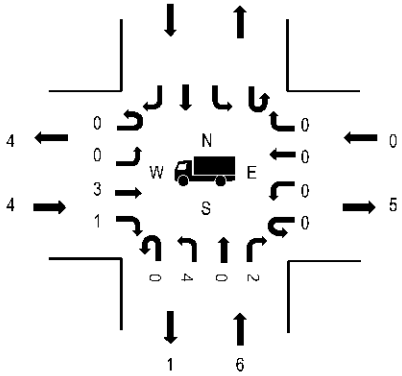
Location: 4 SE STANLEY AVE & SE MONROE ST PM
Date: Tuesday, May 2, 2023
Peak Hour: 04:10 PM - 05:10 PM
Peak 15-Minutes: 04:10 PM - 04:25 PM

Peak Hour

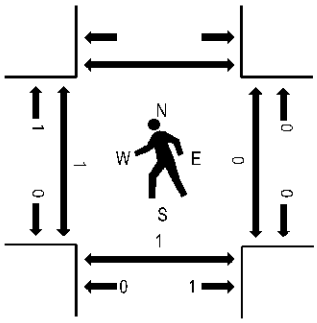
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	4.2%	0.91
WB	0.0%	0.70
NB	12.2%	0.72
SB		
All	5.3%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	SE MONROE ST Eastbound				SE MONROE ST Westbound				SE STANLEY AVE Northbound				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	3	2	0	1	1	0	0	1	0	1					9	177
4:05 PM	0	0	0	2	0	1	2	0	0	6	0	0					11	183
4:10 PM	0	0	2	5	0	2	4	0	0	6	0	0					19	188
4:15 PM	0	0	4	4	0	2	4	0	0	1	0	0					15	177
4:20 PM	0	0	3	3	0	1	3	0	0	5	0	1					16	177
4:25 PM	0	0	3	4	0	1	3	0	0	6	0	2					19	170
4:30 PM	0	0	6	3	0	0	2	0	0	2	0	0					13	168
4:35 PM	0	0	2	4	0	2	3	0	0	2	0	0					13	172
4:40 PM	0	0	7	3	0	0	4	0	0	0	0	1					15	171
4:45 PM	0	0	5	3	0	1	1	0	0	7	0	1					18	173
4:50 PM	0	0	8	0	0	0	3	0	0	0	0	2					13	165
4:55 PM	0	0	3	2	0	2	1	0	0	7	0	1					16	164
5:00 PM	0	0	6	5	0	2	1	0	0	1	0	0					15	167
5:05 PM	0	0	9	1	0	1	1	0	0	4	0	0					16	
5:10 PM	0	0	0	3	0	2	2	0	0	0	0	1					8	
5:15 PM	0	0	12	0	0	1	2	0	0	0	0	0					15	
5:20 PM	0	0	0	3	0	1	4	0	0	1	0	0					9	
5:25 PM	0	0	8	1	0	2	4	0	0	2	0	0					17	
5:30 PM	0	0	4	4	0	0	4	0	0	4	0	1					17	
5:35 PM	0	0	2	4	0	1	5	0	0	0	0	0					12	
5:40 PM	0	0	5	2	0	1	2	0	0	7	0	0					17	
5:45 PM	0	0	2	4	0	0	3	0	0	0	0	1					10	
5:50 PM	0	0	3	2	0	1	1	0	0	5	0	0					12	
5:55 PM	0	0	13	0	0	0	0	0	0	6	0	0					19	
Count Total	0	0	110	64	0	25	60	0	0	73	0	12					344	
Peak Hour	0	0	58	37	0	14	30	0	0	41	0	8					188	

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		0	4:00 PM	0	0	0		0	4:00 PM	0	0	0		0
4:05 PM	0	0	0		0	4:05 PM	1	0	0		1	4:05 PM	0	0	0		0
4:10 PM	0	0	0		0	4:10 PM	0	0	0		0	4:10 PM	0	0	0		0
4:15 PM	0	0	0		0	4:15 PM	0	0	0		0	4:15 PM	0	0	0		0
4:20 PM	0	0	0		0	4:20 PM	0	0	0		0	4:20 PM	0	1	0		1
4:25 PM	0	2	0		2	4:25 PM	0	0	0		0	4:25 PM	0	0	0		0
4:30 PM	0	1	0		1	4:30 PM	0	0	0		0	4:30 PM	0	0	0		0
4:35 PM	0	0	0		0	4:35 PM	0	0	0		0	4:35 PM	0	0	0		0
4:40 PM	1	0	0		1	4:40 PM	0	0	1		1	4:40 PM	0	0	0		0
4:45 PM	3	1	0		4	4:45 PM	0	0	0		0	4:45 PM	0	0	0		0
4:50 PM	0	1	0		1	4:50 PM	0	0	0		0	4:50 PM	0	0	0		0
4:55 PM	0	0	0		0	4:55 PM	0	0	0		0	4:55 PM	1	0	0		1
5:00 PM	0	1	0		1	5:00 PM	0	0	0		0	5:00 PM	0	0	0		0
5:05 PM	0	0	0		0	5:05 PM	0	0	0		0	5:05 PM	0	0	0		0
5:10 PM	0	0	0		0	5:10 PM	0	0	0		0	5:10 PM	0	0	0		0
5:15 PM	0	0	0		0	5:15 PM	0	0	0		0	5:15 PM	1	0	0		1
5:20 PM	0	0	0		0	5:20 PM	1	0	0		1	5:20 PM	0	0	0		0
5:25 PM	0	0	0		0	5:25 PM	1	0	0		1	5:25 PM	0	0	0		0
5:30 PM	0	0	0		0	5:30 PM	0	0	0		0	5:30 PM	0	0	0		0
5:35 PM	0	0	0		0	5:35 PM	0	0	0		0	5:35 PM	0	0	0		0
5:40 PM	1	0	0		1	5:40 PM	0	0	1		1	5:40 PM	0	0	0		0
5:45 PM	0	0	0		0	5:45 PM	0	0	0		0	5:45 PM	0	1	0		1
5:50 PM	1	0	0		1	5:50 PM	2	1	0		3	5:50 PM	0	0	0		0
5:55 PM	1	0	0		1	5:55 PM	0	0	0		0	5:55 PM	0	0	0		0
Count Total	7	6	0		13	Count Total	5	1	2		8	Count Total	2	2	0		4
Peak Hour	4	6	0		10	Peak Hour	0	0	1		1	Peak Hour	1	1	0		2

Gmail MaryKate Otto <mkek26@gmail.com>

FW: Monroe St 4-Plexes TIA Prep

Jennifer Backhaus <BackhausJ@milwaukieoregon.gov> Wed, May 3, 2023 at 5:00 PM
To: "frank@charbonneauengineer.com" <frank@charbonneauengineer.com>
Cc: Steve Adams <AdamsS@milwaukieoregon.gov>, Mary Kate Otto <mkek26@gmail.com>

Hi Frank,

Here's a list of projects that may have impacts on Monroe Street traffic:

- Seven Acres (Monroe Apartments)
  - 10999 SE 37th Ave
  - See attached TIS
  - 234 Units, MFR
  - https://www.milwaukieoregon.gov/planning/dev-2019-009
- Hillside Development
  - 2889 SE Hillside Ct
  - TIS Completed
  - 600 Units, MFR
  - https://www.milwaukieoregon.gov/planning/pd-2021-001
- Railroad Avenue Estates
  - 56th & Railroad Ave
  - No TIS Required
  - 6 Lot SFR Subdivision
  - https://www.milwaukieoregon.gov/planning/s-2018-001
- Home Ave – Harrison Subdivision
  - 10586-10610 SE Home Ave
  - No TIS Required
  - 8 Lot Subdivision
  - https://www.milwaukieoregon.gov/planning/r-2021-004
- 52nd Ave Townhouse Development
  - 10705 SE 52nd Ave
  - No TIS Required
  - 5 Townhouses
  - https://www.milwaukieoregon.gov/planning/r-2023-001-0

Please let me know if you have any questions or concerns.

Thank you!

JENNIFER BACKHAUS, CESCL

Engineering Technician III

She | They

Land Use	ITE Code	Size	Morning Peak Hour			Evening Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
Single Family Housing	210	100 Units	19	55	74	62	37	99	944
Multi-Family Housing (Mid-Rise)	221	100 Units	9	27	36	27	17	44	544
Total Site Generated Trips			28	82	110	89	54	143	1,488
Modal Split Reduction (10%)			*3*	*8*	*11*	*9*	*5*	*14*	*148*
Net External Trips			25	74	99	80	49	129	1,340
Multi-Family Housing (Low-Rise)	220	39 Units	4	14	18	14	8	22	286
Multi-Family Housing (Mid-Rise)	221	415 Units	38	111	149	112	72	184	2,258
Multi-Family Housing w/ First Floor Commercial	231 suburban	146 Units	15	51	66	34	20	54	530
Total Site Generated Trips			57	176	233	160	100	260	3,074
Modal Split Reduction (10%)			*6*	*18*	*24*	*16*	*10*	*26*	*308*
Net External Trips			51	158	209	144	90	234	2,766

Note: All trip rates are based on the General Urban/Suburban setting/location.

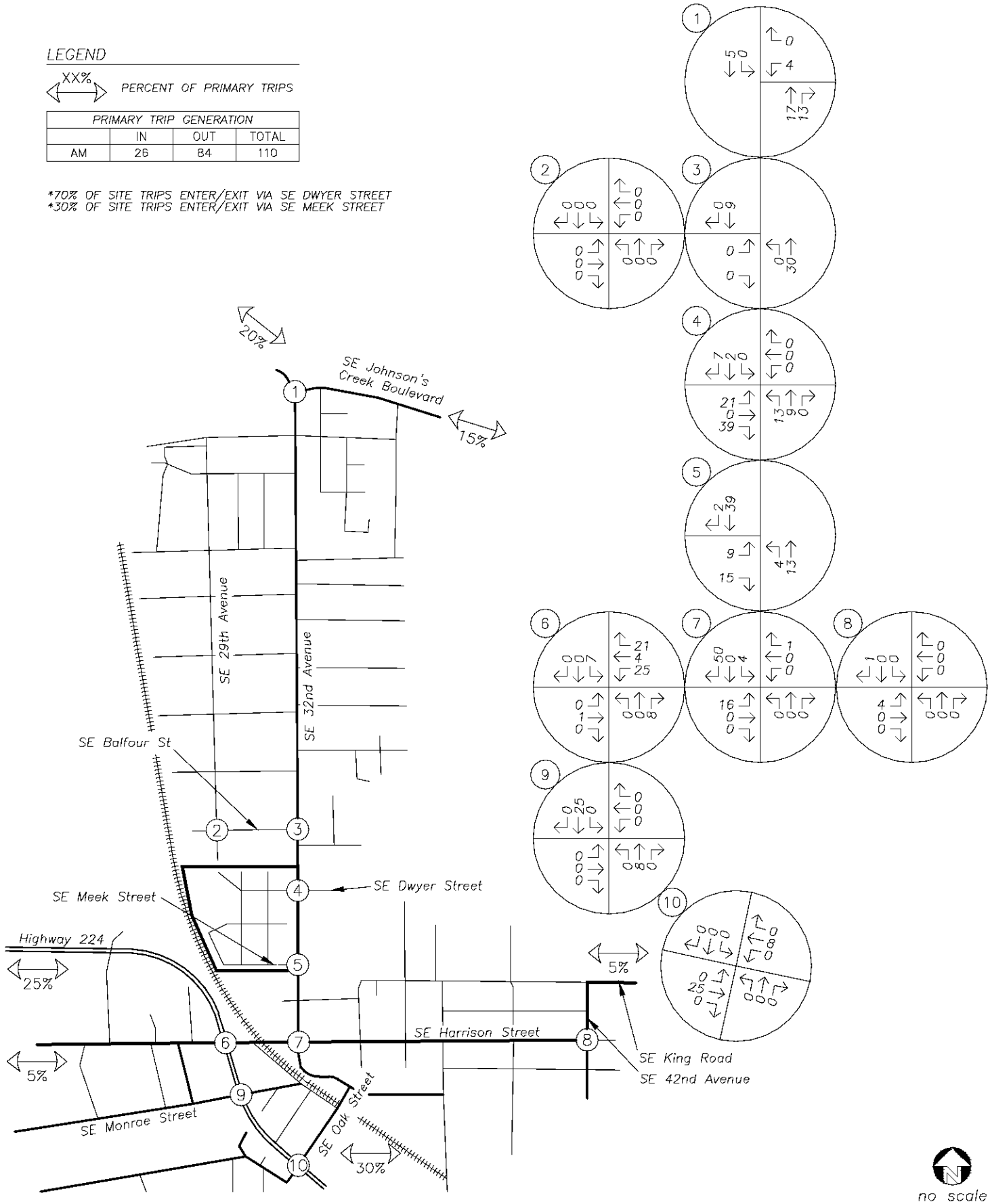
The trip generation calculations show that the proposed development is projected to generate a net additional 110 trips during the morning peak hour, a net additional 105 trips during the evening peak hour, and a net additional 1,426 trips during the average weekday. Detailed trip generation calculations are included in the technical appendix of this report.

Trip Distribution

The directional distribution of site trips to/from the project site was estimated based on the locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at the study intersections. The following trip distribution was estimated and used for analysis:

- Approximately 30 percent of site trips will travel to/from the south along Highway 224
- Approximately 25 percent of site trips will travel to/from the north along Highway 224
- Approximately 20 percent of site trips will travel to/from the north along SE 32nd Avenue
- Approximately 15 percent of site trips will travel to/from the east along SE Johnson Creek Boulevard
- Approximately 5 percent of site trips will travel to/from the west along SE Harrison Street.
- Approximately 5 percent of site trips will travel to/from the east along SE King Road

The trip distribution and assignment for the site trips generated by the proposed development during the morning and evening peak hours is shown in Figure 2 and Figure 3 respectively.



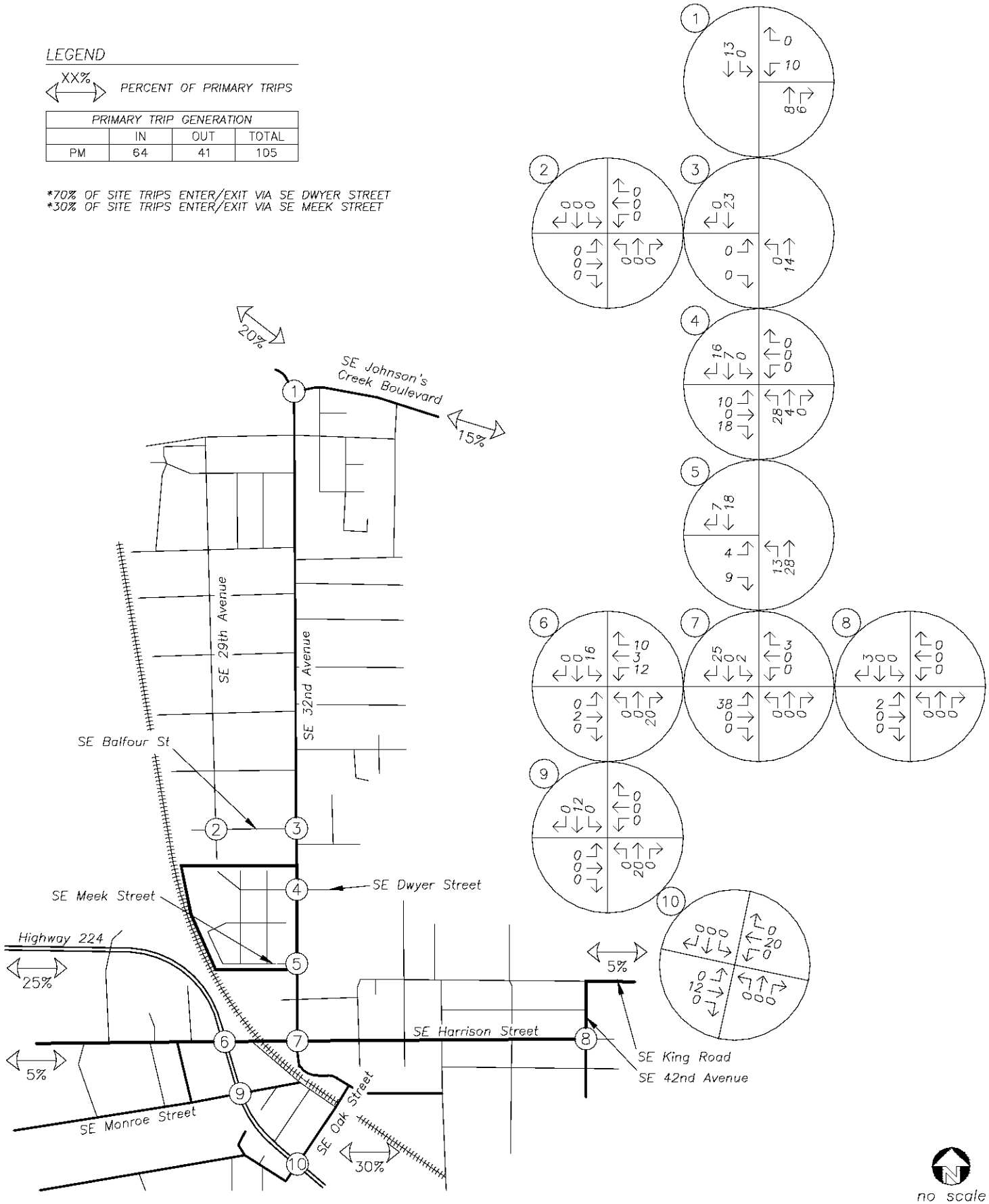
SITE TRIP DISTRIBUTION & ASSIGNMENT

Proposed Development Plan - Site Trips

AM Peak Hour

Figure 2

Hillside Master Plan



SITE TRIP DISTRIBUTION & ASSIGNMENT

Proposed Development Plan - Site Trips
PM Peak Hour

Figure 3
Hillside Master Plan

Site Trips

Trip Generation

The proposed apartment facility will include the construction of two five-story and three three-story buildings, which will accommodate a total of 234 residential dwelling units. To estimate the number of trips generated by the proposed development, trip equations from the *Trip Generation Manual*[1] were used. Data from land use code 221, *Multifamily Housing (Mid-Rise)*, was used to estimate the proposed development's trip generation based on the number of dwelling units.

The trip generation calculations show that the proposed development is projected to generate 79 trips during the morning peak hour, 100 trips during the evening peak hour, and 1,274 average weekday trips. The trip generation estimates are summarized in Table 3. Detailed trip generation calculations are included in the technical appendix to this report.

Table 3: Trip Generation Summary

	ITE Code	Size	Morning Peak Hour			Evening Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
Proposed Apartment Facility	221	234 dwelling units	21	58	79	61	39	100	1,274

[1] Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition, 2017.

Trip Distribution

The directional distribution of site trips to/from the project site was estimated based on locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at the study intersections.

Primarily using the existing traffic volumes and the turning movements collected at the study intersections, the following trip distribution was estimated and used for analysis:

- Approximately 40 percent of site trips will travel to/from the north along OR-224;
- Approximately 30 percent of site trips will travel to/from the south along OR-224;
- Approximately 5 percent of site trips will travel to/from the west along SE Harrison Street;
- Approximately 5 percent of site trips will travel to/from the southwest along SE Oak Street;
- Approximately 5 percent of site trips will travel to/from the north along SE 32nd Avenue;
- Approximately 5 percent of site trips will travel to/from the east along SE Monroe Street;
- Approximately 5 percent of site trips will travel to/from the east along SE Railroad Avenue; and
- Approximately 5 percent of site trips will travel to/from the east along SE International Way.

All trips were assumed to enter and exit the site's primary access to SE 37th Avenue opposite of SE Washington Street.

The trip distribution and assignment for the site trips generated by the proposed development during the morning and evening peak hours is shown in Figure 2 on page 13.

FIGURE 2
Page 13

TRAFFIC VOLUMES
Site Trip Distribution & Assignment
AM & PM Peak Hours

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF MILWAUKIE, CLACKAMAS COUNTY

Intersectional Crashes at SE Monroe St & SE Home Ave in Milwaukie, OR.
January 1, 2017 through December 31, 2021

SER# / INVEST / UNLOC?	S P E E D	A I C	D R U G / M J	S C H L	W O R K	DATE / DAY/TIME / LAT LONG	FC / DISTNC	CITY STREET / FIRST STREET / SECOND STREET / INTERSECTION SEQ #	RD CHAR / DIRECT / LOCTN	INT TYP (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFF-RD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC / TYPE	INJ / SVRTY	AGE	SEX	LICNS / RES	PED / LOC	ERROR	ACTN	EVENT	CAUSE
05567	N	N	N	N	N	12/27/2017	17	HOME AVE	INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE 0	STRGHT										053	03
CITY			N			Wed 9P	0	MONROE ST	CN		STOP SIGN	N	WET	ANGL		PRVTE	E W									000		00
No						45 26 42.52 -122 36 42.68		1	01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR<25		021	000		03
															02	NONE 0	STRGHT											
																PRVTE	N S									015	053	00
																PSNGR CAR		01	DRVR	INJC	38	F	OR-Y OR<25		000	000		00
																		02	PSNG	NO<5	02	M			000	000		00
04714	N	N	N			12/21/2018	17	HOME AVE	INTER	CROSS	N	N	UNK	ANGL-OTH	01	NONE 9	TURN-L											02
CITY			N			Fri 8A	0	MONROE ST	CN		STOP SIGN	N	WET	TURN		N/A	N E									015		00
No						45 26 42.52 -122 36 42.68		1	03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000		00
															02	NONE 9	TURN-L											
																N/A	W N									015		00
																PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000		00
03512	N	N	N	N	N	11/17/2021	17	HOME AVE	INTER	CROSS	N	N	CLR	PED	01	NONE 0	STRGHT											03
CITY			N			Wed 1P	0	MONROE ST	CN		STOP SIGN	N	DRY	PED		PRVTE	N S									015		00
No						45 26 42.52 -122 36 42.68		1	03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	72	F	OR-Y OR<25		000	000		00
																	STRGHT W E	01	CONV	INJA	44	M		02	021	034		14

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF MILWAUKIE, CLACKAMAS COUNTY

Intersectional Crashes at SE Monroe St & SE Wood Ave in Milwaukie, OR.
January 1, 2017 through December 31, 2021

SER# INVEST UNLOC?	SPED	A I C	DRUG/MJ	SCHL	WORK	DATE DAY/TIME LAT LONG	FC DISTNC	CITY STREET FIRST STREET SECOND STREET INTERSECTION SEQ #	RD CHAR DIRECT LOCTN	INT TYP (MEDIAN) LEGS (#LANES)	INT-REL TRAF-CONTL	OFF-RD RNDBT DRVWY	WTHR SURF LIGHT	CRASH TYP COLL TYP SVRTY	V#	SPCL USE TRLR QTY OWNER	MOVE FROM TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
04595	N	N	N	N	N	11/02/2017	17	MONROE ST	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 9	STRGHT										094	02
CITY			N			Thu 6P	0	WOOD AVE	CN		STOP SIGN	N	WET	TURN		N/A	W E									000		00
NO						45 26 40.97 -122 36 31.05		1	04	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000		00
															02	NONE 9	TURN-L											
																N/A	S W									015		00
																PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000		00

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF MILWAUKIE, CLACKAMAS COUNTY

Intersectional Crashes at SE Monroe St & SE Stanley Ave (E) in Milwaukie, OR.
January 1, 2017 through December 31, 2021

SER# INVEST UNLOC?	S P E E D	A I C	D R U G / M J	S C H L	W O R K	DATE DAY/TIME LAT LONG	FC DISTNC	CITY STREET FIRST STREET SECOND STREET INTERSECTION SEQ #	RD CHAR DIRECT LOCTN	INT TYP (MEDIAN) LEGS (#LANES)	INT-REL TRAF-CONTL	OFF-RD RNDBT DRVWY	WTHR SURF LIGHT	CRASH TYP COLL TYP SVRTY	V#	SPCL USE TRLR QTY OWNER	MOVE FROM TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
00938	Y	N	N	N	N	03/13/2020	17	MONROE ST	INTER	3-LEG	N	Y	RAIN	FIX OBJ	01	NONE 0	TURN-L										053	03,01,08
CITY			N			Fri 12P	0	STANLEY AVE	W		STOP SIGN	N	WET	FIX		PRVTE	S W									000	053	00
No	45 26 40.76					-122 36 12.10		1	05	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	28	M	SUSP OR<25		021,047,001	000		03,01,08
03170	N	N	N	N	N	08/02/2017	17	MONROE ST	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT											02
CITY			N			Wed 8A	0	STANLEY AVE	CN		STOP SIGN	N	DRY	TURN		N/A	W E									000		00
No	45 26 40.76					-122 36 12.10		1	04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000		00
															02	NONE 9	TURN-L											
																N/A	S W									015		00
																PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000		00

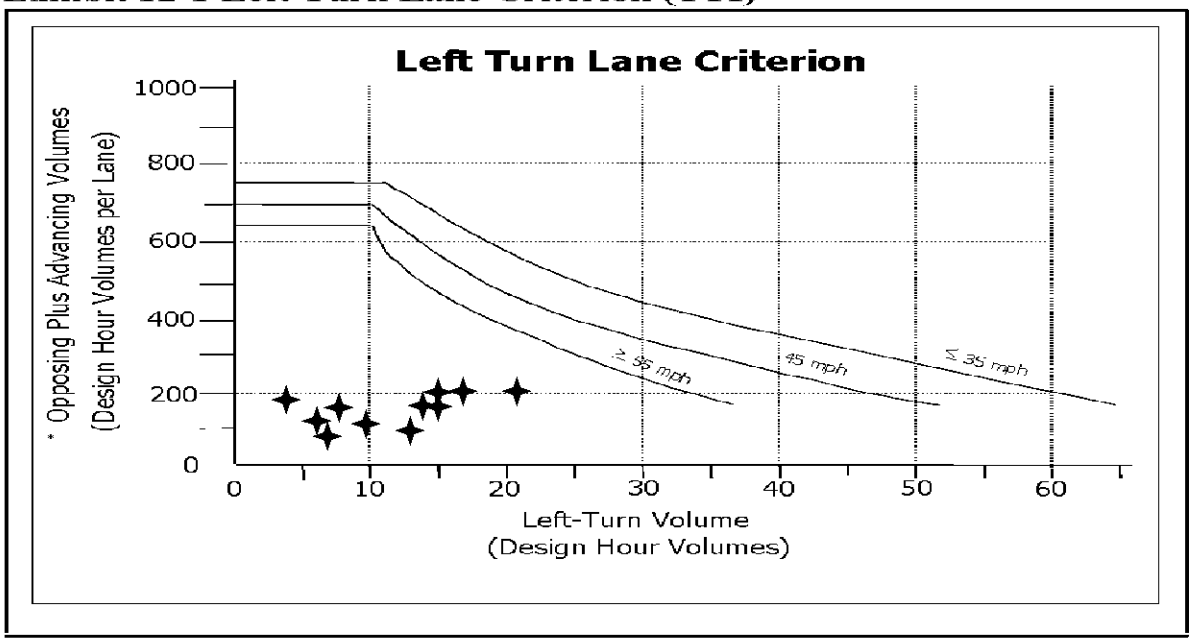
Oregon Department of Transportation - Left Turn Lane Criteria

I. Criterion 1: Vehicular Volume

The vehicular volume criterion is intended for application where the volume of intersecting traffic is the principal reason for considering installation of a left turn lane. The volume criteria is determined by the Texas Transportation Institute (TTI) curves in Exhibit 12-1.

The criteria is not met from zero to ten left turn vehicles per hour, but indicates that careful consideration be given to installing a left turn lane due to the increased potential for accidents in the through lanes. While the turn volumes are low, the adverse safety and operations impacts may require installation of a left turn lane. The final determination will be based on a field study.

Exhibit 12-1 Left Turn Lane Criterion (TTI)



*(Advancing Volume/Number of Advancing Through Lanes) + (Opposing Volume/Number of Opposing Through Lanes)

Opposing left turns are not counted as opposing volumes

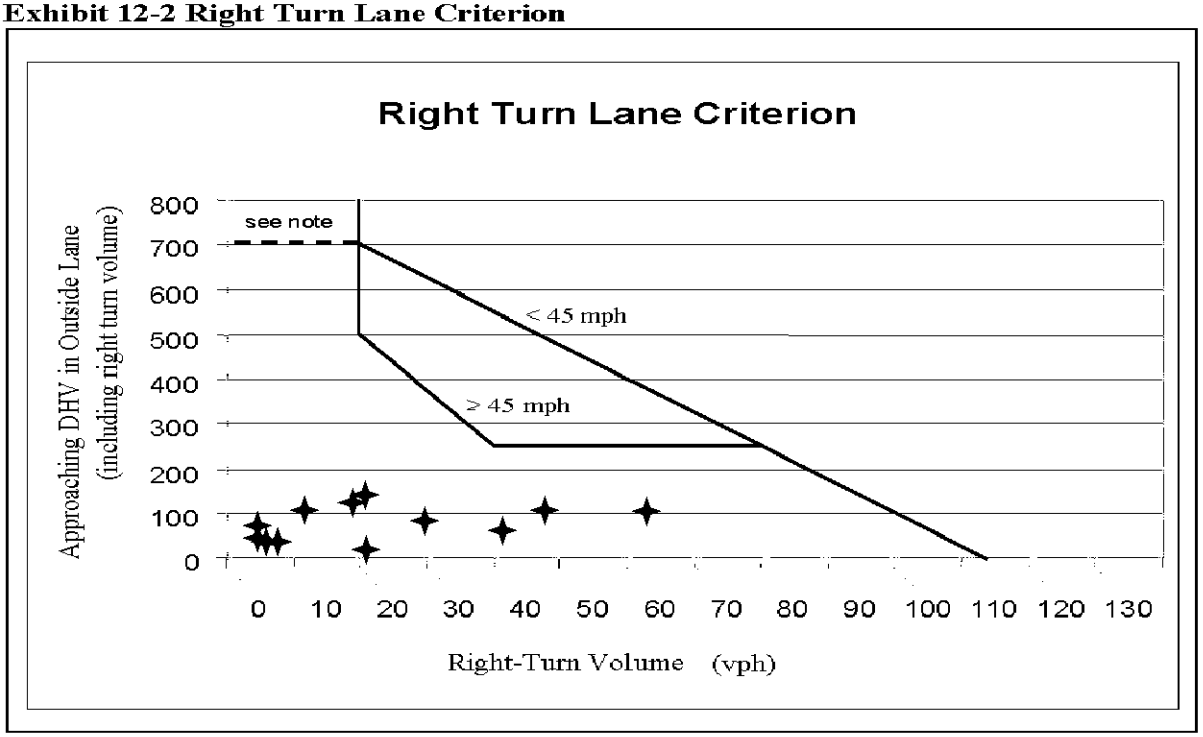
Intersection	Mov't	Analysis Period	Speed (MPH)	Opposing plus Advancing Volume (vph per lane)	Left Turns in Advancing Volume (vph)	Storage Req'd?
SE Home Avenue and SE Monroe Street	WB LT	2026 Total Traffic, AM Peak	25	115	0	None
		2026 Total Traffic, PM Peak		191	4	None
	EB LT	2026 Total Traffic, AM Peak		121	6	None
		2026 Total Traffic, PM Peak		204	17	None
SE Wood Avenue and SE Monroe Street	WB LT	2026 Total Traffic, AM Peak	25	119	10	None
		2026 Total Traffic, PM Peak		209	21	None
Site Access and SE Monroe Street	WB LT	2026 Total Traffic, AM Peak	25	96	7	None
		2026 Total Traffic, PM Peak		179	14	None
Stanley Avenue (West) and SE Monroe Street	EB LT	2026 Total Traffic, AM Peak	25	165	8	None
		2026 Total Traffic, PM Peak		202	15	None
Stanley Avenue (East) and SE Monroe Street	WB LT	2026 Total Traffic, AM Peak	25	100	13	None
		2026 Total Traffic, PM Peak		167	15	None

Oregon Department of Transportation - Right Turn Lane Criteria

I. Criterion 1: Vehicular Volume

The vehicular volume criterion is intended for application where the volume of the intersection traffic is the principal reason for considering installation of a right turn lane. The vehicular volume criteria is determined using the curve in Exhibit 12-2.

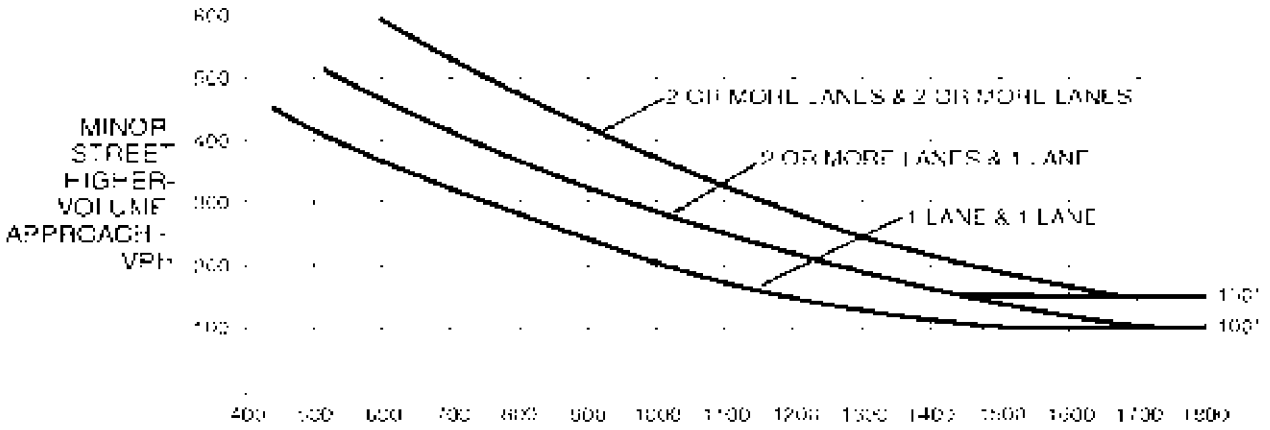
Exhibit 12-2 Right Turn Lane Criterion



Note: If there is no right turn lane, a shoulder needs to be provided. If this intersection is in a rural area and is a connection to a public street, a right turn lane is needed.

Intersection	Mov't	Analysis Period	Speed	Advancing Volume (vph)	Right Turns in Advancing Volume (vph)	Storage Req'd (ft)
SE Home Avenue and SE Monroe Street	WB RT	2026 Total Traffic, AM Peak	25	78	5	None
		2026 Total Traffic, PM Peak		62	6	None
	EB RT	2026 Total Traffic, AM Peak		43	6	None
		2026 Total Traffic, PM Peak		146	21	None
SE Wood Avenue and SE Monroe Street	EB RT	2026 Total Traffic, AM Peak	25	45	8	None
		2026 Total Traffic, PM Peak		135	19	None
Site Access and SE Monroe Street	EB RT	2026 Total Traffic, AM Peak	25	46	5	None
		2026 Total Traffic, PM Peak		111	12	None
Stanley Avenue (West) and SE Monroe Street	WB RT	2026 Total Traffic, AM Peak	25	110	63	None
		2026 Total Traffic, PM Peak		92	30	None
Stanley Avenue (East) and SE Monroe Street	EB RT	2026 Total Traffic, AM Peak	25	66	41	None
		2026 Total Traffic, PM Peak		111	48	None

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 (#)	
SE Home Avenue and SE Monroe Street	2026 Total Traffic - AM Peak	25	121	1	43	1	No
	2026 Total Traffic - PM Peak		208		64		No
SE Wood Avenue and SE Monroe Street	2026 Total Traffic - AM Peak	25	119	1	37	1	No
	2026 Total Traffic - PM Peak		209		22		No
Site Access and SE Monroe Street	2026 Total Traffic - AM Peak	25	96	1	26	1	No
	2026 Total Traffic - PM Peak		179		20		No
SE Stanley Avenue (W) and SE Monroe Street	2026 Total Traffic - AM Peak	25	165	1	21	1	No
	2026 Total Traffic - PM Peak		163		21		No
SE Stanley Avenue (E) and SE Monroe Street	2026 Total Traffic - AM Peak	25	100	1	100	1	No
	2026 Total Traffic - PM Peak		139		49		No

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	6	30	1	0	57	5	11	27	2	1	19	7
Future Volume (vph)	6	30	1	0	57	5	11	27	2	1	19	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		450			837			515			665	
Travel Time (s)		12.3			22.8			14.0			18.1	
Confl. Peds. (#/hr)	9		9				9					9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	7%	7%	7%	5%	5%	5%	4%	4%	4%
Shared Lane Traffic (%)												

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	30	1	0	57	5	11	27	2	1	19	7
Future Vol, veh/h	6	30	1	0	57	5	11	27	2	1	19	7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	5	5	5	7	7	7	5	5	5	4	4	4
Mvmt Flow	7	33	1	0	63	6	12	30	2	1	21	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.5	7.5	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	16%	0%	4%
Vol Thru, %	68%	81%	92%	70%
Vol Right, %	5%	3%	8%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	37	62	27
LT Vol	11	6	0	1
Through Vol	27	30	57	19
RT Vol	2	1	5	7
Lane Flow Rate	44	41	69	30
Geometry Grp	1	1	1	1
Degree of Util (X)	0.052	0.048	0.079	0.034
Departure Headway (Hd)	4.224	4.185	4.133	4.045
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	840	850	862	876
Service Time	2.287	2.238	2.18	2.112
HCM Lane V/C Ratio	0.052	0.048	0.08	0.034
HCM Control Delay	7.5	7.5	7.5	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.3	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	28	8	9	48	11	24
Future Volume (vph)	28	8	9	48	11	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	837			1150	533	
Travel Time (s)	22.8			31.4	14.5	
Confl. Peds. (#/hr)		4	3		4	3
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	8%	8%	5%	5%	3%	3%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	28	8	9	48	11	24
Future Vol, veh/h	28	8	9	48	11	24
Conflicting Peds, #/hr	0	4	3	0	4	3
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	76	76	76	76	76	76
Heavy Vehicles, %	8	8	5	5	3	3
Mvmt Flow	37	11	12	63	14	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	52	0	138	50
Stage 1	-	-	-	-	47	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	-	-	4.15	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.245	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1535	-	853	1015
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	930	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1529	-	839	1008
Mov Cap-2 Maneuver	-	-	-	-	839	-
Stage 1	-	-	-	-	969	-
Stage 2	-	-	-	-	919	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	948	-	-	1529	-
HCM Lane V/C Ratio	0.049	-	-	0.008	-
HCM Control Delay (s)	9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	30	38	59	17	2
Future Volume (vph)	7	30	38	59	17	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		1150	190		594	
Travel Time (s)		31.4	5.2		16.2	
Confl. Peds. (#/hr)	2			1	1	2
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61
Heavy Vehicles (%)	3%	3%	4%	4%	5%	5%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		⅄	
Traffic Vol, veh/h	7	30	38	59	17	2
Future Vol, veh/h	7	30	38	59	17	2
Conflicting Peds, #/hr	2	0	0	1	1	2
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	61	61	61	61	61	61
Heavy Vehicles, %	3	3	4	4	5	5
Mvmt Flow	11	49	62	97	28	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	161	0	-	0	185	115
Stage 1	-	-	-	-	113	-
Stage 2	-	-	-	-	72	-
Critical Hdwy	4.13	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.227	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1412	-	-	-	797	929
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	943	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1409	-	-	-	787	925
Mov Cap-2 Maneuver	-	-	-	-	787	-
Stage 1	-	-	-	-	895	-
Stage 2	-	-	-	-	941	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1409	-	-	-	800
HCM Lane V/C Ratio	0.008	-	-	-	0.039
HCM Control Delay (s)	7.6	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	21	27	12	16	78	13
Future Volume (vph)	21	27	12	16	78	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	190			446	499	
Travel Time (s)	5.2			12.2	13.6	
Confl. Peds. (#/hr)		1	1		1	1
Peak Hour Factor	0.62	0.62	0.62	0.62	0.62	0.62
Heavy Vehicles (%)	2%	2%	0%	0%	4%	4%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection						
Int Delay, s/veh	6					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	21	27	12	16	78	13
Future Vol, veh/h	21	27	12	16	78	13
Conflicting Peds, #/hr	0	1	1	0	1	1
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	62	62	62	62	62	62
Heavy Vehicles, %	2	2	0	0	4	4
Mvmt Flow	34	44	19	26	126	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	79	0	122	58
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	65	-
Critical Hdwy	-	-	4.1	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.2	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1532	-	868	1002
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	953	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1531	-	855	1000
Mov Cap-2 Maneuver	-	-	-	-	855	-
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	940	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.2	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	873	-	-	1531	-
HCM Lane V/C Ratio	0.168	-	-	0.013	-
HCM Control Delay (s)	10	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	16	96	20	4	38	6	7	17	1	12	34	8
Future Volume (vph)	16	96	20	4	38	6	7	17	1	12	34	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		450			837			515			665	
Travel Time (s)		12.3			22.8			14.0			18.1	
Confl. Peds. (#/hr)	11		12	3		2	12		3	2		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 (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Shared Lane Traffic (%)												

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	96	20	4	38	6	7	17	1	12	34	8
Future Vol, veh/h	16	96	20	4	38	6	7	17	1	12	34	8
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, %	2	2	2	2	2	2	4	4	4	4	4	4
Mvmt Flow	19	112	23	5	44	7	8	20	1	14	40	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	7.5	7.7	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	12%	8%	22%
Vol Thru, %	68%	73%	79%	63%
Vol Right, %	4%	15%	12%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	132	48	54
LT Vol	7	16	4	12
Through Vol	17	96	38	34
RT Vol	1	20	6	8
Lane Flow Rate	29	153	56	63
Geometry Grp	1	1	1	1
Degree of Util (X)	0.037	0.174	0.064	0.077
Departure Headway (Hd)	4.53	4.07	4.154	4.417
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	795	870	848	816
Service Time	2.532	2.145	2.251	2.417
HCM Lane V/C Ratio	0.036	0.176	0.066	0.077
HCM Control Delay	7.7	8	7.5	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.6	0.2	0.2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	97	18	20	39	11	9
Future Volume (vph)	97	18	20	39	11	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	837			1150	533	
Travel Time (s)	22.8			31.4	14.5	
Confl. Peds. (#/hr)		3	4		3	4
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	4%	4%	0%	0%	5%	5%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	97	18	20	39	11	9
Future Vol, veh/h	97	18	20	39	11	9
Conflicting Peds, #/hr	0	3	4	0	3	4
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	85	85	85	85	85	85
Heavy Vehicles, %	4	4	0	0	5	5
Mvmt Flow	114	21	24	46	13	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	139	0	226	133
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	97	-
Critical Hdwy	-	-	4.1	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.2	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1457	-	756	908
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	919	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1451	-	738	901
Mov Cap-2 Maneuver	-	-	-	-	738	-
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	901	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	803	-	-	1451	-
HCM Lane V/C Ratio	0.029	-	-	0.016	-
HCM Control Delay (s)	9.6	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	13	79	43	28	16	5
Future Volume (vph)	13	79	43	28	16	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		1150	190		594	
Travel Time (s)		31.4	5.2		16.2	
Confl. Peds. (#/hr)	1			1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	6%	6%	14%	14%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	79	43	28	16	5
Future Vol, veh/h	13	79	43	28	16	5
Conflicting Peds, #/hr	1	0	0	1	1	1
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	94	94	94	94	94	94
Heavy Vehicles, %	1	1	6	6	14	14
Mvmt Flow	14	84	46	30	17	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	175	63
Stage 1	-	-	-	-	62	-
Stage 2	-	-	-	-	113	-
Critical Hdwy	4.11	-	-	-	6.54	6.34
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	-	5.54	-
Follow-up Hdwy	2.209	-	-	-	3.626	3.426
Pot Cap-1 Maneuver	1528	-	-	-	788	969
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	883	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1527	-	-	-	779	967
Mov Cap-2 Maneuver	-	-	-	-	779	-
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	882	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1527	-	-	-	817
HCM Lane V/C Ratio	0.009	-	-	-	0.027
HCM Control Delay (s)	7.4	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	58	37	14	30	41	8
Future Volume (vph)	58	37	14	30	41	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	190			446	499	
Travel Time (s)	5.2			12.2	13.6	
Confl. Peds. (#/hr)		2	1		2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	12%	12%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	58	37	14	30	41	8
Future Vol, veh/h	58	37	14	30	41	8
Conflicting Peds, #/hr	0	2	1	0	2	1
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	94	94	94	94	94	94
Heavy Vehicles, %	4	4	0	0	12	12
Mvmt Flow	62	39	15	32	44	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	103	0	148	85
Stage 1	-	-	-	-	84	-
Stage 2	-	-	-	-	64	-
Critical Hdwy	-	-	4.1	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.2	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	1502	-	821	947
Stage 1	-	-	-	-	915	-
Stage 2	-	-	-	-	934	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1499	-	810	944
Mov Cap-2 Maneuver	-	-	-	-	810	-
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	829	-	-	1499	-
HCM Lane V/C Ratio	0.063	-	-	0.01	-
HCM Control Delay (s)	9.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	6	34	1	0	61	5	12	29	2	1	20	7
Future Volume (vph)	6	34	1	0	61	5	12	29	2	1	20	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		450			837			515			665	
Travel Time (s)		12.3			22.8			14.0			18.1	
Confl. Peds. (#/hr)	9		9				9					9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	7%	7%	7%	5%	5%	5%	4%	4%	4%
Shared Lane Traffic (%)												

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	34	1	0	61	5	12	29	2	1	20	7
Future Vol, veh/h	6	34	1	0	61	5	12	29	2	1	20	7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	5	5	5	7	7	7	5	5	5	4	4	4
Mvmt Flow	7	38	1	0	68	6	13	32	2	1	22	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.6	7.6	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	15%	0%	4%
Vol Thru, %	67%	83%	92%	71%
Vol Right, %	5%	2%	8%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	43	41	66	28
LT Vol	12	6	0	1
Through Vol	29	34	61	20
RT Vol	2	1	5	7
Lane Flow Rate	48	46	73	31
Geometry Grp	1	1	1	1
Degree of Util (X)	0.056	0.053	0.084	0.035
Departure Headway (Hd)	4.242	4.192	4.145	4.066
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	836	848	859	870
Service Time	2.31	2.25	2.197	2.141
HCM Lane V/C Ratio	0.057	0.054	0.085	0.036
HCM Control Delay	7.6	7.5	7.6	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.3	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	32	8	10	52	12	25
Future Volume (vph)	32	8	10	52	12	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	837			1150	533	
Travel Time (s)	22.8			31.4	14.5	
Confl. Peds. (#/hr)		4	3		4	3
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	8%	8%	5%	5%	3%	3%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	32	8	10	52	12	25
Future Vol, veh/h	32	8	10	52	12	25
Conflicting Peds, #/hr	0	4	3	0	4	3
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	76	76	76	76	76	76
Heavy Vehicles, %	8	8	5	5	3	3
Mvmt Flow	42	11	13	68	16	33

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	57	0	150	55
Stage 1	-	-	-	-	52	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	-	-	4.15	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.245	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1528	-	840	1009
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	923	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1522	-	826	1002
Mov Cap-2 Maneuver	-	-	-	-	826	-
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	911	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	937	-	-	1522	-
HCM Lane V/C Ratio	0.052	-	-	0.009	-
HCM Control Delay (s)	9.1	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	34	41	63	18	2
Future Volume (vph)	7	34	41	63	18	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		1150	190		594	
Travel Time (s)		31.4	5.2		16.2	
Confl. Peds. (#/hr)	2			1	1	2
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61
Heavy Vehicles (%)	3%	3%	4%	4%	5%	5%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	34	41	63	18	2
Future Vol, veh/h	7	34	41	63	18	2
Conflicting Peds, #/hr	2	0	0	1	1	2
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	61	61	61	61	61	61
Heavy Vehicles, %	3	3	4	4	5	5
Mvmt Flow	11	56	67	103	30	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	172	0	-	0	200	123
Stage 1	-	-	-	-	121	-
Stage 2	-	-	-	-	79	-
Critical Hdwy	4.13	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.227	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1399	-	-	-	782	920
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	937	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1396	-	-	-	773	916
Mov Cap-2 Maneuver	-	-	-	-	773	-
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	935	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1396	-	-	-	785
HCM Lane V/C Ratio	0.008	-	-	-	0.042
HCM Control Delay (s)	7.6	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	24	29	13	18	83	14
Future Volume (vph)	24	29	13	18	83	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	190			446	499	
Travel Time (s)	5.2			12.2	13.6	
Confl. Peds. (#/hr)		1	1		1	1
Peak Hour Factor	0.62	0.62	0.62	0.62	0.62	0.62
Heavy Vehicles (%)	2%	2%	0%	0%	4%	4%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	5.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	24	29	13	18	83	14
Future Vol, veh/h	24	29	13	18	83	14
Conflicting Peds, #/hr	0	1	1	0	1	1
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	62	62	62	62	62	62
Heavy Vehicles, %	2	2	0	0	4	4
Mvmt Flow	39	47	21	29	134	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	87	0	136	65
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	72	-
Critical Hdwy	-	-	4.1	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.2	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1522	-	853	993
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	946	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1521	-	839	991
Mov Cap-2 Maneuver	-	-	-	-	839	-
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	932	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.1	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	858	-	-	1521	-
HCM Lane V/C Ratio	0.182	-	-	0.014	-
HCM Control Delay (s)	10.1	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	17	103	21	4	43	6	7	18	1	13	36	8
Future Volume (vph)	17	103	21	4	43	6	7	18	1	13	36	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		450			837			515			665	
Travel Time (s)		12.3			22.8			14.0			18.1	
Confl. Peds. (#/hr)	11		12	3		2	12		3	2		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 (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Shared Lane Traffic (%)												

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	103	21	4	43	6	7	18	1	13	36	8
Future Vol, veh/h	17	103	21	4	43	6	7	18	1	13	36	8
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, %	2	2	2	2	2	2	4	4	4	4	4	4
Mvmt Flow	20	120	24	5	50	7	8	21	1	15	42	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	7.6	7.8	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	12%	8%	23%
Vol Thru, %	69%	73%	81%	63%
Vol Right, %	4%	15%	11%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	141	53	57
LT Vol	7	17	4	13
Through Vol	18	103	43	36
RT Vol	1	21	6	8
Lane Flow Rate	30	164	62	66
Geometry Grp	1	1	1	1
Degree of Util (X)	0.038	0.186	0.073	0.082
Departure Headway (Hd)	4.57	4.084	4.279	4.46
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	787	866	842	807
Service Time	2.576	2.167	2.279	2.464
HCM Lane V/C Ratio	0.038	0.189	0.074	0.082
HCM Control Delay	7.8	8.1	7.6	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.7	0.2	0.3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	104	19	21	44	12	10
Future Volume (vph)	104	19	21	44	12	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	837			1150	533	
Travel Time (s)	22.8			31.4	14.5	
Confl. Peds. (#/hr)		3	4		3	4
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	4%	4%	0%	0%	5%	5%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	104	19	21	44	12	10
Future Vol, veh/h	104	19	21	44	12	10
Conflicting Peds, #/hr	0	3	4	0	3	4
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	85	85	85	85	85	85
Heavy Vehicles, %	4	4	0	0	5	5
Mvmt Flow	122	22	25	52	14	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	148	0	242	141
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	105	-
Critical Hdwy	-	-	4.1	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.2	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1446	-	740	899
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	912	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1440	-	722	892
Mov Cap-2 Maneuver	-	-	-	-	722	-
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	893	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	790	-	-	1440	-
HCM Lane V/C Ratio	0.033	-	-	0.017	-
HCM Control Delay (s)	9.7	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	14	85	49	30	17	5
Future Volume (vph)	14	85	49	30	17	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		1150	190		594	
Travel Time (s)		31.4	5.2		16.2	
Confl. Peds. (#/hr)	1			1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	6%	6%	14%	14%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	85	49	30	17	5
Future Vol, veh/h	14	85	49	30	17	5
Conflicting Peds, #/hr	1	0	0	1	1	1
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	94	94	94	94	94	94
Heavy Vehicles, %	1	1	6	6	14	14
Mvmt Flow	15	90	52	32	18	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	85	0	-	0	190	70
Stage 1	-	-	-	-	69	-
Stage 2	-	-	-	-	121	-
Critical Hdwy	4.11	-	-	-	6.54	6.34
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	-	5.54	-
Follow-up Hdwy	2.209	-	-	-	3.626	3.426
Pot Cap-1 Maneuver	1518	-	-	-	772	960
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	875	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1517	-	-	-	763	958
Mov Cap-2 Maneuver	-	-	-	-	763	-
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	874	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1517	-	-	-	800
HCM Lane V/C Ratio	0.01	-	-	-	0.029
HCM Control Delay (s)	7.4	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	62	39	15	35	43	8
Future Volume (vph)	62	39	15	35	43	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	190			446	499	
Travel Time (s)	5.2			12.2	13.6	
Confl. Peds. (#/hr)		2	1		2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	12%	12%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	62	39	15	35	43	8
Future Vol, veh/h	62	39	15	35	43	8
Conflicting Peds, #/hr	0	2	1	0	2	1
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	94	94	94	94	94	94
Heavy Vehicles, %	4	4	0	0	12	12
Mvmt Flow	66	41	16	37	46	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	109	0	160	90
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	71	-
Critical Hdwy	-	-	4.1	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.2	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	1494	-	808	941
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	927	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1491	-	796	938
Mov Cap-2 Maneuver	-	-	-	-	796	-
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	915	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	815	-	-	1491	-
HCM Lane V/C Ratio	0.067	-	-	0.011	-
HCM Control Delay (s)	9.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	6	36	1	0	73	5	12	29	2	4	20	7
Future Volume (vph)	6	36	1	0	73	5	12	29	2	4	20	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		450			837			515			665	
Travel Time (s)		12.3			22.8			14.0			18.1	
Confl. Peds. (#/hr)	9		9				9					9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	7%	7%	7%	5%	5%	5%	4%	4%	4%
Shared Lane Traffic (%)												

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	36	1	0	73	5	12	29	2	4	20	7
Future Vol, veh/h	6	36	1	0	73	5	12	29	2	4	20	7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	5	5	5	7	7	7	5	5	5	4	4	4
Mvmt Flow	7	40	1	0	81	6	13	32	2	4	22	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.7	7.6	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	14%	0%	13%
Vol Thru, %	67%	84%	94%	65%
Vol Right, %	5%	2%	6%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	43	43	78	31
LT Vol	12	6	0	4
Through Vol	29	36	73	20
RT Vol	2	1	5	7
Lane Flow Rate	48	48	87	34
Geometry Grp	1	1	1	1
Degree of Util (X)	0.057	0.056	0.1	0.039
Departure Headway (Hd)	4.272	4.208	4.159	4.126
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	828	843	855	855
Service Time	2.35	2.273	2.216	2.212
HCM Lane V/C Ratio	0.058	0.057	0.102	0.04
HCM Control Delay	7.6	7.5	7.7	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.3	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	37	8	10	64	12	25
Future Volume (vph)	37	8	10	64	12	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	837			850	533	
Travel Time (s)	22.8			23.2	14.5	
Confl. Peds. (#/hr)		4	3		4	3
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	8%	8%	5%	5%	3%	3%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	37	8	10	64	12	25
Future Vol, veh/h	37	8	10	64	12	25
Conflicting Peds, #/hr	0	4	3	0	4	3
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	76	76	76	76	76	76
Heavy Vehicles, %	8	8	5	5	3	3
Mvmt Flow	49	11	13	84	16	33

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	64	0	173	62
Stage 1	-	-	-	-	59	-
Stage 2	-	-	-	-	114	-
Critical Hdwy	-	-	4.15	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.245	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1519	-	815	1000
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	908	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1513	-	801	993
Mov Cap-2 Maneuver	-	-	-	-	801	-
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	896	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	921	-	-	1513	-
HCM Lane V/C Ratio	0.053	-	-	0.009	-
HCM Control Delay (s)	9.1	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	41	5	7	43	12	14
Future Volume (vph)	41	5	7	43	12	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	850			300	333	
Travel Time (s)	23.2			8.2	9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	4%	4%	2%	2%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	41	5	7	43	12	14
Future Vol, veh/h	41	5	7	43	12	14
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, %	3	3	4	4	2	2
Mvmt Flow	46	6	8	48	13	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	52	0	113	49
Stage 1	-	-	-	-	49	-
Stage 2	-	-	-	-	64	-
Critical Hdwy	-	-	4.14	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.236	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1541	-	884	1020
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	959	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1541	-	880	1020
Mov Cap-2 Maneuver	-	-	-	-	880	-
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	954	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	950	-	-	1541	-
HCM Lane V/C Ratio	0.03	-	-	0.005	-
HCM Control Delay (s)	8.9	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	8	47	47	63	18	3
Future Volume (vph)	8	47	47	63	18	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		300	190		594	
Travel Time (s)		8.2	5.2		16.2	
Confl. Peds. (#/hr)	2			1	1	2
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61
Heavy Vehicles (%)	3%	3%	4%	4%	5%	5%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	47	47	63	18	3
Future Vol, veh/h	8	47	47	63	18	3
Conflicting Peds, #/hr	2	0	0	1	1	2
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	61	61	61	61	61	61
Heavy Vehicles, %	3	3	4	4	5	5
Mvmt Flow	13	77	77	103	30	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	182	0	-	0	235	133
Stage 1	-	-	-	-	131	-
Stage 2	-	-	-	-	104	-
Critical Hdwy	4.13	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.227	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1387	-	-	-	747	908
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	913	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1384	-	-	-	737	905
Mov Cap-2 Maneuver	-	-	-	-	737	-
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	911	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1384	-	-	-	757
HCM Lane V/C Ratio	0.009	-	-	-	0.045
HCM Control Delay (s)	7.6	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	25	41	13	21	86	14
Future Volume (vph)	25	41	13	21	86	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	190			446	499	
Travel Time (s)	5.2			12.2	13.6	
Confl. Peds. (#/hr)		1	1		1	1
Peak Hour Factor	0.62	0.62	0.62	0.62	0.62	0.62
Heavy Vehicles (%)	2%	2%	0%	0%	4%	4%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	5.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	25	41	13	21	86	14
Future Vol, veh/h	25	41	13	21	86	14
Conflicting Peds, #/hr	0	1	1	0	1	1
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	62	62	62	62	62	62
Heavy Vehicles, %	2	2	0	0	4	4
Mvmt Flow	40	66	21	34	139	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	107	0	151	75
Stage 1	-	-	-	-	74	-
Stage 2	-	-	-	-	77	-
Critical Hdwy	-	-	4.1	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.2	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1497	-	836	981
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	941	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1496	-	823	979
Mov Cap-2 Maneuver	-	-	-	-	823	-
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	927	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.8	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	842	-	-	1496	-
HCM Lane V/C Ratio	0.192	-	-	0.014	-
HCM Control Delay (s)	10.3	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	17	108	21	4	52	6	7	18	1	20	36	8
Future Volume (vph)	17	108	21	4	52	6	7	18	1	20	36	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		450			837			515			665	
Travel Time (s)		12.3			22.8			14.0			18.1	
Confl. Peds. (#/hr)	11		12	3		2	12		3	2		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 (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Shared Lane Traffic (%)												

Intersection Summary

Area Type: Other

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	108	21	4	52	6	7	18	1	20	36	8
Future Vol, veh/h	17	108	21	4	52	6	7	18	1	20	36	8
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, %	2	2	2	2	2	2	4	4	4	4	4	4
Mvmt Flow	20	126	24	5	60	7	8	21	1	23	42	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	7.7	7.8	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	12%	6%	31%
Vol Thru, %	69%	74%	84%	56%
Vol Right, %	4%	14%	10%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	146	62	64
LT Vol	7	17	4	20
Through Vol	18	108	52	36
RT Vol	1	21	6	8
Lane Flow Rate	30	170	72	74
Geometry Grp	1	1	1	1
Degree of Util (X)	0.039	0.194	0.086	0.094
Departure Headway (Hd)	4.621	4.108	4.312	4.526
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	778	859	834	796
Service Time	2.628	2.206	2.32	2.531
HCM Lane V/C Ratio	0.039	0.198	0.086	0.093
HCM Control Delay	7.8	8.2	7.7	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.7	0.3	0.3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	116	19	21	53	12	10
Future Volume (vph)	116	19	21	53	12	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	837			850	533	
Travel Time (s)	22.8			23.2	14.5	
Confl. Peds. (#/hr)		3	4		3	4
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	4%	4%	0%	0%	5%	5%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	116	19	21	53	12	10
Future Vol, veh/h	116	19	21	53	12	10
Conflicting Peds, #/hr	0	3	4	0	3	4
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	85	85	85	85	85	85
Heavy Vehicles, %	4	4	0	0	5	5
Mvmt Flow	136	22	25	62	14	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	162	0	266	155
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	115	-
Critical Hdwy	-	-	4.1	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.2	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1429	-	717	883
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	902	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1424	-	699	876
Mov Cap-2 Maneuver	-	-	-	-	699	-
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	883	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	770	-	-	1424	-
HCM Lane V/C Ratio	0.034	-	-	0.017	-
HCM Control Delay (s)	9.8	-	-	7.6	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)	99	12	14	54	9	11
Future Volume (vph)	99	12	14	54	9	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	850			300	333	
Travel Time (s)	23.2			8.2	9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	6%	6%	2%	2%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	99	12	14	54	9	11
Future Vol, veh/h	99	12	14	54	9	11
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, %	1	1	6	6	2	2
Mvmt Flow	110	13	16	60	10	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	123	0	209	117
Stage 1	-	-	-	-	117	-
Stage 2	-	-	-	-	92	-
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	-	-	1440	-	779	935
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	932	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1440	-	770	935
Mov Cap-2 Maneuver	-	-	-	-	770	-
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	922	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	853	-	-	1440	-
HCM Lane V/C Ratio	0.026	-	-	0.011	-
HCM Control Delay (s)	9.3	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	95	62	30	17	6
Future Volume (vph)	15	95	62	30	17	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		300	190		594	
Travel Time (s)		8.2	5.2		16.2	
Confl. Peds. (#/hr)	1			1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	6%	6%	14%	14%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	95	62	30	17	6
Future Vol, veh/h	15	95	62	30	17	6
Conflicting Peds, #/hr	1	0	0	1	1	1
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	94	94	94	94	94	94
Heavy Vehicles, %	1	1	6	6	14	14
Mvmt Flow	16	101	66	32	18	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	99	0	-	0	217	84
Stage 1	-	-	-	-	83	-
Stage 2	-	-	-	-	134	-
Critical Hdwy	4.11	-	-	-	6.54	6.34
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	-	5.54	-
Follow-up Hdwy	2.209	-	-	-	3.626	3.426
Pot Cap-1 Maneuver	1500	-	-	-	745	943
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	864	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1499	-	-	-	735	941
Mov Cap-2 Maneuver	-	-	-	-	735	-
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	863	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1499	-	-	-	780
HCM Lane V/C Ratio	0.011	-	-	-	0.031
HCM Control Delay (s)	7.4	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	63	48	15	41	50	8
Future Volume (vph)	63	48	15	41	50	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	190			446	499	
Travel Time (s)	5.2			12.2	13.6	
Confl. Peds. (#/hr)		2	1		2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	12%	12%
Shared Lane Traffic (%)						

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	63	48	15	41	50	8
Future Vol, veh/h	63	48	15	41	50	8
Conflicting Peds, #/hr	0	2	1	0	2	1
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	94	94	94	94	94	94
Heavy Vehicles, %	4	4	0	0	12	12
Mvmt Flow	67	51	16	44	53	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	120	0	173	96
Stage 1	-	-	-	-	95	-
Stage 2	-	-	-	-	78	-
Critical Hdwy	-	-	4.1	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.2	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	1480	-	794	934
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	920	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1477	-	782	931
Mov Cap-2 Maneuver	-	-	-	-	782	-
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	908	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	800	-	-	1477	-
HCM Lane V/C Ratio	0.077	-	-	0.011	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-