

15. Transportation Impact Study

Holley Park Subdivision

Transportation Impact Study
La Center, Washington

Date:

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LANCASTER
ENGINEERING



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Executive Summary

1. The proposed Holley Park Subdivision will include the construction of 39 single-family detached houses located at 33105 NE Ivy Avenue in La Center, Washington.
2. The trip generation calculations show that the proposed development is projected to generate 28 morning peak hour, 38 evening peak hour, and 358 weekday site trips.
3. No significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns.
4. Left-turn lane warrants are not projected to be met for any of the applicable study intersections under any of the analysis scenarios through the 2021 buildout year of the proposed development.
5. Traffic signal warrants are not projected to be met at any of the study intersections under any of the analysis scenarios through the 2021 buildout year of the site.
6. Based on the results of the operational analysis, the intersection of NE Highland/Ivy Avenue at E 4th Street/NE Lockwood Creek Road is currently and projected to operate at LOS F during the morning peak hour. However, based on analyses and conclusions made within *La Center Transportation Capital Facilities Plan* regarding operation and mitigation at the intersection, no mitigation is necessary or recommended in with buildout of the Holley Park Subdivision.



Project Description and Location

Introduction

The proposed Holley Park Subdivision will include the construction of 39 single-family detached houses located at 33105 NE Ivy Avenue in La Center, Washington. This report addresses the impacts of the proposed development on the nearby street system. Based on correspondence with City of La Center staff, the report conducts safety and capacity/level of service analyses at the following intersections:

1. Pacific Highway at W 4th Street;
2. Aspen Avenue at E/W 4th Street;
3. E Stonecreek Drive at E 4th Street;
4. NE Highland/Ivy Avenue at E 4th Street/NE Lockwood Creek Road; and
5. NE John Storm Avenue at NE Lockwood Creek Road.

The purpose of this study is to determine whether the transportation system within the vicinity of the site is capable of safely and efficiently supporting the existing and proposed uses and to determine any mitigation that may be necessary to do so. Detailed information on traffic counts, trip generation calculations, safety analyses, and level of service calculations is included in the appendix to this report.

Project and Location Description

The project site is located south of NE Lockwood Creek Road, east of E Ivy Avenue, and west of NE John Storm Avenue in La Center, Washington. The subject site is located near the eastern edge of City limits, with Holley Park to the north, undeveloped land to the south, a residential subdivision east, and La Center Elementary/Intermediate Schools to the west. One notable development within a half mile walking/biking distance of the site includes La Center High School to the north.

The site consists of three assessor parcels (parcels #62965242, #209055000, and #209059000) which encompass an approximate total of 14.4 acres. The southernmost lot (parcel #209059000) currently has one single-family house and several ancillary structures built onsite. The other two northernmost lots are currently undeveloped.

Upon redevelopment, access to/from the site will be available via E 2nd Street, which currently ends as a stub street along the eastern edge of the site. E 2nd Street will be extended west, through the site, to E Ivy Avenue and will end as a stub street.



Vicinity Streets

The proposed development is expected to primarily impact eight nearby vicinity roadways. Table 1 provides a description of each of the vicinity roadways.

Table 1: Vicinity Roadway Descriptions

Roadway	Jurisdiction	Functional Classification	Cross-Section	Speed	On-street Parking	Bicycle Lanes	Curbs	Sidewalks
Pacific Highway	City of La Center	Principal/Minor Arterial	2 to 3 Lanes	25 mph Posted	Partially Permitted	None	Partial Both Sides	Partial Both Sides
Aspen Avenue	City of La Center	Major Collector	2 to 3 Lanes	25 mph Posted	Partially Permitted	None	Both Sides	Both Sides
E Stonecreek Drive	City of La Center	Local Road	2 Lanes	25 mph Design	Partially Permitted	None	Both Sides	Both Sides
NE Highland Avenue	City of La Center	Major Collector	2 to 3 Lanes	25 mph Posted	Not Permitted	Partial Both Sides	Partial Both Sides	Partial Both Sides
E Ivy Avenue	City of La Center	Local Road	2 Lanes	25 mph Design	Not Permitted	None	Partial Both Sides	Partial Both Sides
NE John Storm Avenue	City of La Center	Minor Collector	2 Lanes	25 mph Posted	Permitted Both Sides	None	Both Sides	Both Sides
E/W 4th Street	City of La Center	Minor Arterial	2 to 3 Lanes	25 mph Posted	Partially Permitted	Partial Both Sides	Partial Both Sides	Partial Both Sides
NE Lockwood Creek Road	City of La Center	Minor Arterial	2 to 3 Lanes	25 mph Posted	Partially Permitted	None	Partial Both Sides	Partial Both Sides

Notes: Functional classification based on *La Center Transportation Capital Facilities Plan Functional Classification Map*.

Design speeds determined per Table 2.1 - *Street Design Standards* in *City of La Centers Public Works Engineering Standards for Construction*.

Study Intersections

A majority of site trips generated by the proposed development are expected to impact five nearby intersections of significance. A summarized description of these intersections is provided in Table 2.



Table 2: Study Intersection Descriptions

Number	Name	Geometry	Traffic Control	Phasing/Stopped Approaches
1	Pacific Highway at W 4th Street	Three-Legged	Roundabout	Yield-Controlled NB, SB, and WB Approaches
2	Aspen Avenue at E/W 4th Street	Three-Legged	Stop Control	Stop-Controlled SB Approach
3	E Stonecreek Drive at E 4th Street	Three-Legged	Stop Control	Stop-Controlled SB Approach
4	NE Highland/Ivy Avenue at E 4th Street/NE Lockwood Creek Road	Four-Legged	Stop Control	Stop-Controlled N/S approaches
5	NE John Storm Avenue at NE Lockwood Creek Road	Three-Legged	Stop Control	Stop-Controlled NB Approach

A vicinity map displaying the project site, vicinity streets, and the study intersections with their associated lane configurations is shown in Figure 1 on page 5.









Traffic Counts

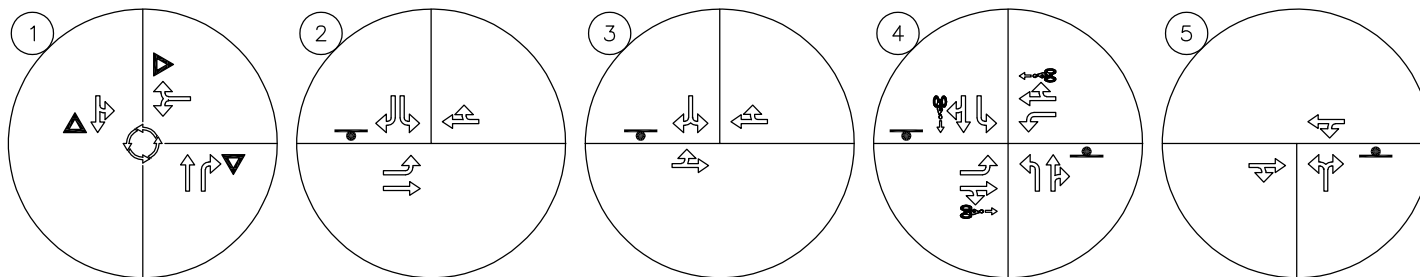
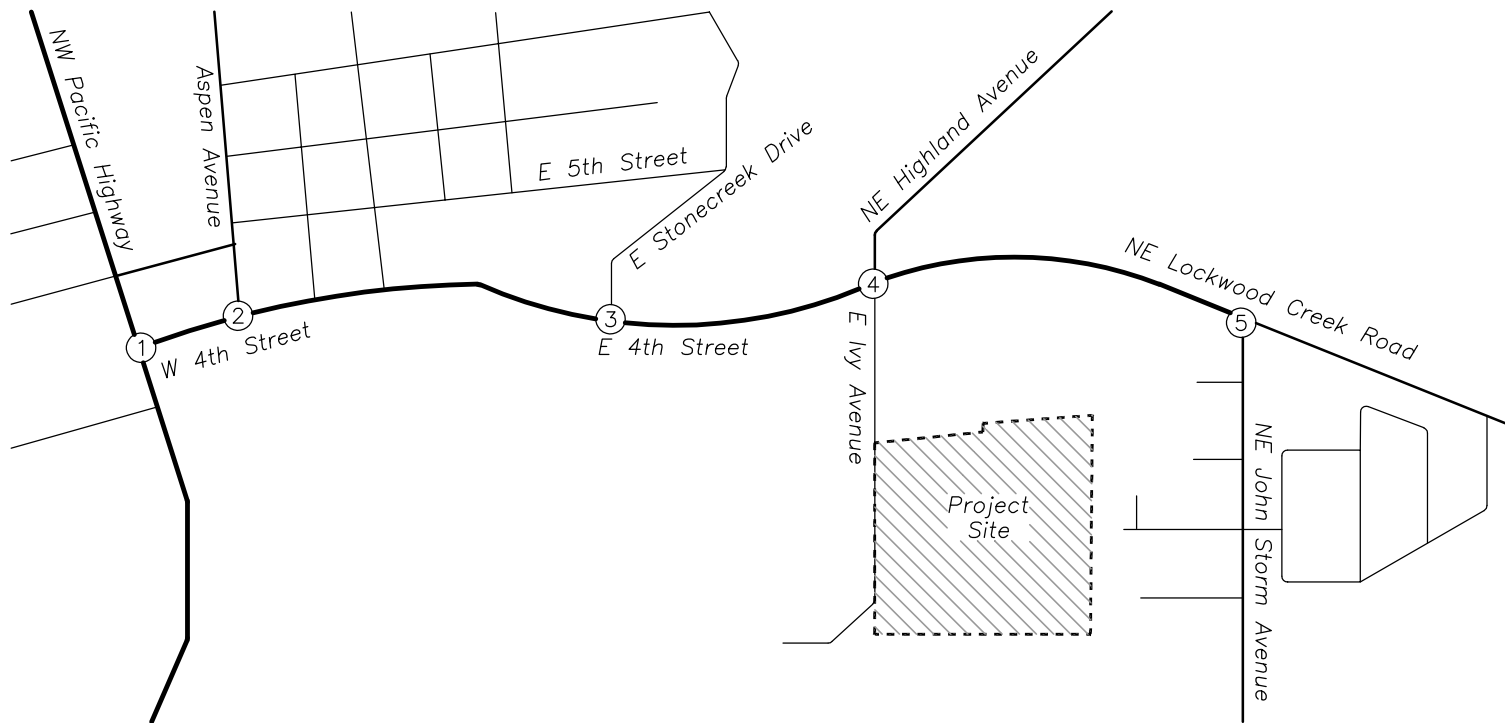
Traffic counts were conducted at the study intersections on Thursday, December 6th, 2018, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM. Data was used from each intersection’s respective morning and evening peak hours.

It should be noted that near the time of collecting traffic counts, the intersection of Pacific Highway at W 4th Street was undergoing reconstruction from a stop-controlled configuration to a roundabout. However, at the time of data collection all lanes at the roundabout intersection were open to traffic, whereby traffic within the area should be relatively unaltered from standard travel conditions.

Figure 2 on page 6 shows the existing morning and evening peak hour traffic volumes at the study intersections.

LEGEND

-  STUDY INTERSECTION
-  STOP SIGN/CONTROL
-  YIELD SIGN
-  ROUNDABOUT
-  BIKE LANE
-  PROJECT SITE
-  COLLECTOR ROADWAY
-  LOCAL ROADWAY

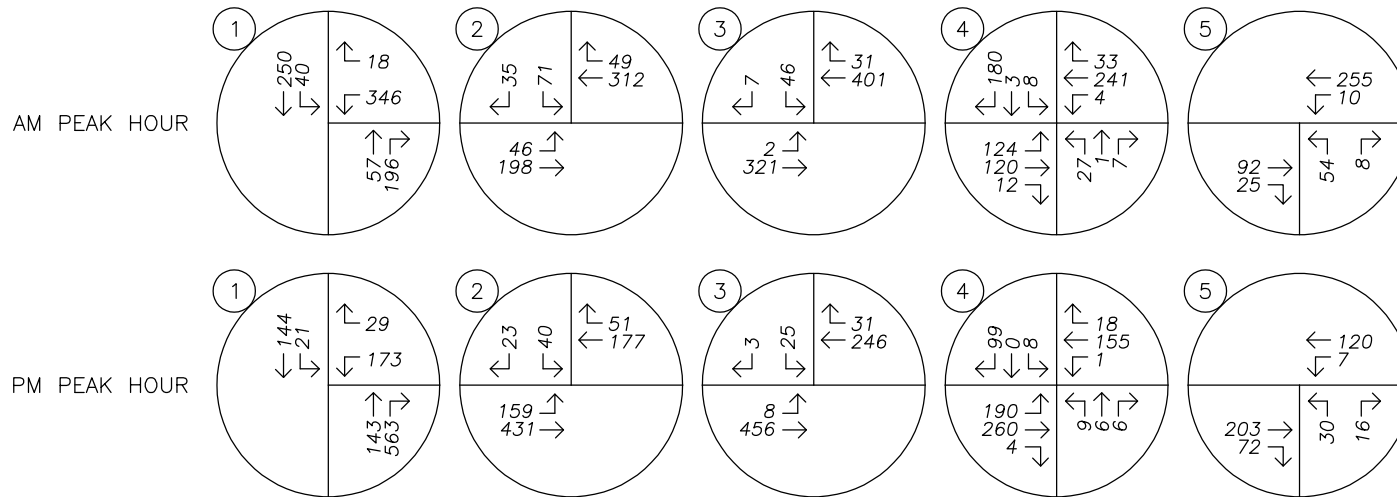
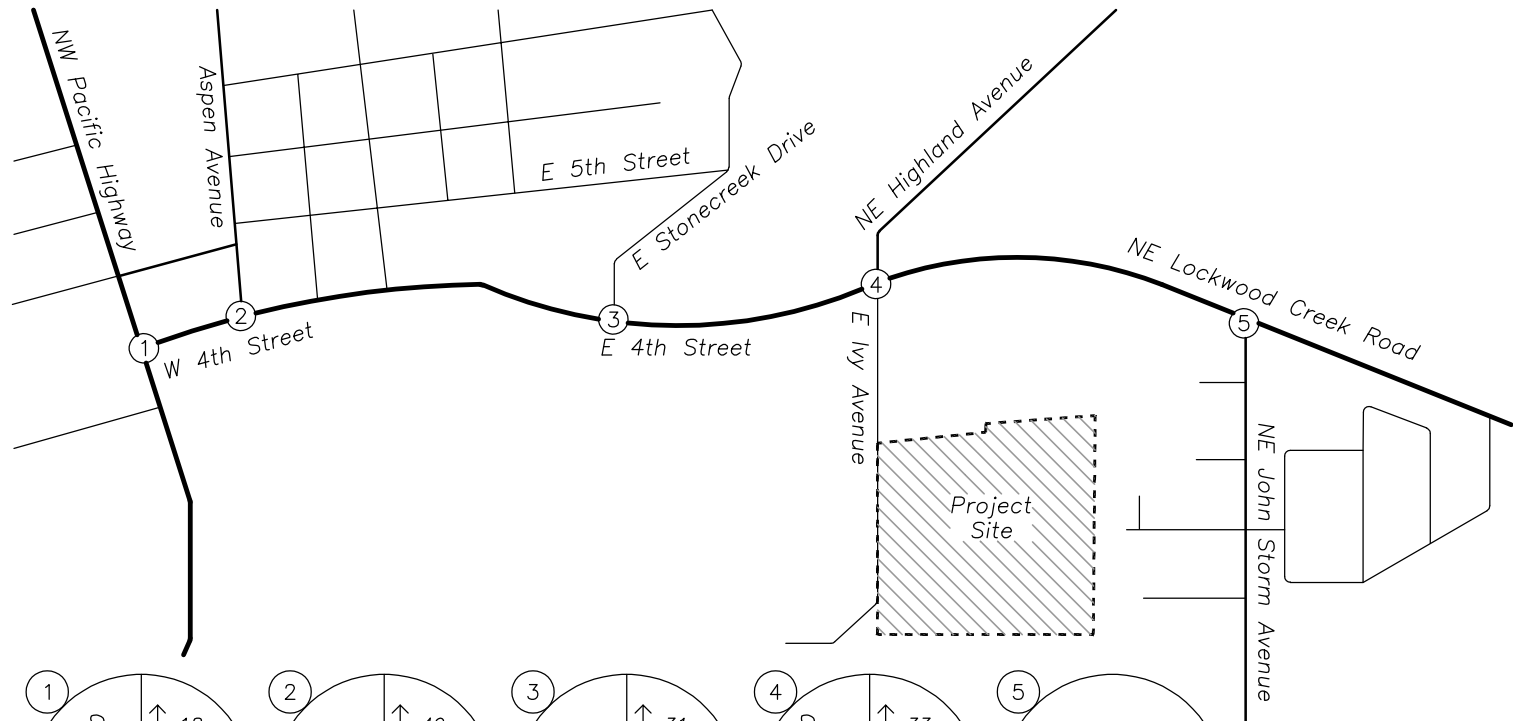


VICINITY MAP



FIGURE 1

PAGE 5



TRAFFIC VOLUMES
Existing Conditions
AM & PM Peak Hours



FIGURE
2

PAGE
6



Site Trips

Trip Generation

The proposed Holley Park Subdivision will include the construction of 39 single-family houses, removing one existing house for a net increase of 38 houses. To estimate the number of trips that are and will be generated under existing and proposed conditions, trip rates from the *Trip Generation Manual*¹ were used. Data from land-use codes 210, *Single-Family Detached Housing*, was used to estimate the existing and 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 an additional 28 morning peak hour trips, 38 evening peak hour trips, and 358 average weekday site trips. The trip generation estimates are summarized in Table 3 below. Detailed trip generation calculations are included in the technical appendix to this report.

Table 3: Proposed Development Trip Generation Summary

	ITE Code	Size	Morning Peak Hour			Evening Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
Existing Development	210	1 unit	0	1	1	1	0	1	10
Proposed Development	210	39 units	7	22	29	25	14	39	368
Net New Trips		38 units	7	21	28	24	14	38	358

Trip Distribution

The trip 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.

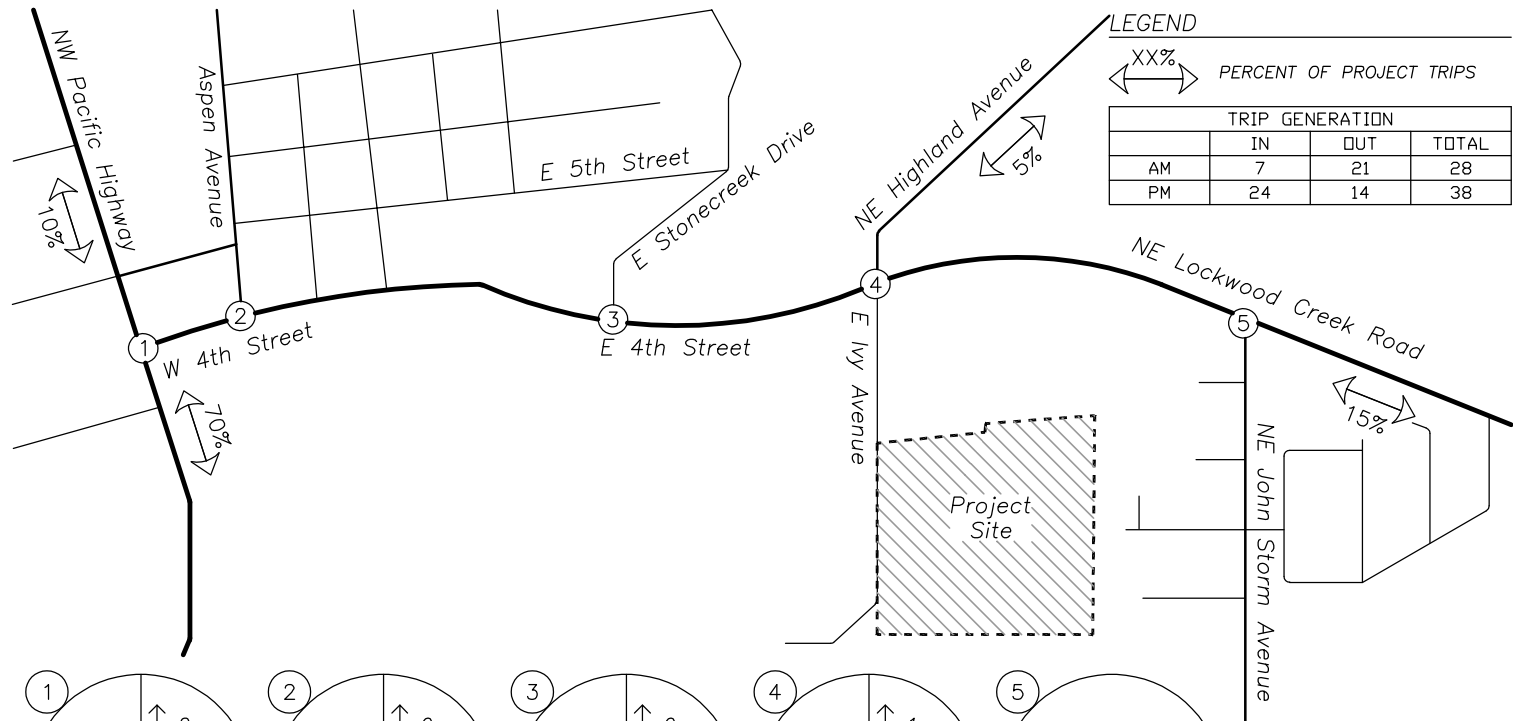
¹ Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition, 2017.



The following trip distribution was estimated and used for analysis:

- Approximately 70 percent of site trips will travel to/from the south along Pacific Highway;
- Approximately 15 percent of site trips will travel to/from the east along NE Lockwood Creek Road;
- Approximately 10 percent of site trips will travel to/from the north along Pacific Highway; and
- Approximately 5 percent of site trips will travel to/from the north along NE Highland Avenue.

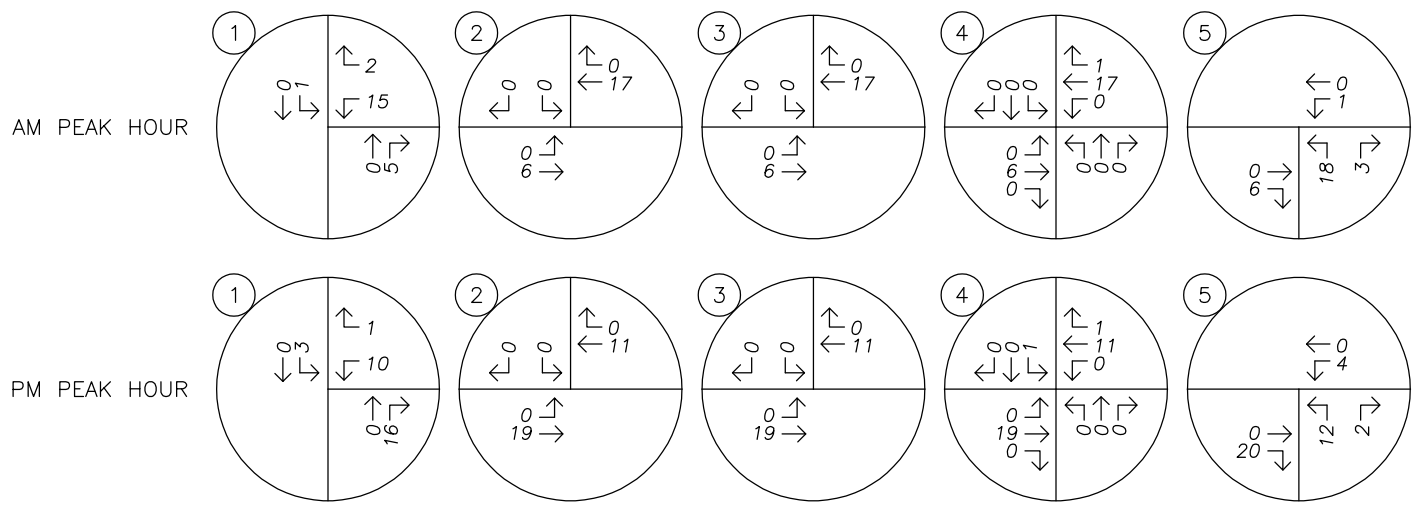
The trip assignment for the site trips generated by the proposed development are shown in Figure 3 on page 9 for the morning and evening peak hours.



LEGEND

XX% PERCENT OF PROJECT TRIPS

TRIP GENERATION			
	IN	OUT	TOTAL
AM	7	21	28
PM	24	14	38



SITE TRIP DISTRIBUTION & ASSIGNMENT
 Proposed Development Plan – Site Trips
 AM & PM Peak Hours





Future Traffic Volumes

2021 Background Volumes

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of near-term future traffic volumes is required. In order to approximate the future year 2021 traffic volumes at the study intersections, a compounded growth rate of two percent per year for an assumed buildout condition of three years was applied to the measured existing traffic volumes.

In addition to the traffic volume growth described above, there are three in-process developments that are currently approved for construction near the site vicinity and are expected to impact nearby study intersections. The in-process developments include the following:

- Sunrise Terrace Subdivision (approximately 20 percent complete);
- Stephens Hillside Farm Subdivision (approximately 0 percent complete); and
- La Center Middle School (approximately 0 percent complete).

The three in-process developments are currently not fully contributing trips to the transportation system, but may potentially be by the 2021 buildout year of the site. Additional trips corresponding to each in-process development were added to the year 2021 volumes approximated for each of the study intersections. To maintain a conservative analysis of operation at the study intersections, all in-process developments were assumed to be completed and occupied by year 2021.

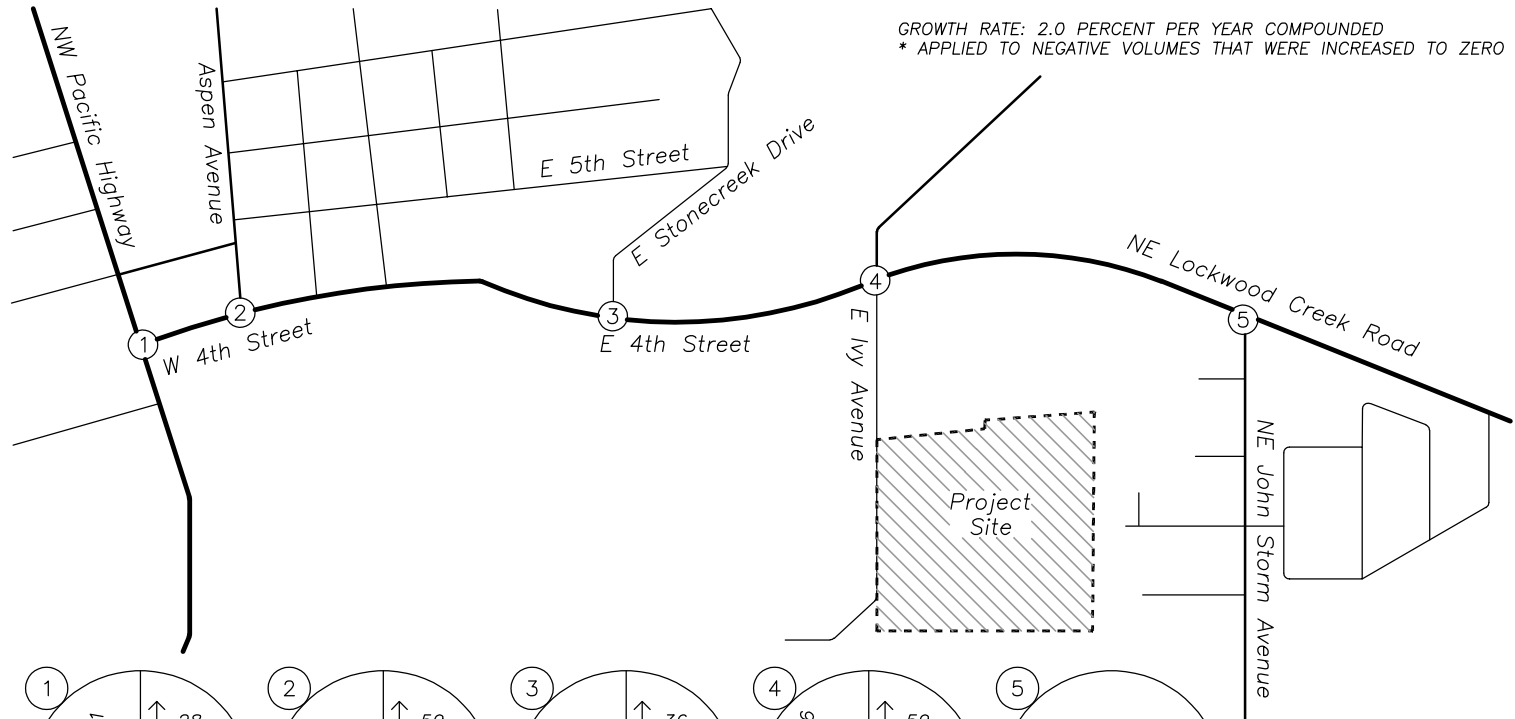
It should be noted that with the La Center Middle School project, some turning movement volumes at the intersection of NE Highland/Ivy Avenue at E 4th Street/NE Lockwood Creek Road were projected to decrease due to traffic rerouting. Therefore, turning movement volumes projected to be negative due to rerouted traffic were increased to zero.

Figure 4 on page 11 shows the projected year 2021 background traffic volumes at the study intersections during the morning and evening peak hours. A separate figure depicting in-process volumes is provided in the appendix to this report.

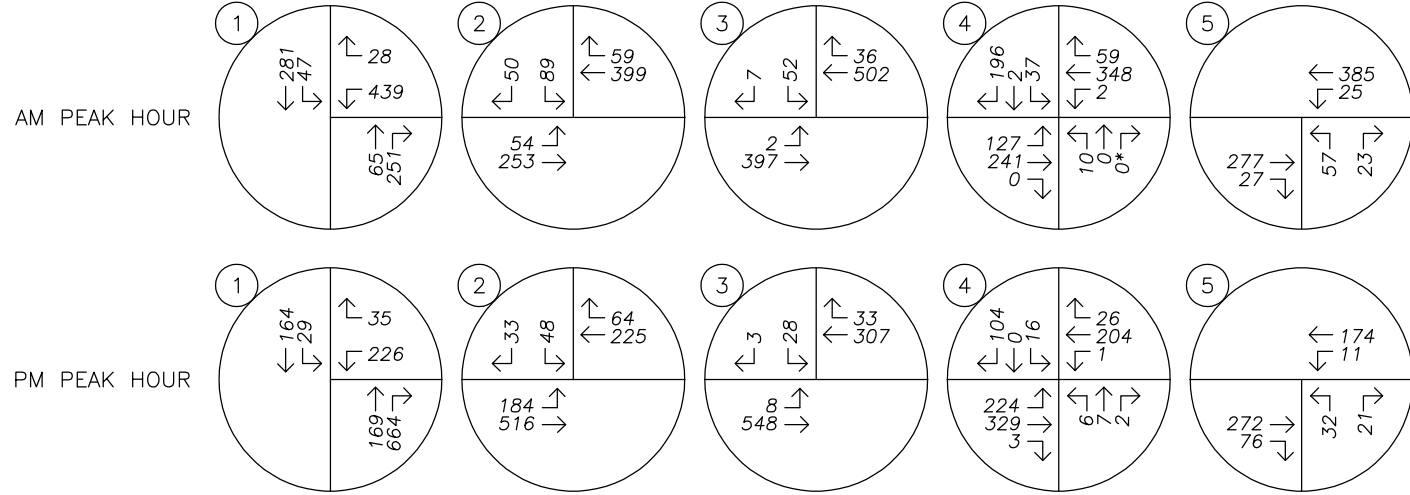
2021 Buildout Volumes

Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the projected year 2021 background traffic volumes to obtain the expected year 2021 site buildout volumes.

Figure 5 on page 12 show the projected year 2021 peak hour buildout traffic volumes at the study intersections during the morning and evening peak hours.

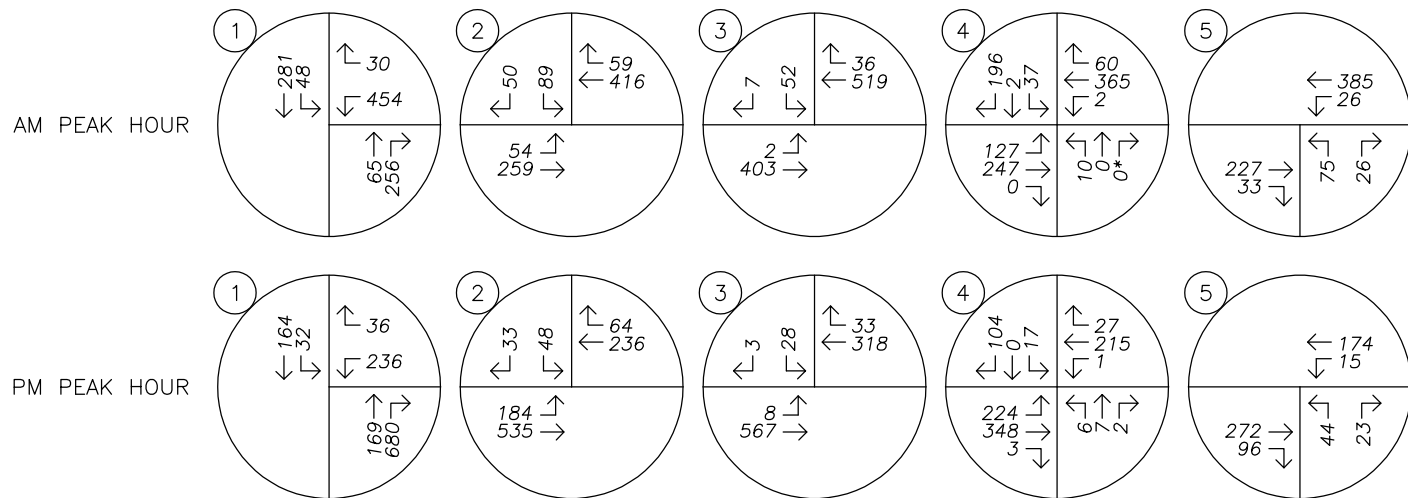
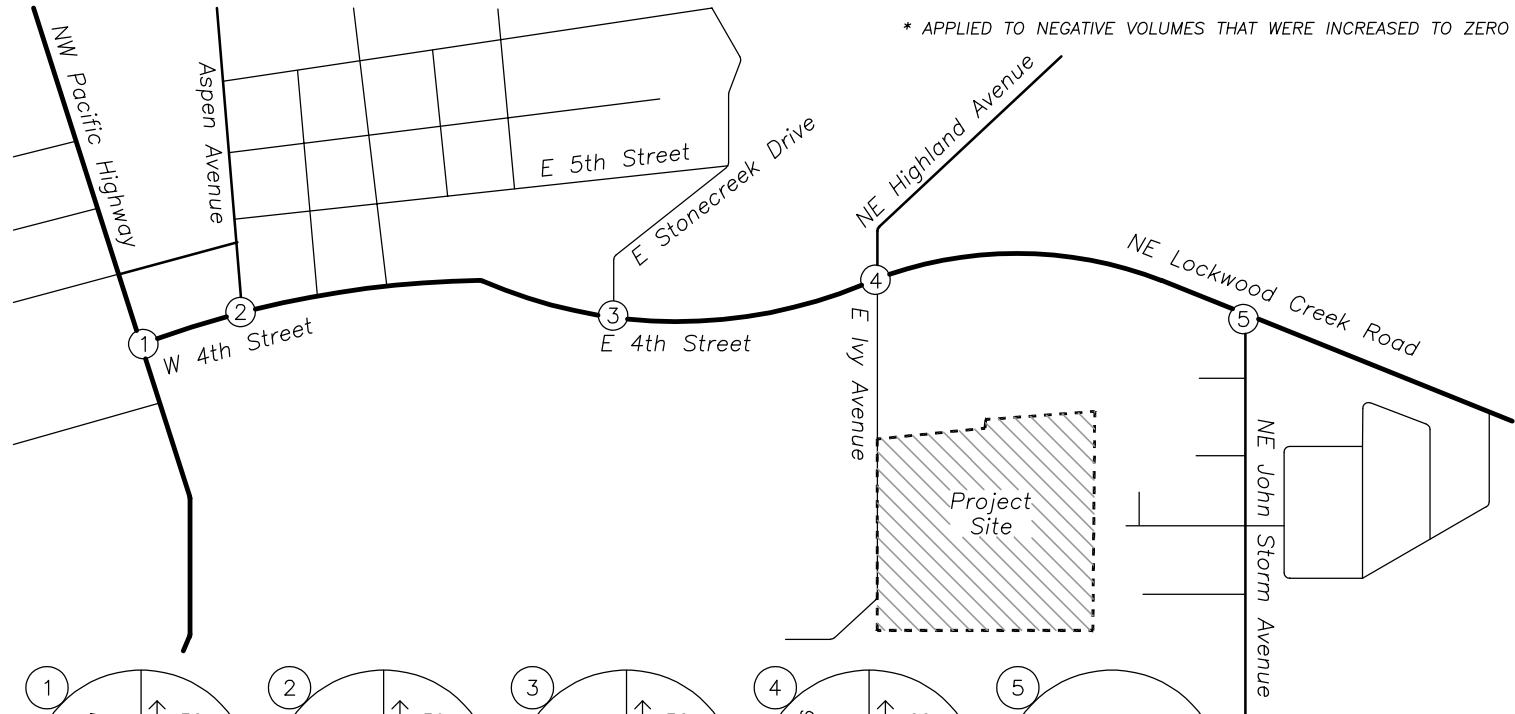


GROWTH RATE: 2.0 PERCENT PER YEAR COMPOUNDED
 * APPLIED TO NEGATIVE VOLUMES THAT WERE INCREASED TO ZERO



TRAFFIC VOLUMES
 Year 2021 Background Conditions
 AM & PM Peak Hours





TRAFFIC VOLUMES
 Year 2021 Buildout Conditions
 AM & PM Peak Hours





Safety Analysis

Crash Data Analysis

Using data obtained from the Washington Department of Transportation's (WSDOT) Crash Data and Reporting Branch, a review of the most recent available five years of crash history (January 2013 to December 2017) at the study intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection. Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak hour represents approximately 10 percent of the annual average daily traffic (AADT) at the intersection. Crash rates in excess of 1.0 crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

With regard to crash severity, WSDOT classifies crashes in the following categories:

- *No Apparent Injury* (NA);
- *Possible Injury* (P);
- *Suspected Minor Injury* (SM);
- *Suspected Serious Injury* (SS); and
- Fatality or Fatal Injury.

Table 5 provides a summary of crash types while Table 6 summarizes crash severities and rates for each of the study intersections. Crash data is included in the technical appendix to this report.



Table 4: Crash Type Summary

Intersection	Crash Type						Total Crashes
	Rear End	Turn	Angle	Fixed Object	Ped/Bike	Other	
1 Pacific Highway at W 4th Street	0	9	0	0	0	0	9
2 Aspen Avenue at E/W 4th Street	0	0	0	0	0	0	0
3 E Stonecreek Drive at E 4th Street	0	0	0	0	0	0	0
4 NE Highland/Ivy Ave at E 4th St/NE Lockwood Creek Rd	0	1	0	1	1	0	3
5 NE John Storm Avenue NE Lockwood Creek Road	0	0	0	0	0	0	0

Table 5: Crash Severity and Rate Summary

Intersection	Crash Severity						Total Crashes	AADT	Crash Rate
	NA	P	SM	SS	Fatal	Unknown			
1 Pacific Highway at W 4th Street	4	4	1	0	0	0	9	10,730	0.46
2 Aspen Avenue at E/W 4th Street	0	0	0	0	0	0	0	8,810	0.00
3 E Stonecreek Drive at E 4th Street	0	0	0	0	0	0	0	7,690	0.00
4 NE Highland/Ivy Ave at E 4th St/NE Lockwood Creek Rd	2	1	0	0	0	0	3	7,560	0.22
5 NE John Storm Avenue NE Lockwood Creek Road	0	0	0	0	0	0	0	4,480	0.00

Based on a review of the crash data, there was one crash which involved a pedestrian. The crash occurred at the intersection of NE Highland/Ivy Avenue at E 4th Street/NE Lockwood Creek Road where the driver of an eastbound truck failed to yield right-of-way to a pedestrian crossing at the intersection. The crash resulted in one person sustaining *Possible Injury*.

It should be noted that the intersection of Pacific Highway at W 4th Street was recently converted from two-way stop-control to a roundabout. Of the nine reported crashes at the intersection, eight involved left-turning vehicles. Since left-turning movements are no longer permitted at the intersection, it is expected that these types of collisions will occur with less frequency.



Based on the most recent five years of crash data, no significant trends or crash patterns were identified at any of the study intersections that are indicative of safety concerns.

Warrant Analysis

Left-turn lane and preliminary traffic signal warrants were examined for the study intersections where such treatments would be applicable.

A left-turn refuge lane is primarily a safety consideration for the major-street, removing left-turning vehicles from the through traffic stream. The left-turn lane warrants used were developed from the *National Cooperative Highway Research Project's (NCHRP) Report 457*. Turn lane warrants were evaluated based on the number of advancing and opposing vehicles as well as the number of turning vehicles, the travel speed, and the number of through lanes.

Left-turn lane warrants are not projected to be met for any of the applicable study intersections under any of the analysis scenarios through the 2021 buildout year of the proposed development. Accordingly, no new turn lanes are necessary or recommended.

Preliminary traffic signal warrants were examined for the unsignalized study intersections to determine whether the installation of a new traffic signal will be warranted by the 2021 site buildout year. Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met at any of the study intersections under any of the analysis scenarios.



Operational Analysis

Intersection Capacity Analysis

A capacity and delay analysis were conducted for each of the study intersections per the unsignalized intersection analysis methodologies in the *Highway Capacity Manual*² (HCM). Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates very little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

Per the *La Center Transportation Capital Facilities Plan* (2018), the following minimum operation standards apply at intersections under City jurisdiction:

- Signalized intersections, as a whole, are required to operate at LOS D or better with a v/c ratio of 0.95 or less during the highest one-hour period of an average weekday.
- Unsignalized intersections are required to operate at LOS E or better for all movements during the highest one-hour period of an average weekday.

It should be noted that the highest one-hour period for the intersections of Pacific Highway at W 4th Street and Aspen Avenue at E/W 4th Street occurs during the evening peak hour. The highest one-hour period for the other three intersections generally occurs during the morning peak hour (highest one-hour period for NE John Storm Avenue at NE Lockwood Creek Road under existing conditions occurs during the evening peak hour).

The v/c, delay, and LOS results of the capacity analysis are shown in Table 7 for the morning and evening peak hours. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

² Transportation Research Board, *Highway Capacity Manual*, 6th Edition, 2016.



Table 6: Intersection Capacity Analysis Summary

	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
1. Pacific Highway at W 4th Street						
Existing Conditions	A	6	0.32	A	6	0.43
2021 Background Conditions	A	7	0.39	A	6	0.52
2021 Buildout Conditions	A	7	0.41	A	7	0.53
2. Aspen Avenue at E/W 4th Street						
Existing Conditions	C	19	0.25	C	25	0.19
2021 Background Conditions	D	28	0.41	E	37	0.32
2021 Buildout Conditions	D	30	0.43	E	39	0.33
3. E Stonecreek Drive at E 4th Street						
Existing Conditions	C	22	0.25	C	16	0.08
2021 Background Conditions	D	33	0.38	C	19	0.11
2021 Buildout Conditions	E	35	0.40	C	19	0.12
4. NE Highland/Ivy Ave at E 4th St/NE Lockwood Creek Rd						
Existing Conditions	F	75	0.44	C	25	0.15
2021 Background Conditions	F	> 90	0.55	D	34	0.18
2021 Buildout Conditions	F	> 90	0.57	E	36	0.18
5. NE John Storm Avenue at NE Lockwood Creek Road						
Existing Conditions	B	14	0.19	B	11	0.08
2021 Background Conditions	D	25	0.41	B	12	0.11
2021 Buildout Conditions	D	31	0.53	B	13	0.14

BOLDED text indicates operation at LOS F.

Based on the results of the operational analysis, the intersection of NE Highland/Ivy Avenue at E 4th Street/NE Lockwood Creek Road is projected to operate at LOS F during the morning peak hour for all analysis scenarios. Further inspection of potential mitigation at the intersection is discussed within the following *Mitigation Analysis* section. All other study intersections are projected to operate acceptably for all analysis scenarios.



Mitigation Analysis

As determined within the *Intersection Capacity Analysis* section, the intersection of NE Highland/Ivy Avenue at E 4th Street/NE Lockwood Creek Road is projected to operate in excess of City of La Center standards. The *La Center Transportation Capital Facilities Plan* (CFP) was reviewed to determine any planned projects at the intersection.

Per the City's CFP, the intersection of NE Highland/Ivy Avenue at E 4th Street/NE Lockwood Creek Road was projected to operate at LOS F under existing conditions during the morning peak hour. Although the intersection is projected to operate in excess acceptable levels of operation, it was determined that high delays at the intersection would impact a small number of vehicles turning from the minor-street onto E 4th Street/NE Lockwood Creek Road. Under these conditions, it was assumed that drivers familiar with the area would generally avoid entering the intersection from the minor-street and reroute to other nearby streets/school access locations when high volumes of major-street traffic would be expected. No mitigation was recommended at this intersection per the CFP.

The CFP further described that the northbound left-turn at the intersection during the morning peak hour was currently and projected to operate at LOS F; however, the movement was expected to serve approximately 25 vehicles during the peak hour. Based on the analysis within this TIS and following the buildout of the planned La Center Middle School project, the northbound left-turn movement is projected to serve no 10 vehicles during the morning peak hour. Since the proposed development will not add additional traffic to this movement, no mitigation is necessary or recommended.



Conclusions

No significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns.

Left-turn lane warrants are not projected to be met for any of the applicable study intersections under any of the analysis scenarios through the 2021 buildout year of the proposed development.

Traffic signal warrants are not projected to be met at any of the study intersections under any of the analysis scenarios through the 2021 buildout year of the site.

Based on the results of the operational analysis, the intersection of NE Highland/Ivy Avenue at E 4th Street/NE Lockwood Creek Road is currently and projected to operate at LOS F during the morning peak hour. However, based on analyses and conclusions made within *La Center Transportation Capital Facilities Plan* regarding operation and mitigation at the intersection, no mitigation is necessary or recommended in with buildout of the Holley Park Subdivision.



Appendix

HOLLEY PARK
 SUBDIVISION
 LA CENTER WASHINGTON

LAYOUT 5

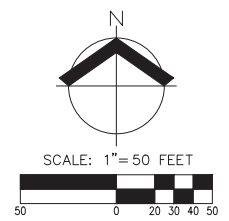
DESIGNED BY: DAW
 DRAWN BY: DAW
 CHECKED BY: SMH
 SCALE: AS NOTED
 DATE: 2/13/19

REVISIONS

JOB NUMBER

SHEET

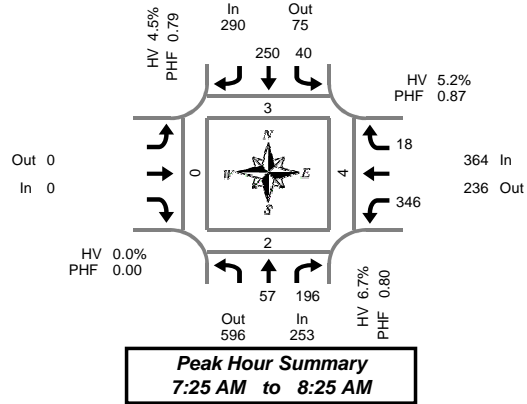
L5



Total Vehicle Summary



Clay Carney
(503) 833-2740



Pacific Hwy & W 4th St

Thursday, December 06, 2018

7:00 AM to 9:00 AM

5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Interval Total	Pedestrians Crosswalk			
	T	R	Bikes	L	T	Bikes			Bikes	L	R	Bikes		North	South	East	West
7:00 AM	1	8	0	1	24	0			0	24	0	0	58	0	0	0	0
7:05 AM	3	9	0	2	24	0			0	24	1	0	63	0	0	0	0
7:10 AM	3	7	0	1	16	0			0	26	0	0	53	0	0	0	0
7:15 AM	3	13	0	1	26	0			0	31	0	0	74	0	2	0	0
7:20 AM	5	8	0	3	28	0			0	21	1	0	66	0	0	0	0
7:25 AM	3	15	0	3	22	0			0	44	1	0	88	0	0	0	0
7:30 AM	2	12	0	4	23	0			0	22	2	0	65	0	0	0	0
7:35 AM	5	19	0	2	27	0			0	30	1	0	84	2	0	0	0
7:40 AM	7	13	0	2	30	0			0	22	2	0	76	0	0	1	0
7:45 AM	9	22	0	3	28	0			0	19	0	0	81	0	2	0	0
7:50 AM	4	20	0	3	25	0			0	25	0	0	77	1	0	1	0
7:55 AM	5	19	0	3	17	0			0	29	2	0	75	0	0	0	0
8:00 AM	6	11	0	5	13	0			0	25	4	0	64	0	0	1	0
8:05 AM	2	20	0	5	18	0			0	29	2	0	76	0	0	0	0
8:10 AM	3	18	0	5	17	0			0	35	0	0	78	0	0	1	0
8:15 AM	4	15	0	3	11	0			0	36	3	0	72	0	0	0	0
8:20 AM	7	12	0	2	19	0			0	30	1	0	71	0	0	0	0
8:25 AM	2	23	0	1	19	0			0	29	1	0	75	0	0	0	0
8:30 AM	4	9	0	0	19	0			0	26	2	0	60	0	0	0	0
8:35 AM	12	14	0	1	21	0			0	22	2	0	72	0	0	1	0
8:40 AM	5	14	0	1	19	0			0	19	0	0	58	0	0	1	0
8:45 AM	7	10	0	1	16	0			0	11	0	0	45	0	0	0	0
8:50 AM	3	16	0	0	10	0			0	17	2	0	48	0	1	0	0
8:55 AM	8	15	0	3	18	0			0	17	2	0	63	0	1	0	0
Total Survey	113	342	0	55	490	0			0	613	29	0	1,642	3	6	6	0

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Interval Total	Pedestrians Crosswalk			
	T	R	Bikes	L	T	Bikes			Bikes	L	R	Bikes		North	South	East	West
7:00 AM	7	24	0	4	64	0			0	74	1	0	174	0	0	0	0
7:15 AM	11	36	0	7	76	0			0	96	2	0	228	0	2	0	0
7:30 AM	14	44	0	8	80	0			0	74	5	0	225	2	0	1	0
7:45 AM	18	61	0	9	70	0			0	73	2	0	233	1	2	1	0
8:00 AM	11	49	0	15	48	0			0	89	6	0	218	0	0	2	0
8:15 AM	13	50	0	6	49	0			0	95	5	0	218	0	0	0	0
8:30 AM	21	37	0	2	59	0			0	67	4	0	190	0	0	2	0
8:45 AM	18	41	0	4	44	0			0	45	4	0	156	0	2	0	0
Total Survey	113	342	0	55	490	0			0	613	29	0	1,642	3	6	6	0

Peak Hour Summary

7:25 AM to 8:25 AM

By Approach	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Total	Pedestrians Crosswalk			
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total		North	South	East	West
Volume	253	596	849	0	290	75	365	0	0	0	0	0	364	236	600	0	907
%HV	6.7%			4.5%			0.0%			5.2%			5.4%				
PHF	0.80			0.79			0.00			0.87			0.94				

By Movement	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Total				
	T	R	Total	L	T	Total			Total	L	R	Total					
Volume	57	196	253	40	250	290			0	346	18	364	907				
%HV	NA	10.5%	5.6%	6.7%	10.0%	3.6%	NA	4.5%	NA	NA	NA	0.0%	5.5%	NA	0.0%	5.2%	5.4%
PHF	0.68	0.80	0.80	0.67	0.74	0.79			0.00	0.86	0.56	0.87	0.94				

Rolling Hour Summary

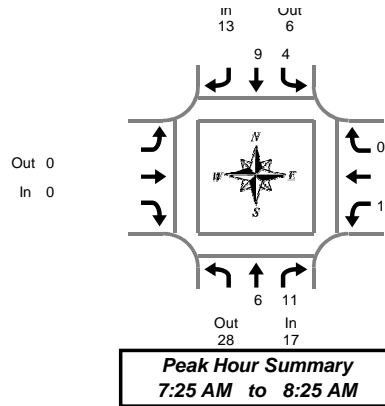
7:00 AM to 9:00 AM

Interval Start Time	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Interval Total	Pedestrians Crosswalk			
	T	R	Bikes	L	T	Bikes			Bikes	L	R	Bikes		North	South	East	West
7:00 AM	50	165	0	28	290	0			0	317	10	0	860	3	4	2	0
7:15 AM	54	190	0	39	274	0			0	332	15	0	904	3	4	4	0
7:30 AM	56	204	0	38	247	0			0	331	18	0	894	3	2	4	0
7:45 AM	63	197	0	32	226	0			0	324	17	0	859	1	2	5	0
8:00 AM	63	177	0	27	200	0			0	296	19	0	782	0	2	4	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Pacific Hwy & W 4th St

Thursday, December 06, 2018
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Interval Total
	T	R	Total	L	T	Total			Total	L	R	Total	
7:00 AM	0	2	2	0	1	1			0	0	0	0	3
7:05 AM	0	3	3	0	0	0			0	1	0	1	4
7:10 AM	2	3	5	0	0	0			0	1	0	1	6
7:15 AM	0	1	1	0	0	0			0	0	0	0	1
7:20 AM	1	0	1	0	0	0			0	0	0	0	1
7:25 AM	0	0	0	0	1	1			0	0	0	0	1
7:30 AM	0	0	0	0	0	0			0	0	0	0	0
7:35 AM	2	0	2	0	0	0			0	0	0	0	2
7:40 AM	1	1	2	0	2	2			0	0	0	0	4
7:45 AM	0	0	0	1	2	3			0	0	0	0	3
7:50 AM	1	1	2	0	2	2			0	1	0	1	5
7:55 AM	0	2	2	1	0	1			0	0	0	0	3
8:00 AM	1	1	2	0	0	0			0	0	0	0	2
8:05 AM	0	1	1	0	1	1			0	4	0	4	6
8:10 AM	0	1	1	1	1	2			0	10	0	10	13
8:15 AM	1	3	4	0	0	0			0	3	0	3	7
8:20 AM	0	1	1	1	0	1			0	1	0	1	3
8:25 AM	0	2	2	0	0	0			0	0	0	0	2
8:30 AM	0	0	0	0	1	1			0	0	0	0	1
8:35 AM	0	1	1	0	0	0			0	1	0	1	2
8:40 AM	0	0	0	0	1	1			0	1	0	1	2
8:45 AM	0	0	0	0	0	0			0	0	0	0	0
8:50 AM	1	3	4	0	0	0			0	1	0	1	5
8:55 AM	1	2	3	0	0	0			0	1	0	1	4
Total Survey	11	28	39	4	12	16			0	25	0	25	80

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Interval Total
	T	R	Total	L	T	Total			Total	L	R	Total	
7:00 AM	2	8	10	0	1	1			0	2	0	2	13
7:15 AM	1	1	2	0	1	1			0	0	0	0	3
7:30 AM	3	1	4	0	2	2			0	0	0	0	6
7:45 AM	1	3	4	2	4	6			0	1	0	1	11
8:00 AM	1	3	4	1	2	3			0	14	0	14	21
8:15 AM	1	6	7	1	0	1			0	4	0	4	12
8:30 AM	0	1	1	0	2	2			0	2	0	2	5
8:45 AM	2	5	7	0	0	0			0	2	0	2	9
Total Survey	11	28	39	4	12	16			0	25	0	25	80

Heavy Vehicle Peak Hour Summary 7:25 AM to 8:25 AM

By Approach	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	17	28	45	13	6	19	0	0	0	19	15	34	49
PHF	0.71			0.46			0.00			0.28			0.47

By Movement	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Total
	T	R	Total	L	T	Total			Total	L	R	Total	
Volume	6	11	17	4	9	13			0	19	0	19	49
PHF	0.50	0.55	0.71	0.50	0.38	0.46			0.00	0.28	0.00	0.28	0.47

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Interval Total
	T	R	Total	L	T	Total			Total	L	R	Total	
7:00 AM	7	13	20	2	8	10			0	3	0	3	33
7:15 AM	6	8	14	3	9	12			0	15	0	15	41
7:30 AM	6	13	19	4	8	12			0	19	0	19	50
7:45 AM	3	13	16	4	8	12			0	21	0	21	49
8:00 AM	4	15	19	2	4	6			0	22	0	22	47

Peak Hour Summary

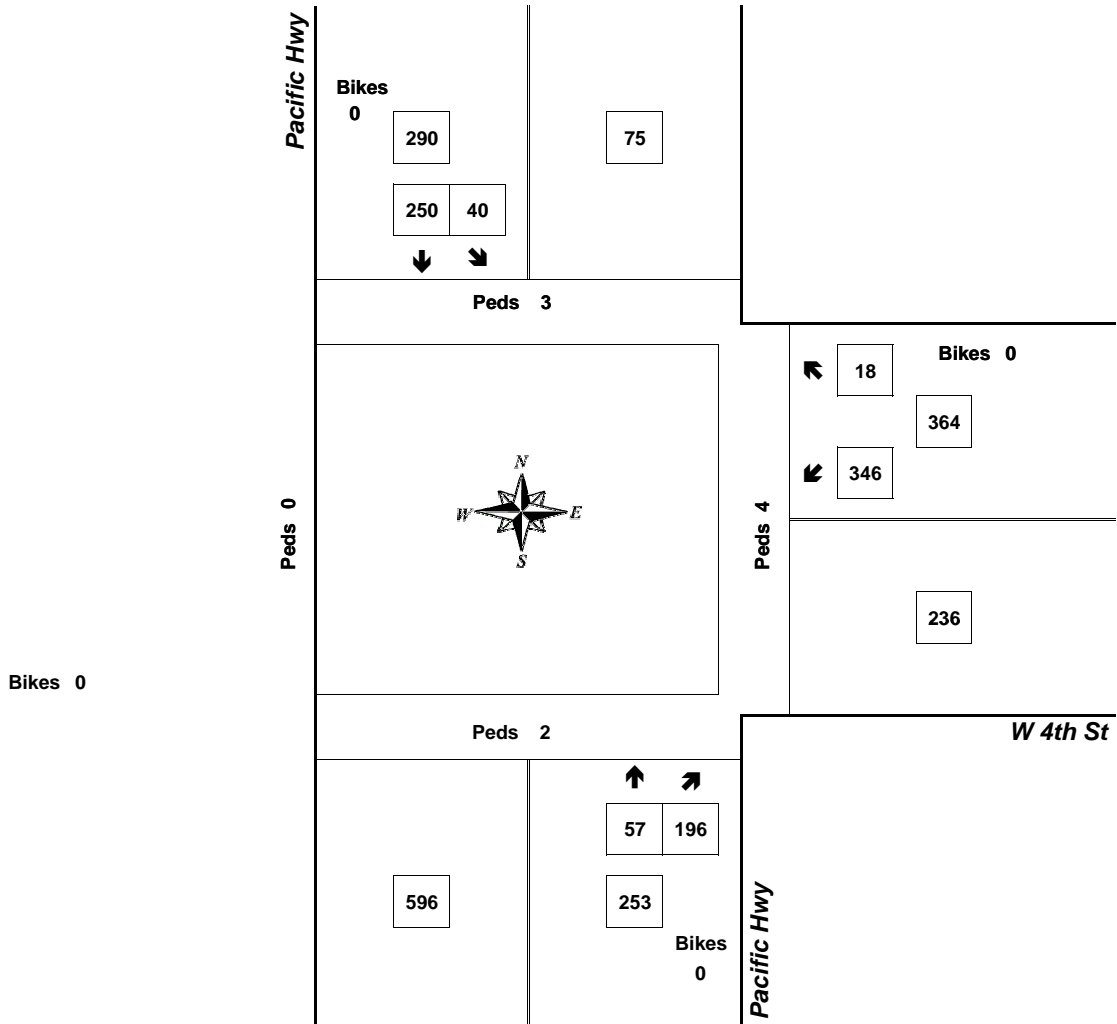


Clay Carney
(503) 833-2740

Pacific Hwy & W 4th St

7:25 AM to 8:25 AM

Thursday, December 06, 2018



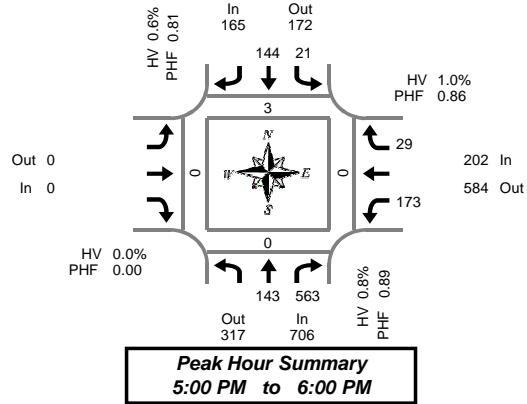
Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.87	5.2%	364
NB	0.80	6.7%	253
SB	0.79	4.5%	290
Intersection	0.94	5.4%	907

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Pacific Hwy & W 4th St

Thursday, December 06, 2018

4:00 PM to 6:00 PM

5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Interval Total	Pedestrians Crosswalk			
	T	R	Bikes	L	T	Bikes			Bikes	L	R	Bikes		North	South	East	West
4:00 PM	11	47	0	4	9	0			0	23	3	0	97	0	0	0	0
4:05 PM	9	44	0	2	10	0			0	18	1	0	84	0	0	0	0
4:10 PM	7	43	0	1	10	0			0	16	4	0	81	0	0	0	0
4:15 PM	9	40	0	0	16	0			0	19	1	0	85	2	0	0	0
4:20 PM	8	45	0	1	14	0			0	13	0	0	81	0	0	0	0
4:25 PM	12	37	0	2	12	0			0	21	6	0	90	0	0	0	0
4:30 PM	17	50	0	3	16	0			0	16	1	0	103	0	0	0	0
4:35 PM	13	40	0	1	4	0			0	20	1	0	79	0	0	0	0
4:40 PM	15	37	0	1	12	0			0	17	2	0	84	0	0	0	0
4:45 PM	10	35	0	4	10	0			0	10	1	0	70	0	0	0	0
4:50 PM	17	38	0	3	9	0			0	19	2	0	88	1	0	0	0
4:55 PM	5	42	0	3	10	0			0	9	5	0	74	2	0	0	0
5:00 PM	10	45	0	1	8	0			0	9	5	0	78	1	0	0	0
5:05 PM	16	41	0	2	18	0			0	18	2	0	97	0	0	0	0
5:10 PM	6	35	0	0	13	0			0	19	3	0	76	0	0	0	0
5:15 PM	14	50	0	2	16	0			0	17	0	0	99	1	0	0	0
5:20 PM	13	50	0	1	12	0			0	15	2	0	93	0	0	0	0
5:25 PM	11	51	0	1	10	0			0	9	3	0	85	1	0	0	0
5:30 PM	9	61	0	3	11	0			0	17	3	0	104	0	0	0	0
5:35 PM	17	49	0	3	10	0			0	14	2	0	95	0	0	0	0
5:40 PM	8	47	0	2	11	0			0	16	3	0	87	0	0	0	0
5:45 PM	17	47	0	2	12	0			0	10	2	0	90	0	0	0	0
5:50 PM	12	44	0	3	12	0			0	17	4	0	92	0	0	0	0
5:55 PM	10	43	0	1	11	0			0	12	0	0	77	0	0	0	0
Total Survey	276	1,061	0	46	276	0			0	374	56	0	2,089	8	0	0	0

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Interval Total	Pedestrians Crosswalk			
	T	R	Bikes	L	T	Bikes			Bikes	L	R	Bikes		North	South	East	West
4:00 PM	27	134	0	7	29	0			0	57	8	0	262	0	0	0	0
4:15 PM	29	122	0	3	42	0			0	53	7	0	256	2	0	0	0
4:30 PM	45	127	0	5	32	0			0	53	4	0	266	0	0	0	0
4:45 PM	32	115	0	10	29	0			0	38	8	0	232	3	0	0	0
5:00 PM	32	121	0	3	39	0			0	46	10	0	251	1	0	0	0
5:15 PM	38	151	0	4	38	0			0	41	5	0	277	2	0	0	0
5:30 PM	34	157	0	8	32	0			0	47	8	0	286	0	0	0	0
5:45 PM	39	134	0	6	35	0			0	39	6	0	259	0	0	0	0
Total Survey	276	1,061	0	46	276	0			0	374	56	0	2,089	8	0	0	0

Peak Hour Summary

5:00 PM to 6:00 PM

By Approach	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Total	Pedestrians Crosswalk						
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total		North	South	East	West			
Volume	706	317	1,023	0	165	172	337	0	0	0	0	202	584	786	0	1,073	3	0	0	0
%HV	0.8%			0.6%			0.0%			1.0%			0.8%							
PHF	0.89			0.81			0.00			0.86			0.94							

By Movement	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Total				
	T	R	Total	L	T	Total			Total	L	R	Total					
Volume	143	563	706	21	144	165			0	173	29	202	1,073				
%HV	NA	0.7%	0.9%	0.8%	0.0%	0.7%	NA	0.6%	NA	NA	NA	0.0%	1.2%	NA	0.0%	1.0%	0.8%
PHF	0.85	0.87	0.89	0.66	0.77	0.81			0.00	0.80	0.73	0.86	0.94				

Rolling Hour Summary

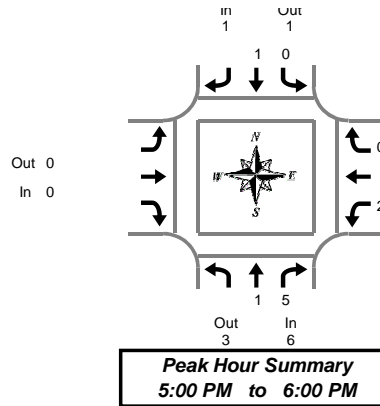
4:00 PM to 6:00 PM

Interval Start Time	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Interval Total	Pedestrians Crosswalk			
	T	R	Bikes	L	T	Bikes			Bikes	L	R	Bikes		North	South	East	West
4:00 PM	133	498	0	25	132	0			0	201	27	0	1,016	5	0	0	0
4:15 PM	138	485	0	21	142	0			0	190	29	0	1,005	6	0	0	0
4:30 PM	147	514	0	22	138	0			0	178	27	0	1,026	6	0	0	0
4:45 PM	136	544	0	25	138	0			0	172	31	0	1,046	6	0	0	0
5:00 PM	143	563	0	21	144	0			0	173	29	0	1,073	3	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Pacific Hwy & W 4th St

Thursday, December 06, 2018
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Interval Total
	T	R	Total	L	T	Total			Total	L	R	Total	
4:00 PM	1	1	2	0	0	0			0	3	0	3	5
4:05 PM	0	2	2	0	2	2			0	1	0	1	5
4:10 PM	1	0	1	0	0	0			0	1	0	1	2
4:15 PM	0	0	0	0	0	0			0	2	0	2	2
4:20 PM	1	0	1	0	0	0			0	2	0	2	3
4:25 PM	1	0	1	0	1	1			0	0	0	0	2
4:30 PM	0	3	3	0	0	0			0	0	0	0	3
4:35 PM	0	2	2	0	0	0			0	1	0	1	3
4:40 PM	0	1	1	0	0	0			0	2	0	2	3
4:45 PM	0	0	0	0	0	0			0	0	0	0	0
4:50 PM	0	0	0	0	0	0			0	0	0	0	0
4:55 PM	1	0	1	0	0	0			0	0	0	0	1
5:00 PM	0	0	0	0	0	0			0	0	0	0	0
5:05 PM	0	1	1	0	0	0			0	0	0	0	1
5:10 PM	0	0	0	0	0	0			0	1	0	1	1
5:15 PM	0	0	0	0	0	0			0	0	0	0	0
5:20 PM	0	0	0	0	0	0			0	0	0	0	0
5:25 PM	1	1	2	0	0	0			0	1	0	1	3
5:30 PM	0	1	1	0	0	0			0	0	0	0	1
5:35 PM	0	1	1	0	0	0			0	0	0	0	1
5:40 PM	0	0	0	0	0	0			0	0	0	0	0
5:45 PM	0	0	0	0	0	0			0	0	0	0	0
5:50 PM	0	0	0	0	1	1			0	0	0	0	1
5:55 PM	0	1	1	0	0	0			0	0	0	0	1
Total Survey	6	14	20	0	4	4			0	14	0	14	38

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Interval Total
	T	R	Total	L	T	Total			Total	L	R	Total	
4:00 PM	2	3	5	0	2	2			0	5	0	5	12
4:15 PM	2	0	2	0	1	1			0	4	0	4	7
4:30 PM	0	6	6	0	0	0			0	3	0	3	9
4:45 PM	1	0	1	0	0	0			0	0	0	0	1
5:00 PM	0	1	1	0	0	0			0	1	0	1	2
5:15 PM	1	1	2	0	0	0			0	1	0	1	3
5:30 PM	0	2	2	0	0	0			0	0	0	0	2
5:45 PM	0	1	1	0	1	1			0	0	0	0	2
Total Survey	6	14	20	0	4	4			0	14	0	14	38

Heavy Vehicle Peak Hour Summary 5:00 PM to 6:00 PM

By Approach	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	6	3	9	1	1	2	0	0	0	2	5	7	9
PHF	0.38			0.25			0.00			0.50			0.45

By Movement	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Total
	T	R	Total	L	T	Total			Total	L	R	Total	
Volume	1	5	6	0	1	1			0	2	0	2	9
PHF	0.25	0.42	0.38	0.00	0.25	0.25			0.00	0.50	0.00	0.50	0.45

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound Pacific Hwy			Southbound Pacific Hwy			Eastbound W 4th St			Westbound W 4th St			Interval Total
	T	R	Total	L	T	Total			Total	L	R	Total	
4:00 PM	5	9	14	0	3	3			0	12	0	12	29
4:15 PM	3	7	10	0	1	1			0	8	0	8	19
4:30 PM	2	8	10	0	0	0			0	5	0	5	15
4:45 PM	2	4	6	0	0	0			0	2	0	2	8
5:00 PM	1	5	6	0	1	1			0	2	0	2	9

Peak Hour Summary

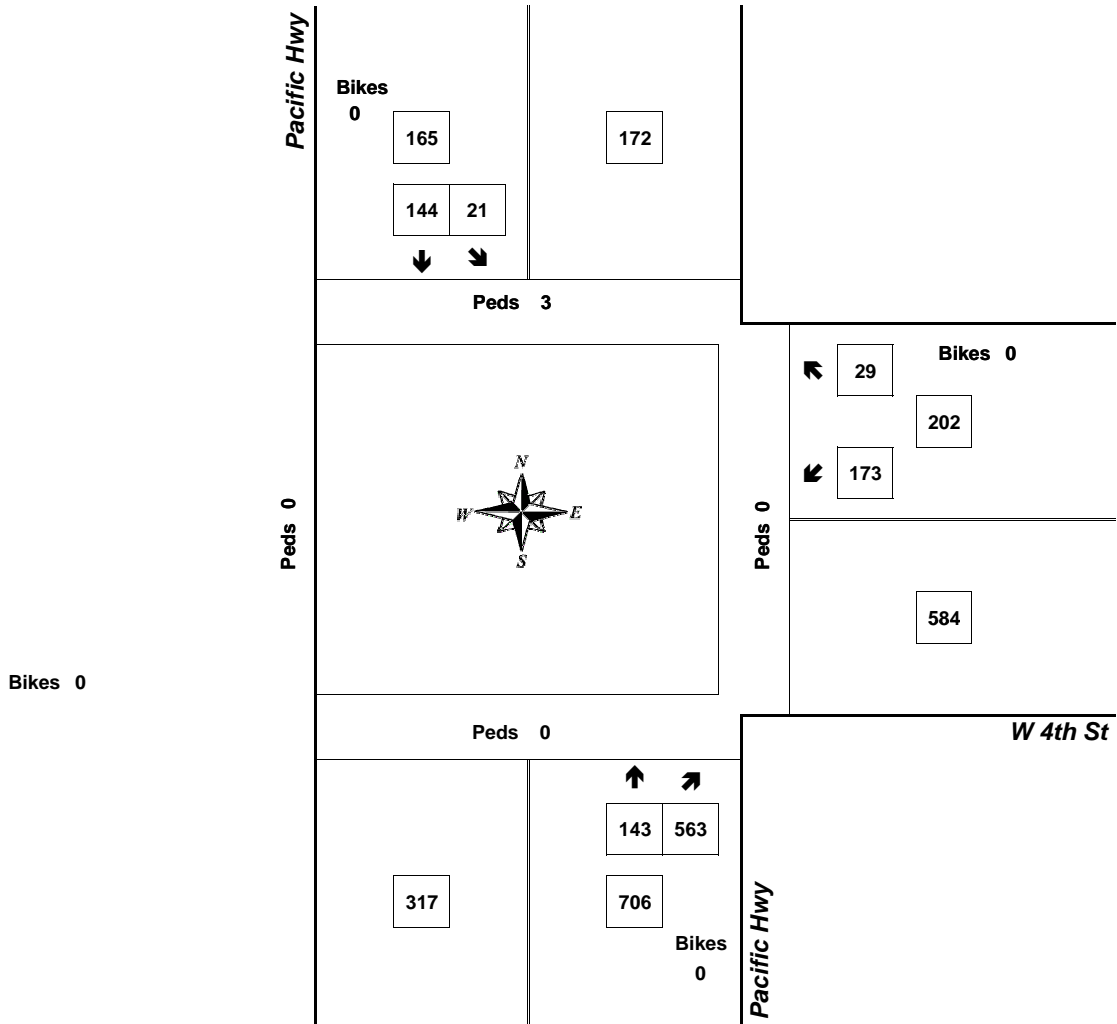


Clay Carney
(503) 833-2740

Pacific Hwy & W 4th St

5:00 PM to 6:00 PM

Thursday, December 06, 2018



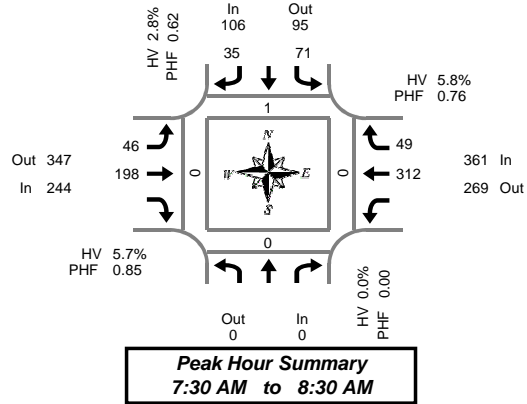
Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.86	1.0%	202
NB	0.89	0.8%	706
SB	0.81	0.6%	165
Intersection	0.94	0.8%	1,073

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Aspen Ave & E 4th St

Thursday, December 06, 2018

7:00 AM to 9:00 AM

5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Aspen Ave			Southbound Aspen Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	In	Out	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes		North	South	East	West
7:00 AM	0	2	0	2	0	1	6	0	26	2	0	39	1	0	0	1	
7:05 AM	0	2	0	2	0	1	12	0	20	0	0	37	0	0	0	0	
7:10 AM	0	2	0	2	0	0	7	0	27	2	0	40	0	0	0	0	
7:15 AM	0	0	1	1	0	2	11	0	27	0	0	41	0	0	0	0	
7:20 AM	0	2	3	0	0	10	10	0	21	1	0	37	0	0	0	0	
7:25 AM	0	1	5	0	6	12	0	0	36	1	0	61	0	0	0	0	
7:30 AM	0	2	1	0	3	13	0	0	27	1	0	47	0	0	0	0	
7:35 AM	0	4	7	0	2	21	0	0	20	1	0	55	0	0	0	0	
7:40 AM	0	2	2	0	1	13	0	0	18	3	0	39	0	0	0	0	
7:45 AM	0	6	0	0	5	15	0	0	22	3	0	51	0	0	0	0	
7:50 AM	0	10	4	0	6	21	0	0	22	6	0	69	0	0	0	0	
7:55 AM	0	6	5	0	3	22	0	0	22	5	0	63	0	0	0	0	
8:00 AM	0	11	5	0	1	14	0	0	24	3	0	58	0	0	0	0	
8:05 AM	0	8	2	0	4	20	0	0	32	4	0	70	1	0	0	0	
8:10 AM	0	15	2	0	4	18	0	0	31	4	0	74	0	0	0	0	
8:15 AM	0	4	1	0	7	15	0	0	39	8	0	74	0	0	0	0	
8:20 AM	0	2	2	0	5	8	0	0	27	5	0	49	0	0	0	0	
8:25 AM	0	1	4	0	5	18	0	0	28	6	0	62	0	0	0	0	
8:30 AM	0	2	6	0	5	7	0	0	21	5	0	46	0	0	0	0	
8:35 AM	0	1	1	0	1	10	0	0	24	4	0	41	0	0	0	0	
8:40 AM	0	3	3	0	6	13	0	0	15	3	0	43	0	0	0	0	
8:45 AM	0	1	1	0	4	8	0	0	12	1	0	27	0	0	0	0	
8:50 AM	0	3	2	0	2	12	0	0	17	3	0	39	0	0	0	0	
8:55 AM	0	0	2	0	3	16	0	0	14	1	0	36	0	0	0	0	
Total Survey			0	90	65	0	77	322	0	572	72	0	1,198	2	0	0	1

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Aspen Ave			Southbound Aspen Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	In	Out	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes		North	South	East	West
7:00 AM	0	6	0	6	0	2	25	0	73	4	0	116	1	0	0	1	
7:15 AM	0	3	9	0	8	33	0	0	84	2	0	139	0	0	0	0	
7:30 AM	0	8	10	0	6	47	0	0	65	5	0	141	0	0	0	0	
7:45 AM	0	22	9	0	14	58	0	0	66	14	0	183	0	0	0	0	
8:00 AM	0	34	9	0	9	52	0	0	87	11	0	202	1	0	0	0	
8:15 AM	0	7	7	0	17	41	0	0	94	19	0	185	0	0	0	0	
8:30 AM	0	6	10	0	12	30	0	0	60	12	0	130	0	0	0	0	
8:45 AM	0	4	5	0	9	36	0	0	43	5	0	102	0	0	0	0	
Total Survey			0	90	65	0	77	322	0	572	72	0	1,198	2	0	0	1

Peak Hour Summary

7:30 AM to 8:30 AM

By Approach	Northbound Aspen Ave			Southbound Aspen Ave			Eastbound E 4th St			Westbound E 4th St			Total	Pedestrians Crosswalk						
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total		North	South	East	West			
Volume	0	0	0	106	95	201	0	244	347	591	0	361	269	630	0	711	1	0	0	0
%HV	0.0%			2.8%			5.7%			5.8%			5.3%							
PHF	0.00			0.62			0.85			0.76			0.82							

By Movement	Northbound Aspen Ave			Southbound Aspen Ave			Eastbound E 4th St			Westbound E 4th St			Total				
	Total	L	R	Total	L	T	Total	T	R	Total							
Volume	0	71	35	106	46	198	244	312	49	361	711						
%HV	NA	NA	NA	0.0%	4.2%	NA	0.0%	2.8%	2.2%	6.6%	NA	5.7%	NA	5.8%	6.1%	5.8%	5.3%
PHF		0.00	0.52	0.63	0.62	0.68	0.85	0.85	0.76	0.64	0.76	0.82					

Rolling Hour Summary

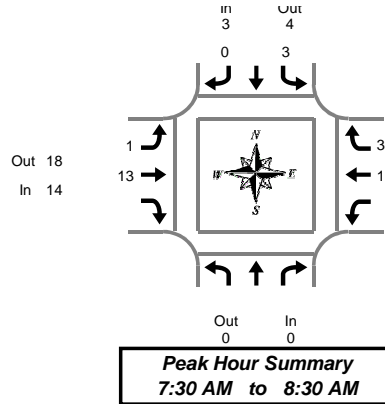
7:00 AM to 9:00 AM

Interval Start Time	Northbound Aspen Ave			Southbound Aspen Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	In	Out	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes		North	South	East	West
7:00 AM	0	39	0	34	0	30	163	0	288	25	0	579	1	0	0	1	
7:15 AM	0	67	0	37	0	37	190	0	302	32	0	665	1	0	0	0	
7:30 AM	0	71	0	35	0	46	198	0	312	49	0	711	1	0	0	0	
7:45 AM	0	69	0	35	0	52	181	0	307	56	0	700	1	0	0	0	
8:00 AM	0	51	0	31	0	47	159	0	284	47	0	619	1	0	0	0	

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Aspen Ave & E 4th St

Thursday, December 06, 2018
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Aspen Ave			Southbound Aspen Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	3	3	0	1	1	4
7:05 AM	0	0	0	0	0	0	0	3	3	1	0	1	4
7:10 AM	0	0	0	0	0	0	0	2	2	1	0	1	3
7:15 AM	0	0	0	0	0	1	1	2	2	0	0	0	2
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	1	1	0	0	0	1
7:50 AM	0	1	1	0	1	0	1	1	1	1	1	2	4
7:55 AM	0	1	1	0	1	0	3	3	3	0	1	1	5
8:00 AM	0	1	1	0	1	0	0	0	0	0	1	1	2
8:05 AM	0	0	0	0	0	0	2	2	2	2	0	2	4
8:10 AM	0	0	0	0	0	0	1	1	1	11	0	11	12
8:15 AM	0	0	0	0	0	0	2	2	2	3	0	3	5
8:20 AM	0	0	0	0	0	0	1	1	1	1	0	1	2
8:25 AM	0	0	0	0	0	0	3	3	3	0	0	0	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	1
8:35 AM	0	0	0	0	0	0	1	1	1	1	0	1	2
8:40 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:50 AM	0	0	0	0	0	0	2	2	2	1	1	2	4
8:55 AM	0	0	0	0	0	0	2	2	2	1	0	1	3
Total Survey	0	3	3	0	3	2	27	29	29	24	6	30	62

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Aspen Ave			Southbound Aspen Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	8	8	2	1	3	11
7:15 AM	0	0	0	0	0	0	1	1	2	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	2	2	0	2	1	4	5	5	1	2	3	10
8:00 AM	0	1	1	0	1	0	3	3	3	13	1	14	18
8:15 AM	0	0	0	0	0	0	6	6	6	4	0	4	10
8:30 AM	0	0	0	0	0	0	1	1	1	2	1	3	4
8:45 AM	0	0	0	0	0	0	4	4	4	2	1	3	7
Total Survey	0	3	3	0	3	2	27	29	29	24	6	30	62

Heavy Vehicle Peak Hour Summary 7:30 AM to 8:30 AM

By Approach	Northbound Aspen Ave			Southbound Aspen Ave			Eastbound E 4th St			Westbound E 4th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	3	4	7	14	18	32	21	16	37	38
PHF	0.00			0.25			0.58			0.33			0.45

By Movement	Northbound Aspen Ave			Southbound Aspen Ave			Eastbound E 4th St			Westbound E 4th St			Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
Volume	0	3	3	0	3	3	1	13	14	18	3	21	38
PHF	0.00	0.25		0.00	0.25		0.25	0.54	0.58	0.28	0.25	0.33	0.45

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Aspen Ave			Southbound Aspen Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
7:00 AM	0	2	2	0	2	2	2	13	15	3	3	6	23
7:15 AM	0	3	3	0	3	3	2	8	10	14	3	17	30
7:30 AM	0	3	3	0	3	3	1	13	14	18	3	21	38
7:45 AM	0	3	3	0	3	3	1	14	15	20	4	24	42
8:00 AM	0	1	1	0	1	1	0	14	14	21	3	24	39

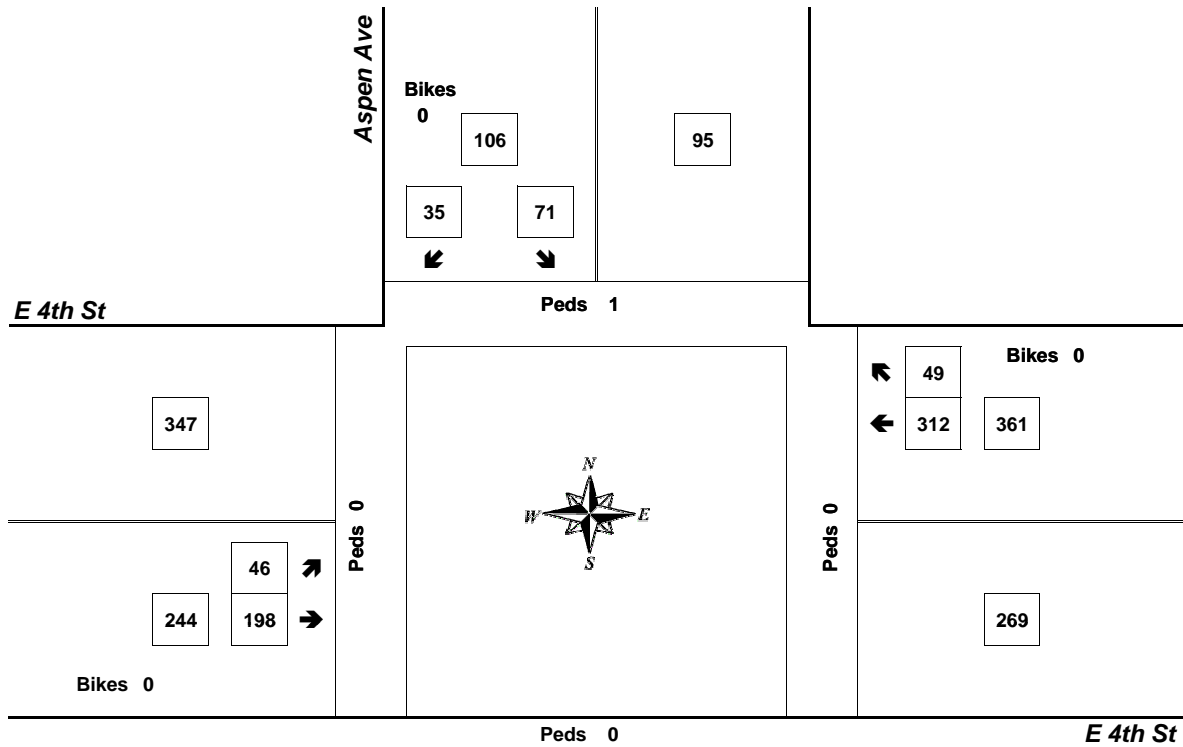
Peak Hour Summary



Clay Carney
(503) 833-2740

Aspen Ave & E 4th St

7:30 AM to 8:30 AM
Thursday, December 06, 2018



Bikes
0

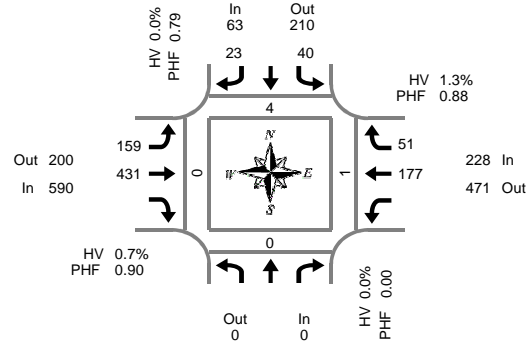
Approach	PHF	HV%	Volume
EB	0.85	5.7%	244
WB	0.76	5.8%	361
NB	0.00	0.0%	0
SB	0.62	2.8%	106
Intersection	0.82	5.3%	711

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
4:55 PM to 5:55 PM

Aspen Ave & E 4th St

Thursday, December 06, 2018

4:00 PM to 6:00 PM

5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Aspen Ave				Southbound Aspen Ave				Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	R	Total	Bikes	T		R	Total	North	South
4:00 PM				0	2	2	0	10	39	0	17	3	0	73	0	0	0	0	
4:05 PM				0	1	2	0	5	42	0	21	3	0	74	0	0	0	0	
4:10 PM				0	2	1	0	16	29	0	19	2	0	69	0	0	0	0	
4:15 PM				0	0	1	0	13	28	0	15	9	0	66	0	0	0	0	
4:20 PM				0	1	2	0	10	28	0	14	1	0	56	2	0	1	0	
4:25 PM				0	1	1	0	16	27	0	22	3	0	70	2	0	0	0	
4:30 PM				0	1	2	0	17	33	0	16	2	0	71	1	0	0	0	
4:35 PM				0	1	4	0	8	33	0	18	0	0	64	0	0	0	0	
4:40 PM				0	4	2	0	14	30	0	17	3	0	70	0	0	0	0	
4:45 PM				0	5	0	0	10	25	0	9	4	0	53	1	0	0	0	
4:50 PM				0	3	2	0	12	26	0	18	2	0	63	0	0	0	0	
4:55 PM				0	0	2	0	13	38	0	13	3	0	69	0	0	0	0	
5:00 PM				0	3	0	0	15	32	0	12	8	0	70	1	0	0	0	
5:05 PM				0	2	4	0	9	32	0	17	6	0	70	0	0	0	0	
5:10 PM				0	2	2	0	8	32	0	19	3	0	66	0	0	0	0	
5:15 PM				0	5	2	0	16	30	0	16	3	0	72	0	0	0	0	
5:20 PM				0	4	0	0	23	38	0	16	1	0	82	1	0	0	0	
5:25 PM				0	8	1	0	18	28	0	11	5	0	71	1	0	0	0	
5:30 PM				0	2	5	0	16	41	0	15	4	0	83	1	0	0	0	
5:35 PM				0	2	2	0	11	47	0	13	6	0	81	0	0	0	0	
5:40 PM				0	4	1	0	14	35	0	16	2	0	72	0	0	1	0	
5:45 PM				0	5	1	0	7	44	0	11	4	0	72	0	0	0	0	
5:50 PM				0	3	3	0	9	34	0	18	6	0	73	0	0	0	0	
5:55 PM				0	0	3	0	17	31	0	8	2	0	61	0	0	0	0	
Total Survey				0	61	45	0	307	802	0	371	85	0	1,671	10	0	2	0	

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Aspen Ave				Southbound Aspen Ave				Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	R	Total	Bikes	T		R	Total	North	South
4:00 PM				0	5	5	0	31	110	0	57	8	0	216	0	0	0	0	
4:15 PM				0	2	4	0	39	83	0	51	13	0	192	4	0	1	0	
4:30 PM				0	6	8	0	39	96	0	51	5	0	205	1	0	0	0	
4:45 PM				0	8	4	0	35	89	0	40	9	0	185	1	0	0	0	
5:00 PM				0	7	6	0	32	96	0	48	17	0	206	1	0	0	0	
5:15 PM				0	17	3	0	57	96	0	43	9	0	225	2	0	0	0	
5:30 PM				0	8	8	0	41	123	0	44	12	0	236	1	0	1	0	
5:45 PM				0	8	7	0	33	109	0	37	12	0	206	0	0	0	0	
Total Survey				0	61	45	0	307	802	0	371	85	0	1,671	10	0	2	0	

Peak Hour Summary

4:55 PM to 5:55 PM

By Approach	Northbound Aspen Ave				Southbound Aspen Ave				Eastbound E 4th St				Westbound E 4th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	63	210	273	0	590	200	790	0	228	471	699	0	881	4	0	1	0
%HV	0.0%				0.0%				0.7%				1.3%				0.8%				
PHF	0.00				0.79				0.90				0.88				0.93				

By Movement	Northbound Aspen Ave				Southbound Aspen Ave				Eastbound E 4th St				Westbound E 4th St				Total
	Total	L	R	Total	L	T	Total	L	T	Total	T	R	Total	Total			
Volume	0	40	23	63	159	431	590	199	35	238	177	51	228	881			
%HV	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	0.6%	0.7%	NA	0.7%	NA	1.7%	0.0%	1.3%	0.8%
PHF		0.00	0.59	0.72	0.79	0.70	0.86	0.90	0.85	0.75	0.88	0.93					

Rolling Hour Summary

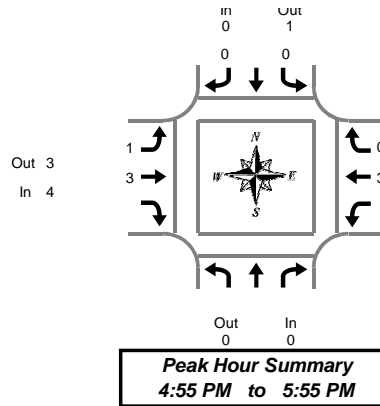
4:00 PM to 6:00 PM

Interval Start Time	Northbound Aspen Ave				Southbound Aspen Ave				Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	R	Total	Bikes	T		R	Total	North	South
4:00 PM				0	21	21	0	144	378	0	199	35	0	798	6	0	1	0	
4:15 PM				0	23	22	0	145	364	0	190	44	0	788	7	0	1	0	
4:30 PM				0	38	21	0	163	377	0	182	40	0	821	5	0	0	0	
4:45 PM				0	40	21	0	165	404	0	175	47	0	852	5	0	1	0	
5:00 PM				0	40	24	0	163	424	0	172	50	0	873	4	0	1	0	

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Aspen Ave & E 4th St

Thursday, December 06, 2018

4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Aspen Ave			Southbound Aspen Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total
	Total	L	R	Total	L	R	Total	T	Total	T	R	Total	
4:00 PM	0	0	1	1	0	1	0	1	1	1	0	1	3
4:05 PM	0	0	1	1	0	1	0	2	2	1	0	1	4
4:10 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
4:20 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	3	3	3	0	0	0	3
4:35 PM	0	0	0	0	0	0	2	2	2	1	0	1	3
4:40 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
4:45 PM	0	0	0	0	0	0	1	1	1	0	0	0	1
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	0	1	1	1	0	0	0	1
5:10 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:25 PM	0	0	0	0	1	0	1	1	1	1	0	1	2
5:30 PM	0	0	0	0	0	0	1	1	1	1	0	1	2
5:35 PM	0	0	0	0	0	0	1	1	1	0	0	0	1
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	2	2	1	12	13	13	13	0	13	28	28

Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Aspen Ave			Southbound Aspen Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total
	Total	L	R	Total	L	R	Total	T	Total	T	R	Total	
4:00 PM	0	0	2	2	0	3	3	3	3	0	3	8	8
4:15 PM	0	0	0	0	0	0	0	0	0	4	0	4	4
4:30 PM	0	0	0	0	0	0	5	5	5	3	0	3	8
4:45 PM	0	0	0	0	0	0	1	1	1	0	0	0	1
5:00 PM	0	0	0	0	0	0	1	1	1	1	0	1	2
5:15 PM	0	0	0	0	1	0	1	1	1	1	0	1	2
5:30 PM	0	0	0	0	0	0	2	2	2	1	0	1	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	2	2	1	12	13	13	13	0	13	28	28

Heavy Vehicle Peak Hour Summary

4:55 PM to 5:55 PM

By Approach	Northbound Aspen Ave			Southbound Aspen Ave			Eastbound E 4th St			Westbound E 4th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	1	1	4	3	7	3	3	6	7
PHF	0.00			0.00			0.33			0.38			0.35

By Movement	Northbound Aspen Ave			Southbound Aspen Ave			Eastbound E 4th St			Westbound E 4th St			Total
	Total	L	R	Total	L	R	Total	T	Total	T	R	Total	
Volume	0	0	0	0	0	0	1	3	4	3	0	3	7
PHF	0.00	0.00		0.00	0.00		0.25	0.38	0.33	0.38	0.00	0.38	0.35

Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Aspen Ave			Southbound Aspen Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total
	Total	L	R	Total	L	R	Total	T	Total	T	R	Total	
4:00 PM	0	0	2	2	0	9	9	9	9	10	0	10	21
4:15 PM	0	0	0	0	0	0	7	7	7	8	0	8	15
4:30 PM	0	0	0	0	1	7	8	8	8	5	0	5	13
4:45 PM	0	0	0	0	1	4	5	5	5	3	0	3	8
5:00 PM	0	0	0	0	1	3	4	4	4	3	0	3	7

Peak Hour Summary

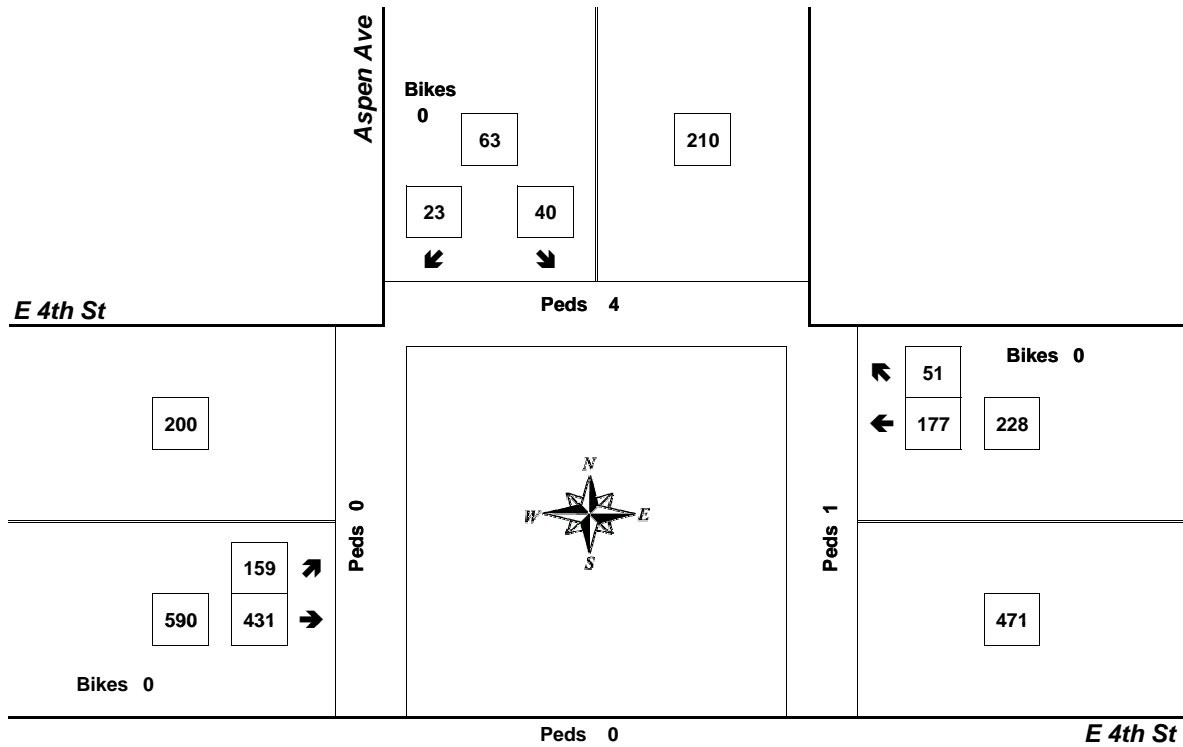


Clay Carney
(503) 833-2740

Aspen Ave & E 4th St

4:55 PM to 5:55 PM

Thursday, December 06, 2018



Bikes
0

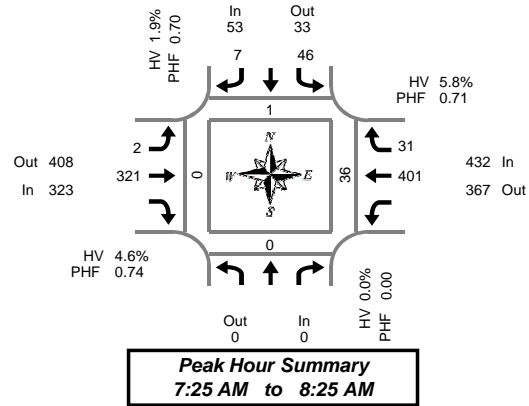
Approach	PHF	HV%	Volume
EB	0.90	0.7%	590
WB	0.88	1.3%	228
NB	0.00	0.0%	0
SB	0.79	0.0%	63
Intersection	0.93	0.8%	881

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



E Stonecreek Dr & E 4th St

Thursday, December 06, 2018

7:00 AM to 9:00 AM

5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound E Stonecreek Dr				Southbound E Stonecreek Dr				Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	Bikes	T	R	Bikes		North	South	East	West
7:00 AM	0	2	2	0	0	0	0	0	11	0	16	1	0	30	0	0	1	0	
7:05 AM	0	1	1	0	0	0	0	0	15	0	29	0	0	45	0	0	0	0	
7:10 AM	0	1	1	0	0	0	0	0	10	0	25	0	0	36	0	0	1	0	
7:15 AM	0	1	1	0	0	0	0	0	13	0	30	0	0	44	0	0	0	0	
7:20 AM	0	2	2	1	0	0	0	0	11	0	19	0	0	33	0	0	0	0	
7:25 AM	0	1	1	2	0	0	0	0	15	0	41	0	0	59	0	0	0	0	
7:30 AM	0	2	2	0	0	0	0	0	19	0	17	0	0	38	0	0	1	0	
7:35 AM	0	7	7	1	0	0	0	0	25	0	28	3	0	64	1	0	3	0	
7:40 AM	0	2	2	0	0	0	0	0	18	0	25	3	0	48	0	0	0	0	
7:45 AM	0	4	4	1	0	0	0	0	26	0	26	0	0	57	0	0	2	0	
7:50 AM	0	7	7	1	0	0	0	0	35	0	27	3	0	73	0	0	1	0	
7:55 AM	0	3	3	0	0	0	0	0	28	0	30	1	0	62	0	0	2	0	
8:00 AM	0	8	8	0	0	0	0	0	33	0	32	6	0	79	0	0	1	0	
8:05 AM	0	3	3	0	0	0	0	0	34	0	39	3	0	79	0	0	11	0	
8:10 AM	0	2	2	0	0	0	0	0	42	0	55	3	0	102	0	0	9	0	
8:15 AM	0	3	3	1	0	0	0	0	30	0	46	6	0	86	0	0	5	0	
8:20 AM	0	4	4	1	0	0	0	2	16	0	35	3	0	61	0	0	1	0	
8:25 AM	0	2	2	1	0	0	0	0	20	0	26	2	0	51	0	0	0	0	
8:30 AM	0	1	1	1	0	0	0	0	9	0	26	0	0	37	0	0	0	0	
8:35 AM	0	2	2	0	0	0	0	0	10	0	26	1	0	39	0	0	0	0	
8:40 AM	0	2	2	0	0	0	0	0	15	0	15	0	0	32	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	11	0	13	2	0	26	0	0	0	0	
8:50 AM	0	1	1	1	0	0	0	1	13	0	24	0	0	40	0	0	0	0	
8:55 AM	0	2	2	0	0	0	0	0	21	0	18	2	0	43	0	0	2	0	
Total Survey	0	63	63	11	0	0	0	3	480	0	668	39	0	1,264	1	0	40	0	

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound E Stonecreek Dr				Southbound E Stonecreek Dr				Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	Bikes	T	R	Bikes		North	South	East	West
7:00 AM	0	4	4	0	0	0	0	0	36	0	70	1	0	111	0	0	2	0	
7:15 AM	0	4	4	3	0	0	0	0	39	0	90	0	0	136	0	0	0	0	
7:30 AM	0	11	11	1	0	0	0	0	62	0	70	6	0	150	1	0	4	0	
7:45 AM	0	14	14	2	0	0	0	0	89	0	83	4	0	192	0	0	5	0	
8:00 AM	0	13	13	0	0	0	0	0	109	0	126	12	0	260	0	0	21	0	
8:15 AM	0	9	9	3	0	0	0	2	66	0	107	11	0	198	0	0	6	0	
8:30 AM	0	5	5	1	0	0	0	0	34	0	67	1	0	108	0	0	0	0	
8:45 AM	0	3	3	1	0	0	0	1	45	0	55	4	0	109	0	0	2	0	
Total Survey	0	63	63	11	0	0	0	3	480	0	668	39	0	1,264	1	0	40	0	

Peak Hour Summary

7:25 AM to 8:25 AM

By Approach	Northbound E Stonecreek Dr				Southbound E Stonecreek Dr				Eastbound E 4th St			Westbound E 4th St			Total	Pedestrians Crosswalk					
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out		Total	North	South	East	West	
Volume	0	0	0	0	53	33	86	0	323	408	731	0	432	367	799	0	808	1	0	36	0
%HV	0.0%				1.9%				4.6%			5.8%			5.1%						
PHF	0.00				0.70				0.74			0.71			0.76						

By Movement	Northbound E Stonecreek Dr				Southbound E Stonecreek Dr				Eastbound E 4th St			Westbound E 4th St			Total		
	Total	L	R	Total	L	T	Total	T	R	Total	T	R	Total				
Volume	0	46	7	53	2	321	323	401	31	432	808						
%HV	NA	NA	NA	0.0%	2.2%	NA	0.0%	1.9%	0.0%	4.7%	NA	4.6%	NA	5.7%	6.5%	5.8%	5.1%
PHF		0.00	0.64	0.58	0.70	0.25	0.74	0.74		0.72	0.65	0.71	0.76				

Rolling Hour Summary

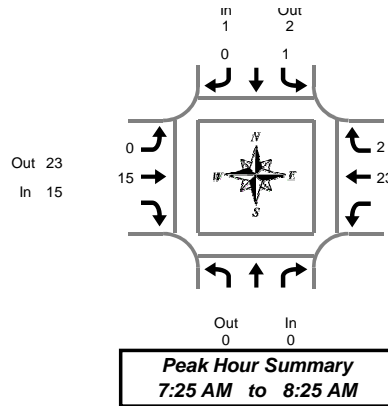
7:00 AM to 9:00 AM

Interval Start Time	Northbound E Stonecreek Dr				Southbound E Stonecreek Dr				Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	Bikes	T	R	Bikes		North	South	East	West
7:00 AM	0	33	33	0	6	0	0	0	226	0	313	11	0	589	1	0	11	0	
7:15 AM	0	42	42	0	6	0	0	0	299	0	369	22	0	738	1	0	30	0	
7:30 AM	0	47	47	6	0	0	2	2	326	0	386	33	0	800	1	0	36	0	
7:45 AM	0	41	41	6	0	0	2	2	298	0	383	28	0	758	0	0	32	0	
8:00 AM	0	30	30	5	0	0	3	3	254	0	355	28	0	675	0	0	29	0	

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



E Stonecreek Dr & E 4th St

Thursday, December 06, 2018

7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound E Stonecreek Dr			Southbound E Stonecreek Dr			Eastbound E 4th St			Westbound E 4th St			Interval Total
	Total	L	R	Total	L	R	Total	T	Total	T	R	Total	
7:00 AM	0	1	0	1	0	0	0	3	3	1	0	1	5
7:05 AM	0	0	0	0	0	0	0	3	3	2	0	2	5
7:10 AM	0	0	0	0	0	0	0	2	2	0	0	0	2
7:15 AM	0	0	0	0	0	0	0	1	1	0	0	0	1
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:25 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:35 AM	0	0	0	0	0	0	0	0	0	0	1	1	1
7:40 AM	0	0	0	0	0	0	0	0	0	0	1	1	1
7:45 AM	0	0	0	0	0	0	0	2	2	1	0	1	3
7:50 AM	0	1	0	1	0	1	0	2	2	1	0	1	4
7:55 AM	0	0	0	0	0	0	0	3	3	1	0	1	4
8:00 AM	0	0	0	0	0	0	0	1	1	1	0	1	2
8:05 AM	0	0	0	0	0	0	0	2	2	6	0	6	8
8:10 AM	0	0	0	0	0	0	0	1	1	8	0	8	9
8:15 AM	0	0	0	0	0	0	0	3	3	3	0	3	6
8:20 AM	0	0	0	0	0	0	0	1	1	1	0	1	2
8:25 AM	0	0	0	0	0	0	0	3	3	0	0	0	3
8:30 AM	0	0	0	0	0	0	0	0	0	3	0	3	3
8:35 AM	0	0	0	0	0	0	0	1	1	0	0	0	1
8:40 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:50 AM	0	0	0	0	0	0	0	2	2	1	0	1	3
8:55 AM	0	0	0	0	0	0	0	1	1	0	0	0	1
Total Survey	0	2	0	2	0	2	0	31	31	31	2	33	66

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound E Stonecreek Dr			Southbound E Stonecreek Dr			Eastbound E 4th St			Westbound E 4th St			Interval Total
	Total	L	R	Total	L	R	Total	T	Total	T	R	Total	
7:00 AM	0	1	0	1	0	0	0	8	8	3	0	3	12
7:15 AM	0	0	0	0	0	0	0	1	1	1	0	1	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	2	2
7:45 AM	0	1	0	1	0	1	0	7	7	3	0	3	11
8:00 AM	0	0	0	0	0	0	0	4	4	15	0	15	19
8:15 AM	0	0	0	0	0	0	0	7	7	4	0	4	11
8:30 AM	0	0	0	0	0	0	0	1	1	4	0	4	5
8:45 AM	0	0	0	0	0	0	0	3	3	1	0	1	4
Total Survey	0	2	0	2	0	2	0	31	31	31	2	33	66

Heavy Vehicle Peak Hour Summary 7:25 AM to 8:25 AM

By Approach	Northbound E Stonecreek Dr			Southbound E Stonecreek Dr			Eastbound E 4th St			Westbound E 4th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	1	2	3	15	23	38	25	16	41	41
PHF	0.00			0.25			0.54			0.37			0.45

By Movement	Northbound E Stonecreek Dr			Southbound E Stonecreek Dr			Eastbound E 4th St			Westbound E 4th St			Total
	Total	L	R	Total	L	R	Total	T	Total	T	R	Total	
Volume	0	1	0	1	0	1	0	15	15	23	2	25	41
PHF	0.00	0.25	0.00	0.25	0.00	0.25	0.00	0.54	0.54	0.34	0.25	0.37	0.45

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound E Stonecreek Dr			Southbound E Stonecreek Dr			Eastbound E 4th St			Westbound E 4th St			Interval Total
	Total	L	R	Total	L	R	Total	T	Total	T	R	Total	
7:00 AM	0	2	0	2	0	2	0	16	16	7	2	9	27
7:15 AM	0	1	0	1	0	1	0	12	12	19	2	21	34
7:30 AM	0	1	0	1	0	1	0	18	18	22	2	24	43
7:45 AM	0	1	0	1	0	1	0	19	19	26	0	26	46
8:00 AM	0	0	0	0	0	0	0	15	15	24	0	24	39

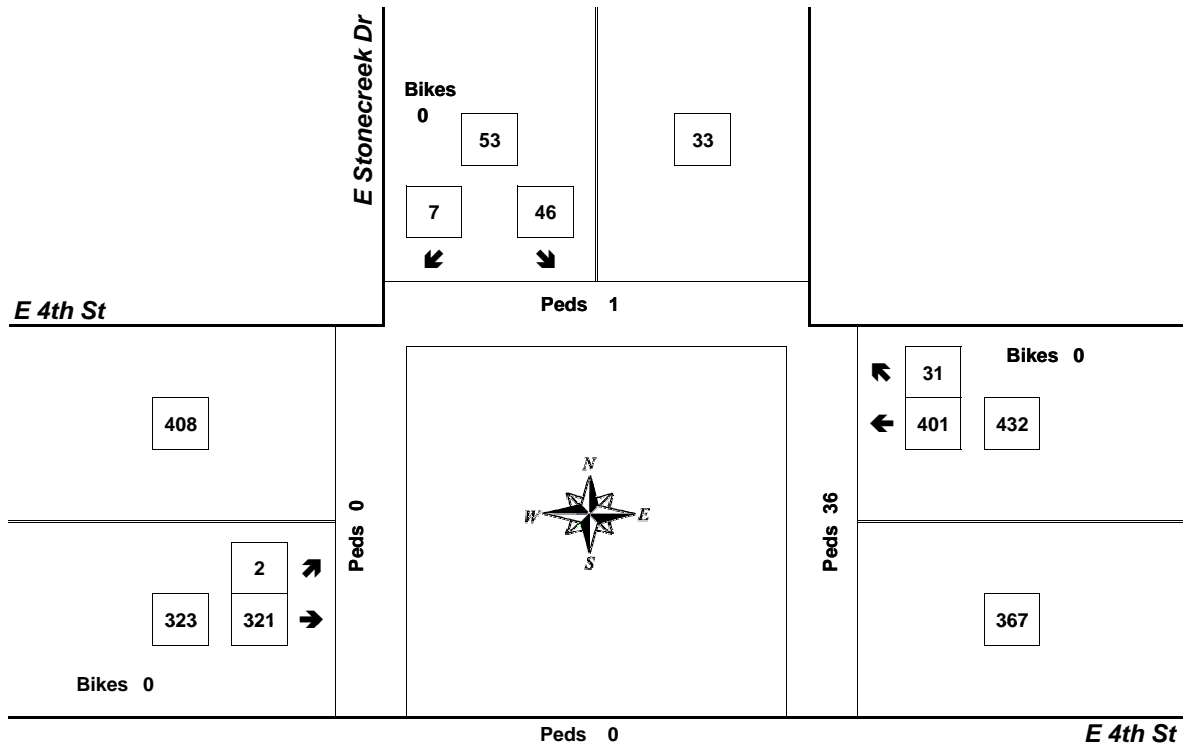
Peak Hour Summary



Clay Carney
(503) 833-2740

E Stonecreek Dr & E 4th St

7:25 AM to 8:25 AM
Thursday, December 06, 2018



Bikes
0

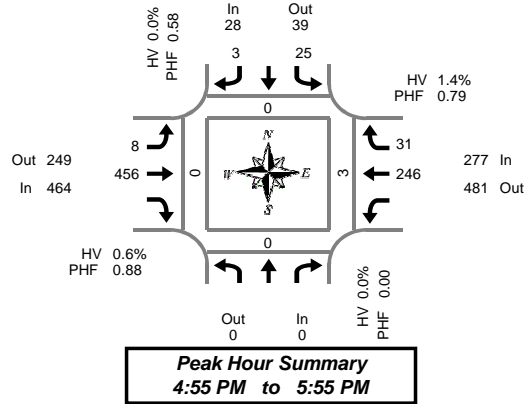
Approach	PHF	HV%	Volume
EB	0.74	4.6%	323
WB	0.71	5.8%	432
NB	0.00	0.0%	0
SB	0.70	1.9%	53
Intersection	0.76	5.1%	808

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



E Stonecreek Dr & E 4th St

Thursday, December 06, 2018

4:00 PM to 6:00 PM

5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound E Stonecreek Dr				Southbound E Stonecreek Dr				Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	Bikes	T	R	Bikes		North	South	East	West
4:00 PM	0	3	3	0	0	0	0	1	38	0	30	1	0	73	0	0	0	0	
4:05 PM	0	6	6	0	0	0	0	1	43	0	22	3	0	75	0	0	0	0	
4:10 PM	0	0	0	0	0	0	0	0	32	0	25	6	0	63	0	0	0	0	
4:15 PM	0	1	1	0	0	0	0	2	33	0	23	3	0	62	0	0	2	0	
4:20 PM	0	0	0	0	0	0	0	0	27	0	11	1	0	39	0	0	0	0	
4:25 PM	0	3	3	1	0	0	0	0	29	0	27	2	0	62	0	0	0	0	
4:30 PM	0	1	1	0	0	0	0	1	33	0	16	5	0	56	0	0	0	0	
4:35 PM	0	1	1	1	0	1	0	1	33	0	19	1	0	56	0	0	0	0	
4:40 PM	0	1	1	0	0	0	0	2	26	0	17	1	0	48	0	0	0	0	
4:45 PM	0	1	1	0	0	0	0	0	33	0	19	2	0	55	0	0	0	0	
4:50 PM	0	1	1	1	0	0	0	0	34	0	28	1	0	65	0	0	0	0	
4:55 PM	0	4	4	1	0	1	0	1	37	0	15	4	0	62	0	0	0	0	
5:00 PM	0	3	3	0	0	0	0	1	32	0	25	5	0	66	0	0	0	0	
5:05 PM	0	0	0	0	0	0	0	1	36	0	23	5	0	65	0	0	0	0	
5:10 PM	0	1	1	0	0	0	0	2	25	0	29	1	0	58	0	0	2	0	
5:15 PM	0	1	1	0	1	0	0	0	32	0	15	2	0	50	0	0	0	0	
5:20 PM	0	0	0	1	0	0	0	0	40	0	16	3	0	60	0	0	0	0	
5:25 PM	0	3	3	0	0	0	0	1	38	0	17	2	0	61	0	0	0	0	
5:30 PM	0	5	5	0	0	0	0	0	41	0	26	4	0	76	0	0	0	0	
5:35 PM	0	4	4	0	0	0	0	0	45	0	19	2	0	70	0	0	0	0	
5:40 PM	0	0	0	0	0	0	0	1	41	0	19	1	0	62	0	0	0	0	
5:45 PM	0	3	3	1	0	0	0	0	44	0	18	1	0	67	0	0	0	0	
5:50 PM	0	1	1	0	0	0	0	1	45	0	24	1	0	72	0	0	1	0	
5:55 PM	0	6	6	2	0	1	0	1	29	0	11	1	0	50	0	0	0	0	
Total Survey	0	49	49	9	1	17	846	0	494	58	0	1,473	0	0	5	0			

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound E Stonecreek Dr				Southbound E Stonecreek Dr				Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	Bikes	T	R	Bikes		North	South	East	West
4:00 PM	0	9	9	0	0	2	113	0	77	10	0	211	0	0	0	0			
4:15 PM	0	4	4	1	0	2	89	0	61	6	0	163	0	0	2	0			
4:30 PM	0	3	3	2	0	4	92	0	52	7	0	160	0	0	0	0			
4:45 PM	0	6	6	2	0	1	104	0	62	7	0	182	0	0	0	0			
5:00 PM	0	4	4	0	0	4	93	0	77	11	0	189	0	0	2	0			
5:15 PM	0	4	4	1	1	1	110	0	48	7	0	171	0	0	0	0			
5:30 PM	0	9	9	0	0	1	127	0	64	7	0	208	0	0	0	0			
5:45 PM	0	10	10	3	0	2	118	0	53	3	0	189	0	0	1	0			
Total Survey	0	49	49	9	1	17	846	0	494	58	0	1,473	0	0	5	0			

Peak Hour Summary

4:55 PM to 5:55 PM

By Approach	Northbound E Stonecreek Dr				Southbound E Stonecreek Dr				Eastbound E 4th St			Westbound E 4th St			Total	Pedestrians Crosswalk					
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out		Total	North	South	East	West	
Volume	0	0	0	0	28	39	67	1	464	249	713	0	277	481	758	0	769	0	0	3	0
%HV	0.0%				0.0%				0.6%			1.4%			0.9%						
PHF	0.00				0.58				0.88			0.79			0.92						

By Movement	Northbound E Stonecreek Dr				Southbound E Stonecreek Dr				Eastbound E 4th St			Westbound E 4th St			Total		
	Total	L	R	Total	L	T	Total	T	R	Total	T	R	Total				
Volume	0	25	3	28	8	456	464	246	31	277	769	0	0				
%HV	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	0.0%	0.7%	NA	0.6%	NA	1.6%	0.0%	1.4%	0.9%
PHF		0.00	0.52	0.75	0.58	0.50	0.88	0.88	0.80	0.55	0.79	0.92					

Rolling Hour Summary

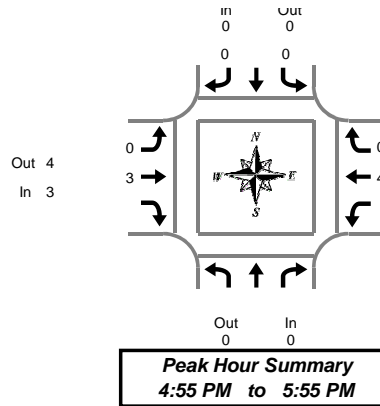
4:00 PM to 6:00 PM

Interval Start Time	Northbound E Stonecreek Dr				Southbound E Stonecreek Dr				Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	Bikes	T	R	Bikes		North	South	East	West
4:00 PM	0	22	22	5	0	9	398	0	252	30	0	716	0	0	2	0			
4:15 PM	0	17	17	5	0	11	378	0	252	31	0	694	0	0	4	0			
4:30 PM	0	17	17	5	1	10	399	0	239	32	0	702	0	0	2	0			
4:45 PM	0	23	23	3	1	7	434	0	251	32	0	750	0	0	2	0			
5:00 PM	0	27	27	4	1	8	448	0	242	28	0	757	0	0	3	0			

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



E Stonecreek Dr & E 4th St

Thursday, December 06, 2018

4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound E Stonecreek Dr			Southbound E Stonecreek Dr			Eastbound E 4th St			Westbound E 4th St			Interval Total
	Total	L	R	Total	L	R	Total	T	Total	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	1	1	0	0	0	1
4:05 PM	0	0	0	0	0	0	0	2	2	1	0	1	3
4:10 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	3	3	0	0	0	3
4:35 PM	0	0	0	0	0	0	2	2	2	1	0	1	3
4:40 PM	0	0	1	1	0	0	0	0	0	1	0	1	2
4:45 PM	0	0	0	0	0	0	1	1	1	0	0	0	1
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	0	1	1	1	0	0	0	1
5:10 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:25 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:30 PM	0	0	0	0	0	0	1	1	1	0	0	0	1
5:35 PM	0	0	0	0	0	0	1	1	1	0	0	0	1
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	1	1	0	12	12	11	0	11	0	11	24

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound E Stonecreek Dr			Southbound E Stonecreek Dr			Eastbound E 4th St			Westbound E 4th St			Interval Total
	Total	L	R	Total	L	R	Total	T	Total	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	3	3	2	0	2	5
4:15 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
4:30 PM	0	0	1	1	0	0	5	5	5	2	0	2	8
4:45 PM	0	0	0	0	0	0	1	1	1	1	0	1	2
5:00 PM	0	0	0	0	0	0	1	1	1	1	0	1	2
5:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
5:30 PM	0	0	0	0	0	0	2	2	2	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	1	1	0	12	12	11	0	11	0	11	24

Heavy Vehicle Peak Hour Summary 4:55 PM to 5:55 PM

By Approach	Northbound E Stonecreek Dr			Southbound E Stonecreek Dr			Eastbound E 4th St			Westbound E 4th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	0	0	3	4	7	4	3	7	7
PHF	0.00			0.00			0.38			0.50			0.58

By Movement	Northbound E Stonecreek Dr			Southbound E Stonecreek Dr			Eastbound E 4th St			Westbound E 4th St			Total
	Total	L	R	Total	L	R	Total	T	Total	T	R	Total	
Volume	0	0	0	0	0	0	0	3	3	4	0	4	7
PHF	0.00	0.00		0.00	0.00		0.00	0.38	0.38	0.50	0.00	0.50	0.58

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound E Stonecreek Dr			Southbound E Stonecreek Dr			Eastbound E 4th St			Westbound E 4th St			Interval Total
	Total	L	R	Total	L	R	Total	T	Total	T	R	Total	
4:00 PM	0	0	0	1	1	0	9	9	9	8	0	8	18
4:15 PM	0	0	0	1	1	0	7	7	7	7	0	7	15
4:30 PM	0	0	0	1	1	0	7	7	7	6	0	6	14
4:45 PM	0	0	0	0	0	0	4	4	4	4	0	4	8
5:00 PM	0	0	0	0	0	0	3	3	3	3	0	3	6

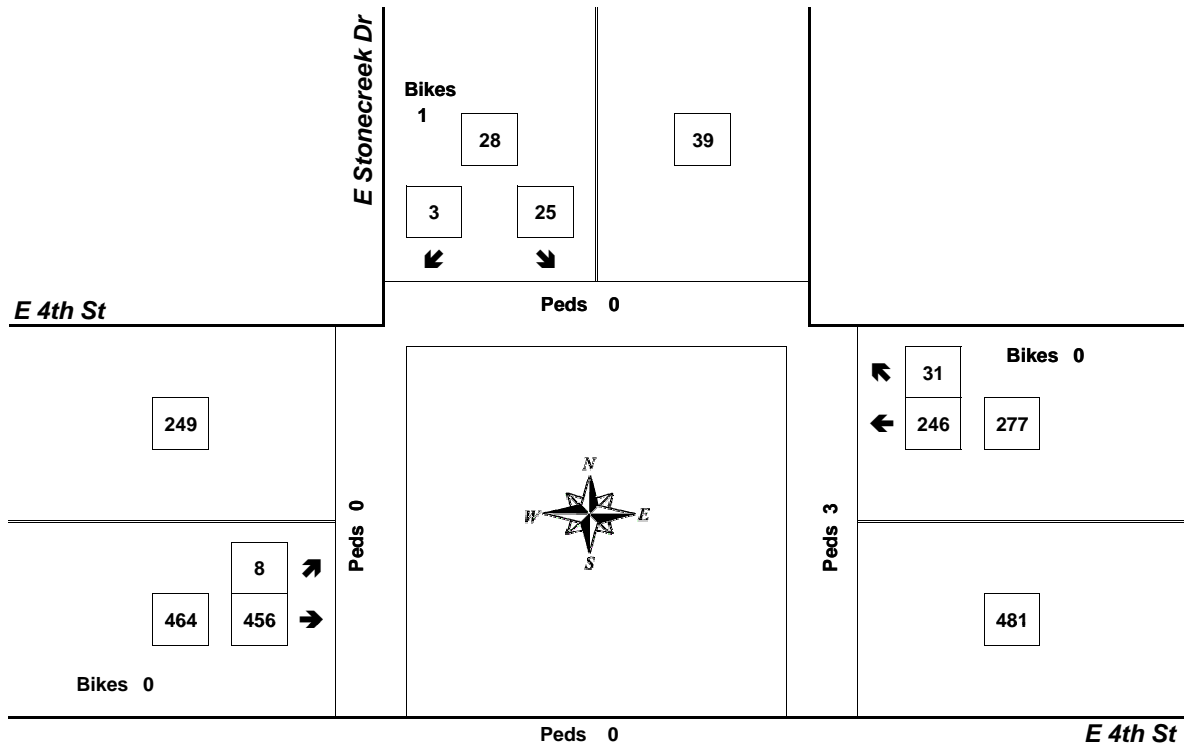
Peak Hour Summary



Clay Carney
(503) 833-2740

E Stonecreek Dr & E 4th St

4:55 PM to 5:55 PM
Thursday, December 06, 2018



Bikes
0

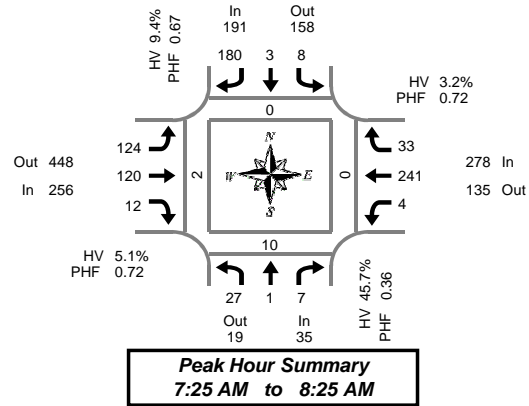
Approach	PHF	HV%	Volume
EB	0.88	0.6%	464
WB	0.79	1.4%	277
NB	0.00	0.0%	0
SB	0.58	0.0%	28
Intersection	0.92	0.9%	769

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NE Highland Rd & E 4th St

Thursday, December 06, 2018

7:00 AM to 9:00 AM

5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	0	0	0	0	0	5	0	4	7	0	0	0	11	0	0	27	0	0	0	0
7:05 AM	0	0	0	0	0	0	14	0	2	9	2	0	0	17	0	0	44	0	0	0	0
7:10 AM	0	0	0	0	0	0	9	0	2	9	0	0	0	15	0	0	35	0	0	0	0
7:15 AM	0	0	0	0	0	0	12	0	8	5	0	0	0	17	0	0	42	0	1	0	0
7:20 AM	0	0	0	0	0	0	10	0	5	6	0	0	0	12	0	0	33	0	0	0	0
7:25 AM	0	0	1	0	0	0	12	0	4	7	1	0	0	27	1	0	53	0	0	0	0
7:30 AM	0	0	0	0	0	0	6	0	7	4	0	0	0	14	1	0	32	0	1	0	1
7:35 AM	0	0	0	0	0	0	16	0	13	9	0	0	0	21	2	0	61	0	0	0	0
7:40 AM	1	0	0	0	0	0	15	0	8	5	0	0	0	15	0	0	44	0	2	0	0
7:45 AM	0	0	1	0	0	0	8	0	14	9	1	0	0	17	3	0	53	0	1	0	0
7:50 AM	0	0	0	0	1	0	17	0	16	7	1	0	0	19	8	0	69	0	1	0	0
7:55 AM	0	0	0	0	1	0	21	0	14	6	0	0	0	16	4	0	62	0	2	0	1
8:00 AM	2	0	1	0	2	1	28	0	18	13	0	0	0	28	6	0	99	0	1	0	0
8:05 AM	9	0	2	0	2	2	14	0	11	19	2	0	2	26	5	0	94	0	1	0	0
8:10 AM	7	0	0	0	1	0	16	0	6	15	5	0	1	27	2	0	80	0	2	0	0
8:15 AM	5	0	1	0	1	0	14	0	9	17	0	0	1	16	1	0	65	0	0	0	0
8:20 AM	3	1	1	0	0	0	13	0	4	9	2	0	0	15	0	0	48	0	0	0	0
8:25 AM	3	0	0	0	0	0	6	0	7	12	1	0	0	11	2	0	42	0	0	0	0
8:30 AM	2	0	0	0	1	0	7	0	2	5	1	0	0	14	0	0	32	0	0	0	0
8:35 AM	1	0	0	0	0	0	9	0	5	9	0	0	0	15	1	0	40	0	0	0	0
8:40 AM	0	1	0	0	0	0	4	0	6	8	2	0	0	11	0	0	32	0	0	0	1
8:45 AM	0	0	1	0	0	0	5	0	1	8	0	0	0	11	0	0	26	0	0	0	0
8:50 AM	0	0	0	0	0	0	10	0	4	9	1	0	0	11	0	0	35	0	0	0	0
8:55 AM	0	0	0	0	0	0	4	0	6	18	1	0	0	17	1	0	47	0	0	0	0
Total Survey	33	2	8	0	9	3	275	0	176	225	20	0	4	403	37	0	1,195	0	11	0	3

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	0	0	0	0	0	28	0	8	25	2	0	0	43	0	0	106	0	0	0	0
7:15 AM	0	0	1	0	0	0	34	0	17	18	1	0	0	56	1	0	128	0	1	0	0
7:30 AM	1	0	0	0	0	0	37	0	28	18	0	0	0	50	3	0	137	0	3	0	1
7:45 AM	0	0	1	0	2	0	46	0	44	22	2	0	0	52	15	0	184	0	4	0	1
8:00 AM	18	0	3	0	5	3	58	0	35	47	7	0	3	81	13	0	273	0	3	0	0
8:15 AM	11	1	2	0	1	0	33	0	20	38	3	0	1	42	3	0	155	0	0	0	0
8:30 AM	3	1	0	0	1	0	20	0	13	22	3	0	0	40	1	0	104	0	0	0	1
8:45 AM	0	0	1	0	0	0	19	0	11	35	2	0	0	39	1	0	108	0	0	0	0
Total Survey	33	2	8	0	9	3	275	0	176	225	20	0	4	403	37	0	1,195	0	11	0	3

Peak Hour Summary

7:25 AM to 8:25 AM

By Approach	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	35	19	54	0	191	158	349	0	256	448	704	0	278	135	413	0	760	0	10	0	2
%HV	45.7%				9.4%				5.1%				3.2%				7.4%				
PHF	0.36				0.67				0.72				0.72				0.70				

By Movement	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	27	1	7	35	8	3	180	191	124	120	12	256	4	241	33	278	760
%HV	59.3%	0.0%	0.0%	45.7%	25.0%	0.0%	8.9%	9.4%	5.6%	5.0%	0.0%	5.1%	0.0%	2.9%	6.1%	3.2%	7.4%
PHF	0.32	0.25	0.58	0.36	0.40	0.25	0.68	0.67	0.65	0.59	0.43	0.72	0.25	0.74	0.46	0.72	0.70

Rolling Hour Summary

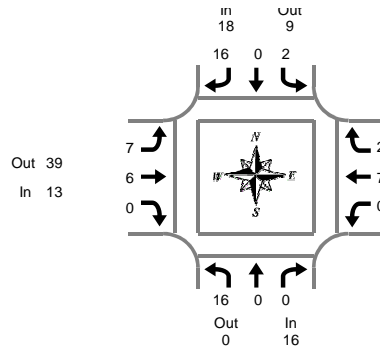
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	1	0	2	0	2	0	145	0	97	83	5	0	0	201	19	0	555	0	8	0	2
7:15 AM	19	0	5	0	7	3	175	0	124	105	10	0	3	239	32	0	722	0	11	0	2
7:30 AM	30	1	6	0	8	3	174	0	127	125	12	0	4	225	34	0	749	0	10	0	2
7:45 AM	32	2	6	0	9	3	157	0	112	129	15	0	4	215	32	0	716	0	7	0	2
8:00 AM	32	2	6	0	7	3	130	0	79	142	15	0	4	202	18	0	640	0	3	0	1

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
7:25 AM to 8:25 AM

NE Highland Rd & E 4th St

Thursday, December 06, 2018

7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	5	0	5	0	1	0	1	6
7:05 AM	0	0	0	0	0	0	1	1	1	2	0	3	0	1	0	1	5
7:10 AM	0	0	0	0	0	0	1	1	0	2	0	2	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	2
7:50 AM	0	0	0	0	1	0	0	1	3	1	0	4	0	1	1	2	7
7:55 AM	0	0	0	0	1	0	2	3	2	0	0	2	0	2	0	2	7
8:00 AM	0	0	0	0	0	0	10	10	1	0	0	1	0	0	1	1	12
8:05 AM	8	0	0	8	0	0	2	2	0	3	0	3	0	1	0	1	14
8:10 AM	6	0	0	6	0	0	2	2	0	0	0	0	0	0	0	0	8
8:15 AM	1	0	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
8:20 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:25 AM	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:40 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
8:50 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
8:55 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Survey	16	0	0	16	2	0	18	20	10	21	0	31	0	13	2	15	82

Heavy Vehicle 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	2	2	1	9	0	10	0	2	0	2	14
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
7:45 AM	0	0	0	0	2	0	2	4	6	1	0	7	0	4	1	5	16
8:00 AM	14	0	0	14	0	0	14	14	1	3	0	4	0	1	1	2	34
8:15 AM	2	0	0	2	0	0	0	0	2	3	0	5	0	0	0	0	7
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3
8:45 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	2	0	2	5
Total Survey	16	0	0	16	2	0	18	20	10	21	0	31	0	13	2	15	82

Heavy Vehicle Peak Hour Summary

7:25 AM to 8:25 AM

By Approach	Northbound NE Highland Rd			Southbound NE Highland Rd			Eastbound E 4th St			Westbound E 4th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	16	0	16	18	9	27	13	39	52	9	8	17	56
PHF	0.27			0.30			0.46			0.45			0.41

By Movement	Northbound NE Highland Rd			Southbound NE Highland Rd			Eastbound E 4th St			Westbound E 4th St			Total			
	L	T	R	L	T	R	L	T	R	L	T	R				
Volume	16	0	0	2	0	16	7	6	0	13	0	7	2	2	9	56
PHF	0.27	0.00	0.00	0.27	0.25	0.00	0.29	0.30	0.00	0.46	0.00	0.44	0.25	0.45	0.41	

Heavy Vehicle Rolling Hour Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	2	0	4	6	7	11	0	18	0	8	1	9	33
7:15 AM	14	0	0	14	2	0	16	18	7	5	0	12	0	7	2	9	53
7:30 AM	16	0	0	16	2	0	16	18	9	7	0	16	0	7	2	9	59
7:45 AM	16	0	0	16	2	0	16	18	9	8	0	17	0	7	2	9	60
8:00 AM	16	0	0	16	0	0	14	14	3	10	0	13	0	5	1	6	49

Peak Hour Summary

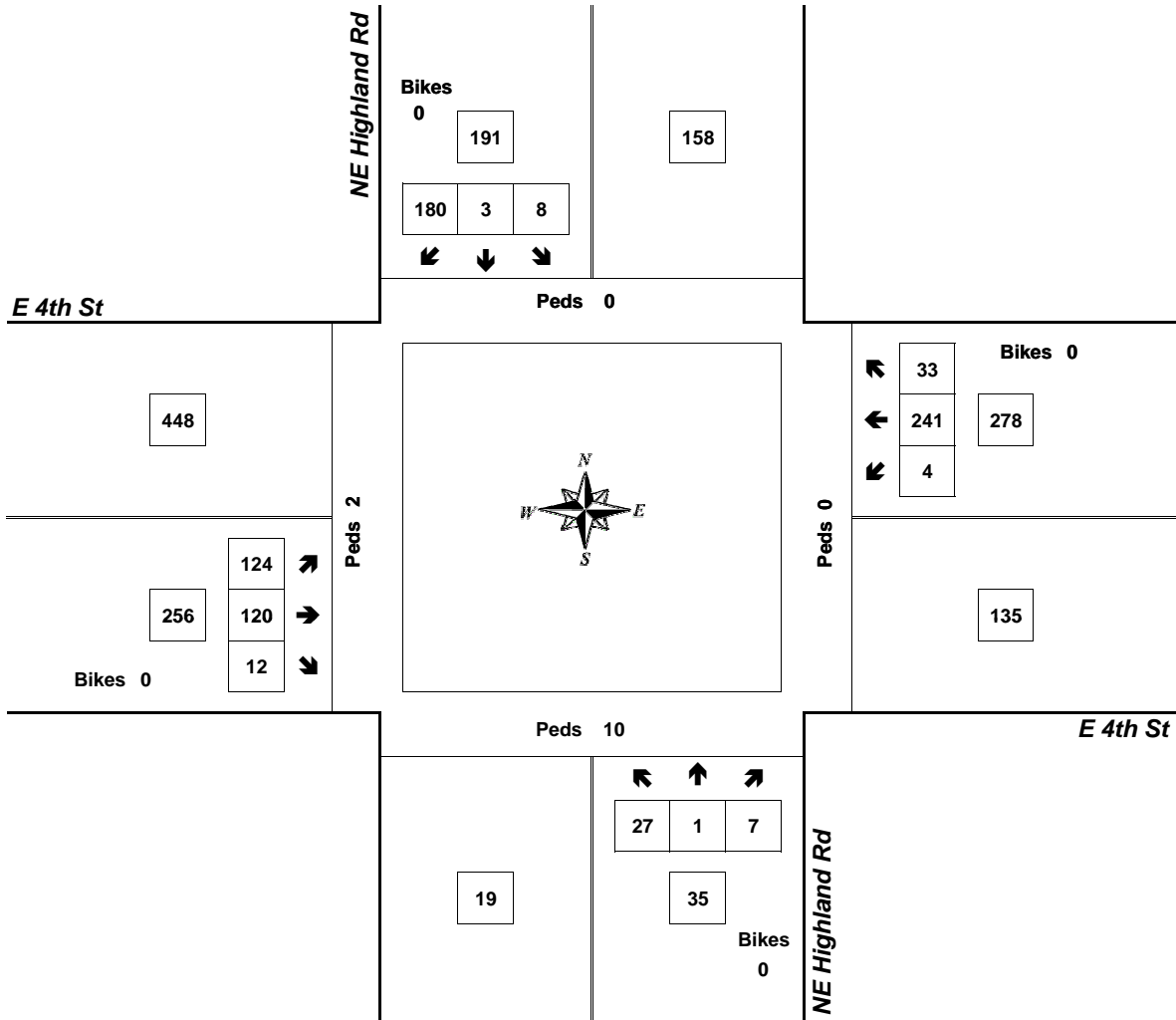


Clay Carney
(503) 833-2740

NE Highland Rd & E 4th St

7:25 AM to 8:25 AM

Thursday, December 06, 2018



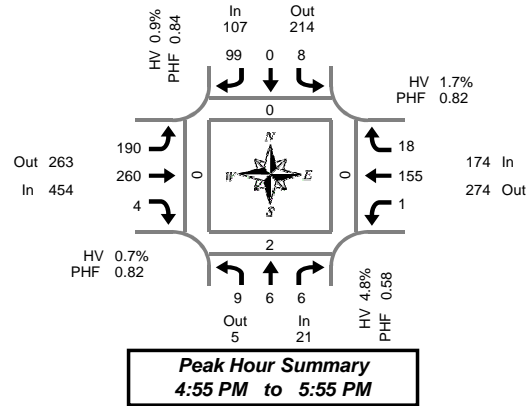
Approach	PHF	HV%	Volume
EB	0.72	5.1%	256
WB	0.72	3.2%	278
NB	0.36	45.7%	35
SB	0.67	9.4%	191
Intersection	0.70	7.4%	760

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NE Highland Rd & E 4th St

Thursday, December 06, 2018

4:00 PM to 6:00 PM

Peak Hour Summary
4:55 PM to 5:55 PM

5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	1	0	0	0	1	0	13	0	10	27	1	0	0	14	0	0	67	0	3	0	0
4:05 PM	0	0	0	0	4	0	12	0	20	29	0	0	1	10	1	0	77	0	0	0	0
4:10 PM	0	0	0	0	0	0	10	0	16	27	0	0	0	13	2	0	68	0	2	0	0
4:15 PM	3	0	0	0	0	0	6	0	14	17	0	0	1	9	1	0	51	0	0	0	0
4:20 PM	0	0	0	0	3	0	4	0	8	17	0	0	0	9	2	0	43	1	0	0	0
4:25 PM	0	0	0	0	2	0	12	0	14	26	0	0	0	17	2	0	73	0	0	0	0
4:30 PM	0	0	0	0	0	0	2	0	16	21	0	0	0	13	2	0	54	0	0	0	0
4:35 PM	0	0	0	0	2	0	7	0	17	12	0	0	0	15	1	0	54	0	0	0	0
4:40 PM	0	0	0	0	0	0	2	0	9	22	0	0	0	12	0	0	45	0	1	0	0
4:45 PM	0	0	0	0	0	0	7	0	12	20	0	0	0	14	1	0	54	0	1	0	0
4:50 PM	1	0	0	0	1	0	7	0	16	15	0	0	0	17	4	0	61	0	0	0	0
4:55 PM	0	1	0	0	0	0	10	0	17	19	0	0	1	10	1	0	59	0	0	0	0
5:00 PM	1	0	0	0	1	0	10	0	15	13	1	0	0	16	2	0	59	0	0	0	0
5:05 PM	1	0	0	0	1	0	10	0	15	21	0	0	0	17	0	0	65	0	0	0	0
5:10 PM	2	2	0	0	1	0	9	0	12	22	0	0	0	16	2	0	66	0	0	0	0
5:15 PM	0	0	3	0	1	0	9	0	17	12	0	0	0	10	1	0	53	0	1	0	0
5:20 PM	2	0	0	0	0	0	3	0	15	17	2	0	0	14	2	0	55	0	0	0	0
5:25 PM	1	0	1	0	1	0	6	0	16	23	0	0	0	17	1	0	66	0	0	0	0
5:30 PM	0	0	0	0	0	0	10	0	14	28	0	0	0	9	3	0	64	0	0	0	0
5:35 PM	0	0	0	0	0	0	11	0	22	29	0	0	0	10	1	0	73	0	0	0	0
5:40 PM	0	0	1	0	2	0	5	0	13	28	0	0	0	13	0	0	62	0	1	0	0
5:45 PM	2	1	1	0	1	0	7	0	16	29	1	0	0	8	3	0	69	0	0	0	0
5:50 PM	0	2	0	0	0	0	9	0	18	19	0	0	0	15	2	0	65	0	0	0	0
5:55 PM	0	0	0	0	0	0	9	0	9	22	0	0	0	7	0	0	47	0	2	0	0
Total Survey	14	6	6	0	21	0	190	0	351	515	5	0	3	305	34	0	1,450	1	11	0	0

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	1	0	0	0	5	0	35	0	46	83	1	0	1	37	3	0	212	0	5	0	0
4:15 PM	3	0	0	0	5	0	22	0	36	60	0	0	1	35	5	0	167	1	0	0	0
4:30 PM	0	0	0	0	2	0	11	0	42	55	0	0	0	40	3	0	153	0	1	0	0
4:45 PM	1	1	0	0	1	0	24	0	45	54	0	0	1	41	6	0	174	0	1	0	0
5:00 PM	4	2	0	0	3	0	29	0	42	56	1	0	0	49	4	0	190	0	0	0	0
5:15 PM	3	0	4	0	2	0	18	0	48	52	2	0	0	41	4	0	174	0	1	0	0
5:30 PM	0	0	1	0	2	0	26	0	49	85	0	0	0	32	4	0	199	0	1	0	0
5:45 PM	2	3	1	0	1	0	25	0	43	70	1	0	0	30	5	0	181	0	2	0	0
Total Survey	14	6	6	0	21	0	190	0	351	515	5	0	3	305	34	0	1,450	1	11	0	0

Peak Hour Summary

4:55 PM to 5:55 PM

By Approach	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	21	5	26	0	107	214	321	0	454	263	717	0	174	274	448	0	756	0	2	0	0
%HV	4.8%				0.9%				0.7%				1.7%				1.1%				
PHF	0.58				0.84				0.82				0.82				0.93				

By Movement	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	9	6	6	21	8	0	99	107	190	260	4	454	1	155	18	174	756
%HV	11.1%	0.0%	0.0%	4.8%	12.5%	0.0%	0.0%	0.9%	0.0%	1.2%	0.0%	0.7%	0.0%	1.9%	0.0%	1.7%	1.1%
PHF	0.56	0.50	0.38	0.58	0.67	0.00	0.83	0.84	0.91	0.76	0.50	0.82	0.25	0.79	0.75	0.82	0.93

Rolling Hour Summary

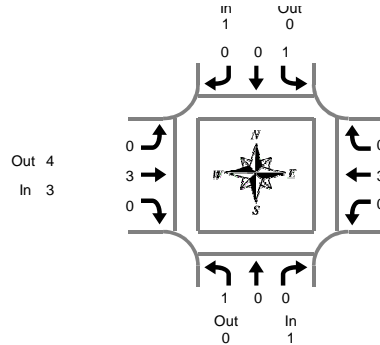
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	5	1	0	0	13	0	92	0	169	252	1	0	3	153	17	0	706	1	7	0	0
4:15 PM	8	3	0	0	11	0	86	0	165	225	1	0	2	165	18	0	684	1	2	0	0
4:30 PM	8	3	4	0	8	0	82	0	177	217	3	0	1	171	17	0	691	0	3	0	0
4:45 PM	8	3	5	0	8	0	97	0	184	247	3	0	1	163	18	0	737	0	3	0	0
5:00 PM	9	5	6	0	8	0	98	0	182	263	4	0	0	152	17	0	744	0	4	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
4:55 PM to 5:55 PM

NE Highland Rd & E 4th St

Thursday, December 06, 2018

4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
4:05 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
4:10 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
4:15 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	2	3
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
4:35 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2
4:40 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
5:10 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:25 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
5:35 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	1	0	0	1	1	0	2	3	2	11	0	13	0	8	0	8	25

Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	1	1	0	4	0	4	0	1	0	1	6
4:15 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	2	3
4:30 PM	0	0	0	0	0	0	0	0	2	3	0	5	0	2	0	2	7
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
5:00 PM	1	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
5:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0	2	3
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	1	0	0	1	1	0	2	3	2	11	0	13	0	8	0	8	25

Heavy Vehicle Peak Hour Summary

4:55 PM to 5:55 PM

By Approach	Northbound NE Highland Rd			Southbound NE Highland Rd			Eastbound E 4th St			Westbound E 4th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	1	0	1	1	0	1	3	4	7	3	4	7	8
PHF	0.25			0.25			0.38			0.38			0.50

By Movement	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	0	0	1	1	0	0	1	0	3	0	3	0	3	0	3	8
PHF	0.25	0.00	0.00	0.25	0.25	0.00	0.00	0.25	0.00	0.38	0.00	0.38	0.00	0.38	0.00	0.38	0.50

Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound NE Highland Rd				Southbound NE Highland Rd				Eastbound E 4th St				Westbound E 4th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	2	2	2	8	0	10	0	6	0	6	18
4:15 PM	1	0	0	1	0	0	1	1	2	5	0	7	0	5	0	5	14
4:30 PM	1	0	0	1	1	0	0	1	2	5	0	7	0	5	0	5	14
4:45 PM	1	0	0	1	1	0	0	1	0	4	0	4	0	3	0	3	9
5:00 PM	1	0	0	1	1	0	0	1	0	3	0	3	0	2	0	2	7

Peak Hour Summary

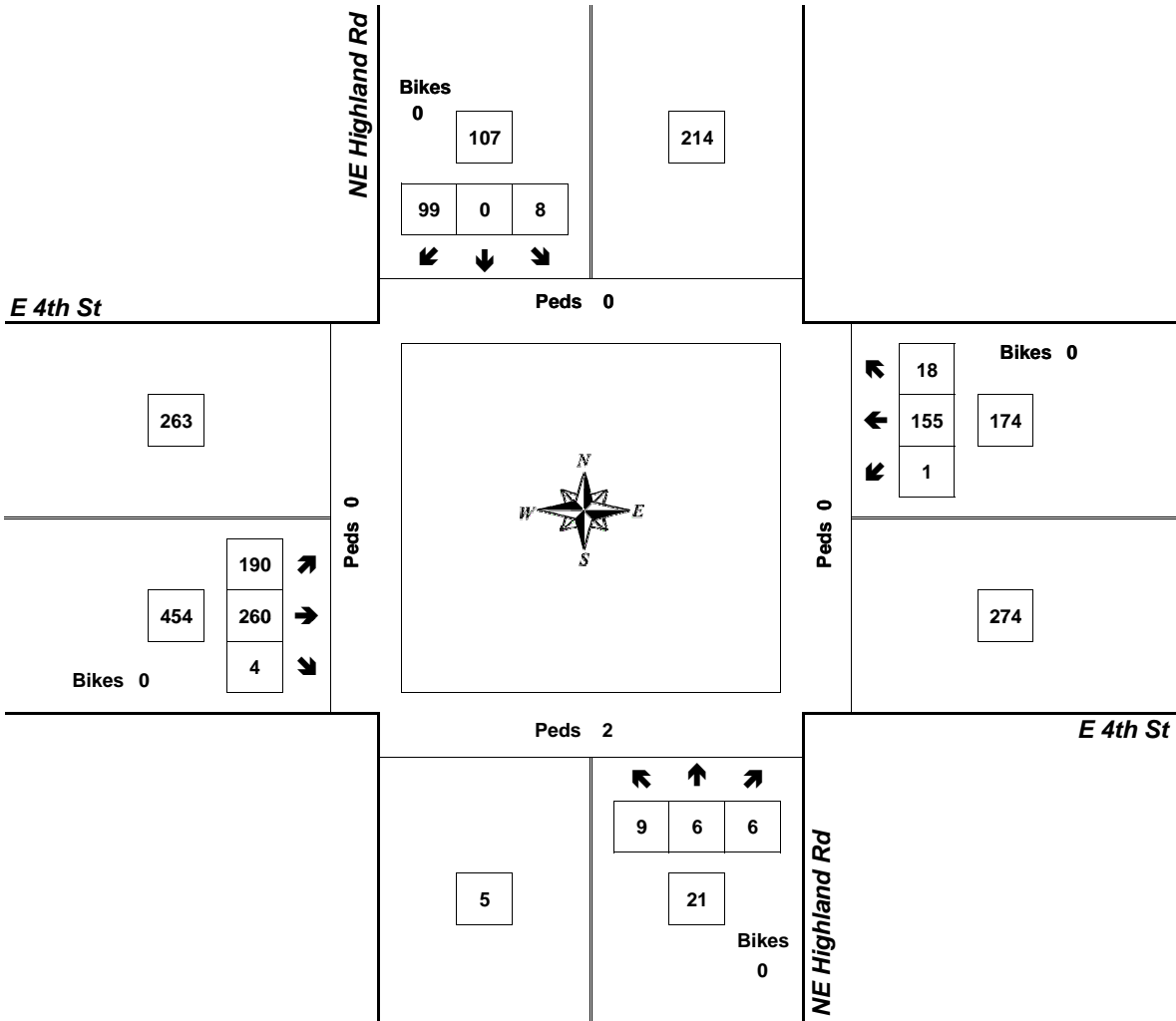


Clay Carney
(503) 833-2740

NE Highland Rd & E 4th St

4:55 PM to 5:55 PM

Thursday, December 06, 2018



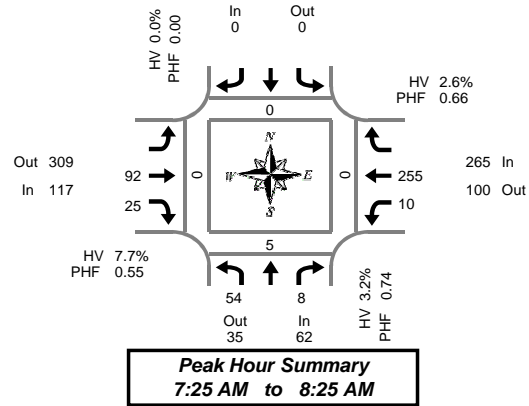
Approach	PHF	HV%	Volume
EB	0.82	0.7%	454
WB	0.82	1.7%	174
NB	0.58	4.8%	21
SB	0.84	0.9%	107
Intersection	0.93	1.1%	756

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NE John Storm Ave & E 4th St

Thursday, December 06, 2018

7:00 AM to 9:00 AM

5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
7:00 AM	4	0	0			0	6	0	0	2	4	0	16	0	0	0	0
7:05 AM	6	0	0			0	5	3	0	2	13	0	29	0	0	0	0
7:10 AM	10	0	0			0	7	4	0	0	5	0	26	0	0	0	0
7:15 AM	1	1	0			0	4	0	0	0	15	0	21	0	0	0	0
7:20 AM	6	0	0			0	6	2	0	2	12	0	28	0	0	0	0
7:25 AM	5	0	0			0	5	3	0	1	19	0	33	0	0	0	0
7:30 AM	2	0	0			0	2	1	0	1	16	0	22	0	1	0	0
7:35 AM	4	0	0			0	5	1	0	0	16	0	26	0	0	0	0
7:40 AM	3	0	0			0	6	1	0	1	16	0	27	0	1	0	0
7:45 AM	6	0	0			0	6	1	0	1	17	0	31	0	3	0	0
7:50 AM	3	0	0			0	3	2	0	0	25	0	33	0	0	0	0
7:55 AM	5	2	0			0	3	1	0	1	24	0	36	0	0	0	0
8:00 AM	4	1	0			0	9	3	0	1	43	0	61	0	0	0	0
8:05 AM	4	2	0			0	20	1	0	1	30	0	58	0	0	0	0
8:10 AM	8	0	0			0	14	3	0	0	25	0	50	0	0	0	0
8:15 AM	4	0	0			0	9	6	0	1	11	0	31	0	0	0	0
8:20 AM	6	3	0			0	10	2	0	2	13	0	36	0	0	0	0
8:25 AM	5	0	0			0	10	2	0	0	6	0	23	0	4	0	0
8:30 AM	1	0	0			0	3	2	0	0	13	0	19	0	0	0	0
8:35 AM	6	1	0			0	6	2	0	1	9	0	25	0	0	0	0
8:40 AM	3	0	0			0	6	3	0	0	7	0	19	0	0	0	0
8:45 AM	1	0	0			0	8	2	0	0	10	0	21	0	0	0	0
8:50 AM	5	1	0			0	1	4	0	2	9	0	22	0	0	0	0
8:55 AM	6	0	0			0	16	4	0	1	9	0	36	0	0	0	0
Total Survey	108	11	0			0	170	53	0	20	367	0	729	0	9	0	0

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
7:00 AM	20	0	0			0	18	7	0	4	22	0	71	0	0	0	0
7:15 AM	12	1	0			0	15	5	0	3	46	0	82	0	0	0	0
7:30 AM	9	0	0			0	13	3	0	2	48	0	75	0	2	0	0
7:45 AM	14	2	0			0	12	4	0	2	66	0	100	0	3	0	0
8:00 AM	16	3	0			0	43	7	0	2	98	0	169	0	0	0	0
8:15 AM	15	3	0			0	29	10	0	3	30	0	90	0	4	0	0
8:30 AM	10	1	0			0	15	7	0	1	29	0	63	0	0	0	0
8:45 AM	12	1	0			0	25	10	0	3	28	0	79	0	0	0	0
Total Survey	108	11	0			0	170	53	0	20	367	0	729	0	9	0	0

Peak Hour Summary

7:25 AM to 8:25 AM

By Approach	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Total	Pedestrians Crosswalk					
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total		North	South	East	West		
Volume	62	35	97	0	0	0	117	309	426	0	265	100	365	0	444	0	5	0	0
%HV	3.2%			0.0%			7.7%			2.6%			4.1%						
PHF	0.74			0.00			0.55			0.66			0.66						

By Movement	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Total				
	L	R	Total			Total	T	R	Total	L	T	Total					
Volume	54	8	62			0	92	25	117	10	255	265	444				
%HV	3.7%	NA	0.0%	3.2%	NA	NA	NA	0.0%	NA	6.5%	12.0%	7.7%	0.0%	2.7%	NA	2.6%	4.1%
PHF	0.75		0.40	0.74		0.00	0.53	0.57	0.55	0.83	0.65	0.66	0.66				

Rolling Hour Summary

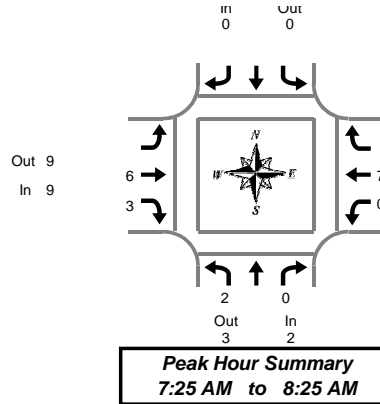
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
7:00 AM	55	3	0			0	58	19	0	11	182	0	328	0	5	0	0
7:15 AM	51	6	0			0	83	19	0	9	258	0	426	0	5	0	0
7:30 AM	54	8	0			0	97	24	0	9	242	0	434	0	9	0	0
7:45 AM	55	9	0			0	99	28	0	8	223	0	422	0	7	0	0
8:00 AM	53	8	0			0	112	34	0	9	185	0	401	0	4	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NE John Storm Ave & E 4th St

Thursday, December 06, 2018

7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	1	0	1			0	4	0	4	0	0	0	5
7:05 AM	0	0	0			0	2	0	2	0	0	0	2
7:10 AM	0	0	0			0	2	0	2	0	0	0	2
7:15 AM	0	0	0			0	1	0	1	0	0	0	1
7:20 AM	0	0	0			0	0	0	0	0	0	0	0
7:25 AM	0	0	0			0	0	0	0	0	0	0	0
7:30 AM	0	0	0			0	0	0	0	0	0	0	0
7:35 AM	1	0	1			0	0	0	0	0	1	1	2
7:40 AM	0	0	0			0	0	0	0	0	0	0	0
7:45 AM	0	0	0			0	0	0	0	0	1	1	1
7:50 AM	0	0	0			0	1	1	2	0	2	2	4
7:55 AM	1	0	1			0	0	0	0	0	1	1	2
8:00 AM	0	0	0			0	1	1	2	0	1	1	3
8:05 AM	0	0	0			0	3	0	3	0	1	1	4
8:10 AM	0	0	0			0	0	0	0	0	0	0	0
8:15 AM	0	0	0			0	0	1	1	0	0	0	1
8:20 AM	0	0	0			0	1	0	1	0	0	0	1
8:25 AM	0	0	0			0	1	0	1	0	0	0	1
8:30 AM	1	0	1			0	0	0	0	0	0	0	1
8:35 AM	0	0	0			0	0	0	0	0	0	0	0
8:40 AM	0	0	0			0	0	1	1	0	1	1	2
8:45 AM	1	0	1			0	0	0	0	0	1	1	2
8:50 AM	0	0	0			0	0	0	0	0	0	0	0
8:55 AM	0	0	0			0	4	0	4	0	0	0	4
Total Survey	5	0	5			0	20	4	24	0	9	9	38

Heavy Vehicle 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	1	0	1			0	8	0	8	0	0	0	9
7:15 AM	0	0	0			0	1	0	1	0	0	0	1
7:30 AM	1	0	1			0	0	0	0	0	1	1	2
7:45 AM	1	0	1			0	1	1	2	0	4	4	7
8:00 AM	0	0	0			0	4	1	5	0	2	2	7
8:15 AM	0	0	0			0	2	1	3	0	0	0	3
8:30 AM	1	0	1			0	0	1	1	0	1	1	3
8:45 AM	1	0	1			0	4	0	4	0	1	1	6
Total Survey	5	0	5			0	20	4	24	0	9	9	38

Heavy Vehicle Peak Hour Summary

7:25 AM to 8:25 AM

By Approach	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	2	3	5	0	0	0	9	9	18	7	6	13	18
PHF	0.50			0.00			0.45			0.44			0.50

By Movement	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Total
	L	R	Total			Total	T	R	Total	L	T	Total	
Volume	2	0	2			0	6	3	9	0	7	7	18
PHF	0.50	0.00	0.50			0.00	0.38	0.38	0.45	0.00	0.44	0.44	0.50

Heavy Vehicle Rolling Hour Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	3	0	3			0	10	1	11	0	5	5	19
7:15 AM	2	0	2			0	6	2	8	0	7	7	17
7:30 AM	2	0	2			0	7	3	10	0	7	7	19
7:45 AM	2	0	2			0	7	4	11	0	7	7	20
8:00 AM	2	0	2			0	10	3	13	0	4	4	19

Peak Hour Summary



Clay Carney
(503) 833-2740

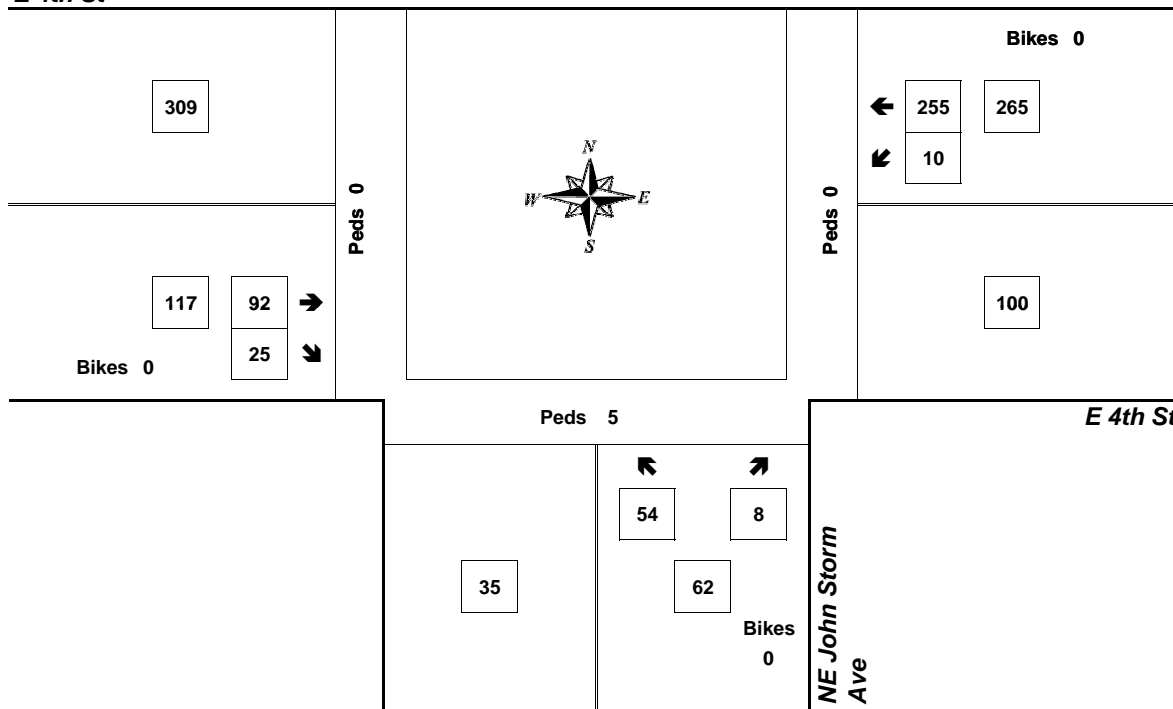
NE John Storm Ave & E 4th St

7:25 AM to 8:25 AM
Thursday, December 06, 2018

Bikes
0

E 4th St

Peds 0



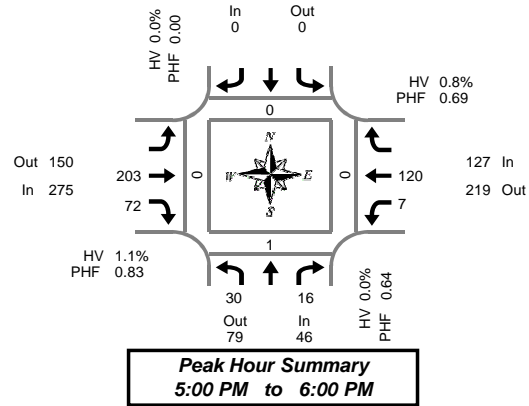
Approach	PHF	HV%	Volume
EB	0.55	7.7%	117
WB	0.66	2.6%	265
NB	0.74	3.2%	62
SB	0.00	0.0%	0
Intersection	0.66	4.1%	444

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NE John Storm Ave & E 4th St

Thursday, December 06, 2018

4:00 PM to 6:00 PM

5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
4:00 PM	6	2	0			0	19	7	0	2	7	0	0	0	0	0	
4:05 PM	4	1	0			0	18	10	0	0	9	0	0	0	1	0	
4:10 PM	4	2	0			0	23	6	0	4	8	0	0	0	0	0	
4:15 PM	5	2	0			0	10	2	0	0	9	0	0	0	0	0	
4:20 PM	3	1	0			0	12	3	0	1	5	0	0	0	0	0	
4:25 PM	4	1	0			0	17	13	0	2	15	0	0	0	0	0	
4:30 PM	4	2	0			0	13	7	0	3	10	0	0	0	0	0	
4:35 PM	3	2	0			0	10	1	0	1	14	0	0	1	0	0	
4:40 PM	5	1	0			0	15	6	0	1	7	0	0	0	0	0	
4:45 PM	2	2	0			0	15	6	0	0	11	0	0	0	0	0	
4:50 PM	7	2	0			0	8	6	0	2	7	0	0	1	0	0	
4:55 PM	3	3	0			0	11	8	0	0	7	0	0	0	0	0	
5:00 PM	2	1	0			0	12	7	0	1	16	0	0	0	0	0	
5:05 PM	2	2	0			0	16	5	0	1	16	0	0	0	0	0	
5:10 PM	3	1	0			0	15	6	0	1	11	0	0	0	0	0	
5:15 PM	2	1	0			0	15	2	0	1	7	0	0	0	0	0	
5:20 PM	3	1	0			0	13	2	0	1	10	0	0	0	0	0	
5:25 PM	2	1	0			0	21	5	0	1	12	0	0	0	0	0	
5:30 PM	1	0	0			0	20	8	0	0	9	0	0	0	0	0	
5:35 PM	2	0	0			0	21	5	0	0	9	0	0	0	0	0	
5:40 PM	2	3	0			0	21	8	0	0	9	0	0	0	0	0	
5:45 PM	3	3	0			0	17	11	0	1	11	0	0	1	0	0	
5:50 PM	5	2	0			0	15	5	0	0	5	0	0	0	0	0	
5:55 PM	3	1	0			0	17	8	0	0	5	0	0	0	0	0	
Total Survey	80	37	0			0	374	147	0	23	229	0	890	0	3	1	0

15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
4:00 PM	14	5	0			0	60	23	0	6	24	0	132	0	0	1	0
4:15 PM	12	4	0			0	39	18	0	3	29	0	105	0	0	0	0
4:30 PM	12	5	0			0	38	14	0	5	31	0	105	0	1	0	0
4:45 PM	12	7	0			0	34	20	0	2	25	0	100	0	1	0	0
5:00 PM	7	4	0			0	43	18	0	3	43	0	118	0	0	0	0
5:15 PM	7	3	0			0	49	9	0	3	29	0	100	0	0	0	0
5:30 PM	5	3	0			0	62	21	0	0	27	0	118	0	0	0	0
5:45 PM	11	6	0			0	49	24	0	1	21	0	112	0	1	0	0
Total Survey	80	37	0			0	374	147	0	23	229	0	890	0	3	1	0

Peak Hour Summary 5:00 PM to 6:00 PM

By Approach	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Total	Pedestrians Crosswalk						
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total		North	South	East	West			
Volume	46	79	125	0	0	0	0	275	150	425	0	127	219	346	0	448	0	1	0	0
%HV	0.0%			0.0%			1.1%			0.8%			0.9%							
PHF	0.64			0.00			0.83			0.69			0.89							

By Movement	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Total			
	L	R	Total			Total	T	R	Total	L	T	Total				
Volume	30	16	46			0	203	72	275	7	120	127	448			
%HV	0.0%	NA	0.0%	0.0%	NA	NA	0.0%	NA	1.5%	0.0%	1.1%	0.0%	0.8%	NA	0.8%	0.9%
PHF	0.68		0.50	0.64		0.00	0.82	0.75	0.83	0.58	0.70	0.69	0.89			

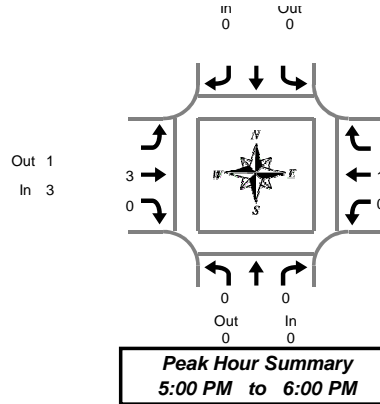
Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
4:00 PM	50	21	0			0	171	75	0	16	109	0	442	0	2	1	0
4:15 PM	43	20	0			0	154	70	0	13	128	0	428	0	2	0	0
4:30 PM	38	19	0			0	164	61	0	13	128	0	423	0	2	0	0
4:45 PM	31	17	0			0	188	68	0	8	124	0	436	0	1	0	0
5:00 PM	30	16	0			0	203	72	0	7	120	0	448	0	1	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NE John Storm Ave & E 4th St

Thursday, December 06, 2018

4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total		
	L	R	Total			Total	T	R	Total	L	T	Total			
4:00 PM	0	0	0			0			0	0	0	0	0		
4:05 PM	0	0	0			0			2	0	2	0	0		
4:10 PM	0	0	0			0			1	0	1	1	2		
4:15 PM	0	0	0			0			0	0	0	0	0		
4:20 PM	0	0	0			0			0	0	0	0	0		
4:25 PM	0	0	0			0			0	0	0	0	0		
4:30 PM	0	0	0			0			3	0	3	0	0		
4:35 PM	0	0	0			0			0	0	0	0	1		
4:40 PM	0	0	0			0			0	0	0	0	1		
4:45 PM	0	0	0			0			1	0	1	0	0		
4:50 PM	0	0	0			0			0	0	0	0	0		
4:55 PM	0	0	0			0			0	0	0	0	1		
5:00 PM	0	0	0			0			0	0	0	0	0		
5:05 PM	0	0	0			0			0	0	0	0	0		
5:10 PM	0	0	0			0			0	0	0	0	1		
5:15 PM	0	0	0			0			0	0	0	0	0		
5:20 PM	0	0	0			0			0	0	0	0	0		
5:25 PM	0	0	0			0			0	0	0	0	0		
5:30 PM	0	0	0			0			2	0	2	0	0		
5:35 PM	0	0	0			0			1	0	1	0	0		
5:40 PM	0	0	0			0			0	0	0	0	0		
5:45 PM	0	0	0			0			0	0	0	0	0		
5:50 PM	0	0	0			0			0	0	0	0	0		
5:55 PM	0	0	0			0			0	0	0	0	0		
Total Survey	0	0	0			0			10	0	10	1	6	7	17

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total		
	L	R	Total			Total	T	R	Total	L	T	Total			
4:00 PM	0	0	0			0			3	0	3	1	2	3	6
4:15 PM	0	0	0			0			0	0	0	0	0	0	0
4:30 PM	0	0	0			0			3	0	3	0	2	2	5
4:45 PM	0	0	0			0			1	0	1	0	1	1	2
5:00 PM	0	0	0			0			0	0	0	0	1	1	1
5:15 PM	0	0	0			0			0	0	0	0	0	0	0
5:30 PM	0	0	0			0			3	0	3	0	0	0	3
5:45 PM	0	0	0			0			0	0	0	0	0	0	0
Total Survey	0	0	0			0			10	0	10	1	6	7	17

Heavy Vehicle Peak Hour Summary 5:00 PM to 6:00 PM

By Approach	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	0	0	3	1	4	1	3	4	4
PHF	0.00			0.00			0.25			0.25			0.33

By Movement	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Total	
	L	R	Total			Total	T	R	Total	L	T	Total		
Volume	0	0	0			0			3	0	3	0	1	4
PHF	0.00	0.00	0.00			0.00			0.25	0.00	0.25	0.00	0.25	0.33

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NE John Storm Ave			Southbound NE John Storm Ave			Eastbound E 4th St			Westbound E 4th St			Interval Total		
	L	R	Total			Total	T	R	Total	L	T	Total			
4:00 PM	0	0	0			0			7	0	7	1	5	6	13
4:15 PM	0	0	0			0			4	0	4	0	4	4	8
4:30 PM	0	0	0			0			4	0	4	0	4	4	8
4:45 PM	0	0	0			0			4	0	4	0	2	2	6
5:00 PM	0	0	0			0			3	0	3	0	1	1	4

Peak Hour Summary



Clay Carney
(503) 833-2740

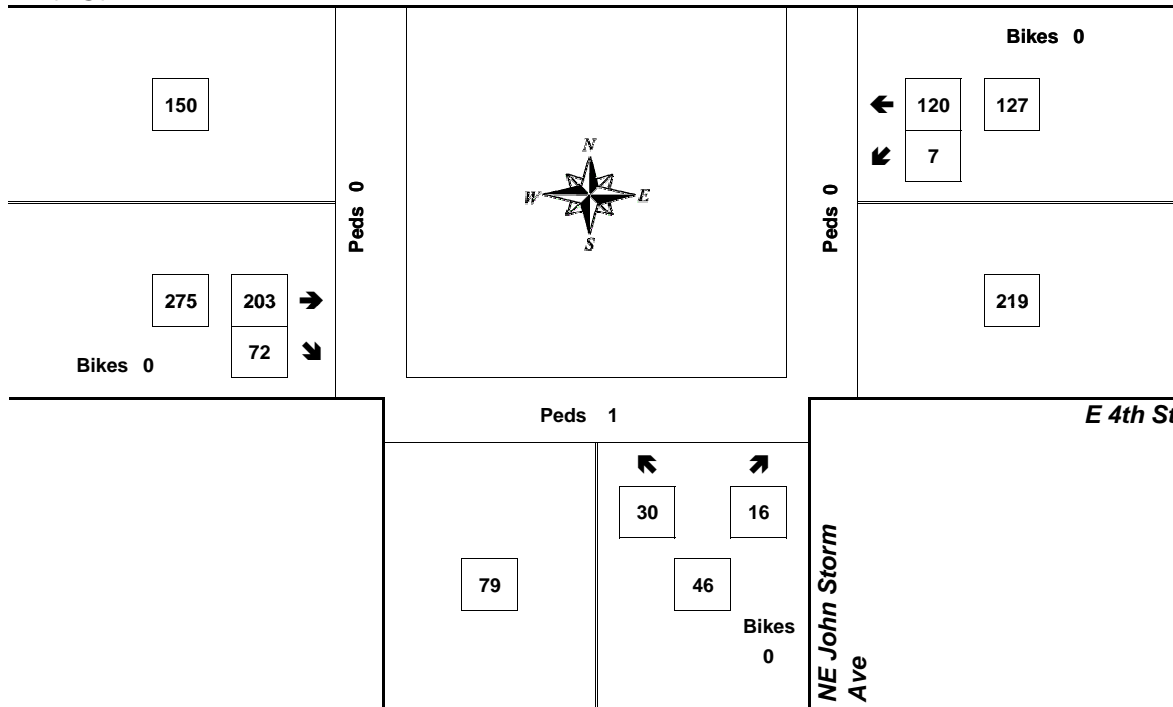
NE John Storm Ave & E 4th St

5:00 PM to 6:00 PM
Thursday, December 06, 2018

Bikes
0

E 4th St

Peds 0



Approach	PHF	HV%	Volume
EB	0.83	1.1%	275
WB	0.69	0.8%	127
NB	0.64	0.0%	46
SB	0.00	0.0%	0
Intersection	0.89	0.9%	448

Count Period: 4:00 PM to 6:00 PM



TRIP GENERATION CALCULATIONS
Existing Development

Land Use: Single-Family Detached Housing
Land Use Code: 210
Setting/Location: General Urban/Suburban
Variable: Dwelling Units
Variable Value: 1

AM PEAK HOUR

Trip Rate: 0.74

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	0	1	1

PM PEAK HOUR

Trip Rate: 0.99

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	1	0	1

WEEKDAY

Trip Rate: 9.44

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	5	5	10

SATURDAY

Trip Rate: 9.54

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	5	5	10

Source: Trip Generation Manual, Tenth Edition



TRIP GENERATION CALCULATIONS Proposed Development

Land Use: Single-Family Detached Housing
Land Use Code: 210
Setting/Location: General Urban/Suburban
Variable: Dwelling Units
Variable Value: 39

AM PEAK HOUR

Trip Rate: 0.74

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	7	22	29

PM PEAK HOUR

Trip Rate: 0.99

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	25	14	39

WEEKDAY

Trip Rate: 9.44

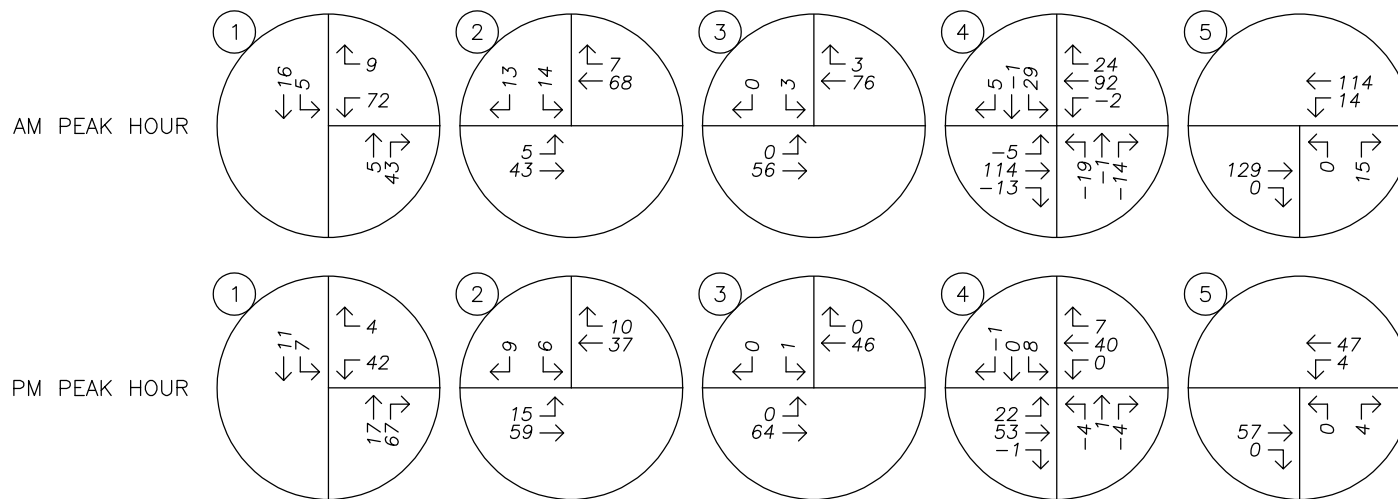
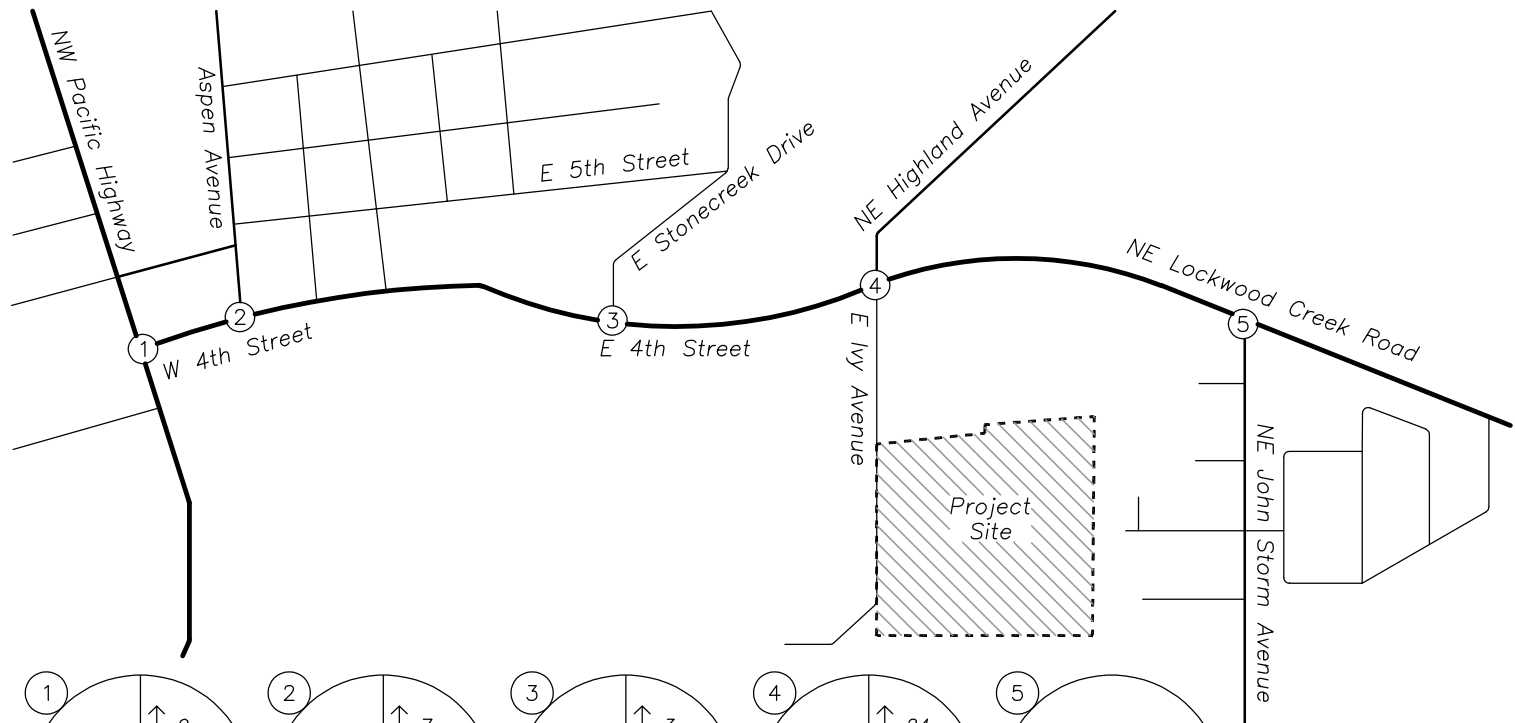
	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	184	184	368

SATURDAY

Trip Rate: 9.54

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	186	186	372

Source: Trip Generation Manual, Tenth Edition



TRAFFIC VOLUMES
In-Process Volumes
AM & PM Peak Hours



FIGURE
A

OFFICER REPORTED CRASHES THAT OCCURRED at OR in the vicinity of THE FOLLOWING INTERSECTIONS IN THE CITY OF LA CENTER

4th St @ Pacific Hwy / La Center Rd

01/01/2013 - 12/31/2017

Under 23 U.S. Code § 409 and 23 U.S. Code § 148, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A/B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE
City Street	Clark	La Center	NW PACIFIC HWY	400	W 4TH ST							No	E358151	09/12/2014	07:45	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb
City Street	Clark	La Center	NW PACIFIC HWY	400	W 4TH ST							No	E367326	10/18/2014	20:00	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car
City Street	Clark	La Center	NW PACIFIC HWY	400	W 4TH ST							No	E402273	02/20/2015	19:44	Possible Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb
City Street	Clark	La Center	NW PACIFIC HWY	400	W 4TH ST							No	E457917	09/02/2015	06:50	Suspected Minor Injury	2	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb
City Street	Clark	La Center	NW PACIFIC HWY	400	W 4TH ST							No	E525948	03/17/2016	15:45	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car
City Street	Clark	La Center	NW PACIFIC HWY	0	W 4TH ST							No	E651052	03/10/2017	15:40	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car
City Street	Clark	La Center	NW PACIFIC HWY	0	W 4TH ST							No	E671709	05/03/2017	06:41	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car
City Street	Clark	La Center	W 4TH ST	200	NW PACIFIC HWY							No	E230384	03/01/2013	08:02	Possible Injury	2	0	2	0	0	Passenger Car	Passenger Car
City Street	Clark	La Center	W 4TH ST	300	NW PACIFIC HWY							No	E464806	09/25/2015	08:10	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car

JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)
At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight	Entering at angle	Making Left Turn	Going Straight Ahead	East	South	South	North	Did Not Grant RW to Vehicle	Driver Not Distracted		Driver Not Distracted		
At Intersection and Related	Clear or Partly Cloudy	Dry	Dark-Street Lights On	Entering at angle	Stopped at Signal or Stop Sign	Making Right Turn	Vehicle Stopped	Vehicle Stopped	South	East	None			Under Influence of Alcohol		
At Intersection and Related	Clear or Partly Cloudy	Dry	Dark-Street Lights On	From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn	North	South	South	West	None			Did Not Grant RW to Vehicle		
At Intersection and Related	Overcast	Wet	Daylight	Entering at angle	Going Straight Ahead	Making Left Turn	South	North	East	South	None			Did Not Grant RW to Vehicle		
At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight	Entering at angle	Making Left Turn	Going Straight Ahead	East	South	South	North	Improper Turn	Inattention		None		
At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	North	South	Inattention			None		
At Intersection and Related	Clear or Partly Cloudy	Wet	Daylight	Entering at angle	Going Straight Ahead	Making Left Turn	South	North	East	South	None			Did Not Grant RW to Vehicle		
At Intersection and Related	Clear or Partly Cloudy	Wet	Daylight	Entering at angle	Making Left Turn	Going Straight Ahead	East	South	South	North	Did Not Grant RW to Vehicle			None		
At Intersection and Related	Raining	Wet	Daylight	Entering at angle	Making Left Turn	Going Straight Ahead	East	South	South	North	Did Not Grant RW to Vehicle			None		

BICYCLIST CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
									Lane of Primary Trafficway	1086930.86	200420.01
									Intersecting Trafficway	1086930.86	200420.01
									Lane of Primary Trafficway	1086930.86	200420.01
									Lane of Primary Trafficway	1086930.87	200420.01
									Lane of Primary Trafficway	1086930.87	200420.01
									Lane of Primary Trafficway	1086930.87	200420.01
									Lane of Primary Trafficway	1086930.87	200420.01
									Lane of Primary Trafficway	1086930.85	200420.01
									Intersecting Trafficway	1086930.87	200420.01

OFFICER REPORTED CRASHES THAT OCCURRED at OR in the vicinity of THE FOLLOWING INTERSECTIONS IN THE CITY OF LA CENTER

4th St @ Ivy Ave / Highland Rd / Highland Ave

01/01/2013 - 12/31/2017

Under 23 U.S. Code § 409 and 23 U.S. Code § 148, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A/B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE
City Street	Clark	La Center	E 4TH ST	900	NE HIGHLAND AVE							No	E354317	09/02/2014	08:05	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car
City Street	Clark	La Center	E 4TH ST	0	NE HIGHLAND RD							No	E713418	09/18/2017	07:56	Possible Injury	1	0	1	1	0	Pickup,Panel Truck or Vanette under 10,000 lb	
City Street	Clark	La Center	NE HIGHLAND AVE	400	E 4TH ST							No	E237901	04/14/2013	11:30	No Apparent Injury	0	0	1	0	0	Passenger Car	

JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)
At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight	Entering at angle	Making Left Turn	Making Left Turn	West	Northeast	North	Southeast	Driver Not Distracted				Did Not Grant RW to Vehicle	
At Intersection and Related	Raining	Wet	Daylight	Vehicle going straight hits pedestrian	Going Straight Ahead		West	East			Fail to Yield Row to Pedestrian					
At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight	Street Light Pole or Base	Going Straight Ahead		North	South			Exceeding Stated Speed Limit	Over Center Line				

BICYCLIST CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
									Lane of Primary Trafficway	1089710.53	200594.82
						Other			Lane of Primary Trafficway	1089710.55	200594.81
									Past the Outside Shoulder of Primary Trafficway	1089710.76	200589.11

Left-Turn Lane Warrant Analysis

Project: Holley Park Subdivision
 Intersection: E 4th Street at E Stonecreek Drive
 Date: 2/14/2019
 Scenario: 2021 Buildout Conditions - AM Peak Hour (EB)

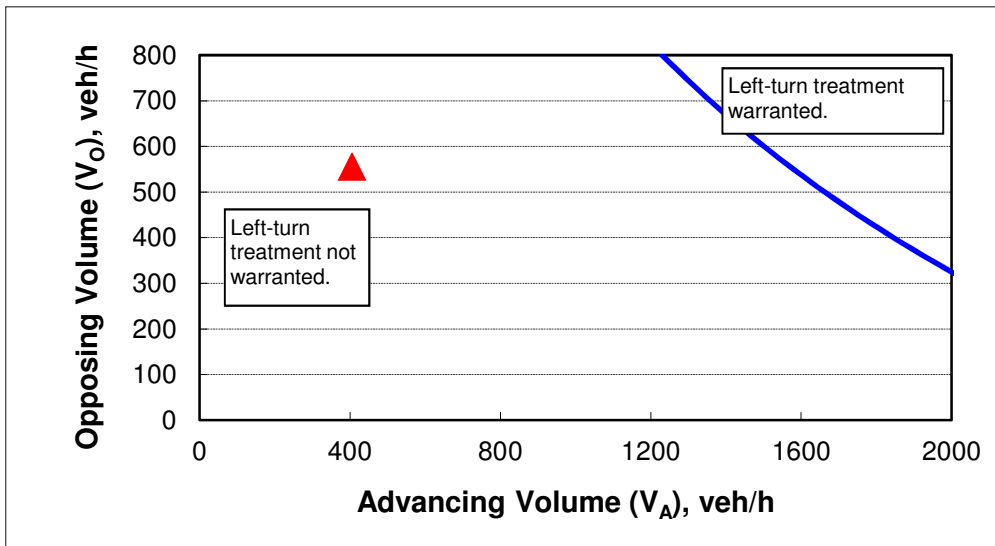
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	0%
Advancing volume (V_A), veh/h:	405
Opposing volume (V_O), veh/h:	555

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1571
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: Holley Park Subdivision
 Intersection: E 4th Street at E Stonecreek Drive
 Date: 2/14/2019
 Scenario: 2021 Buildout Conditions - PM Peak Hour (EB)

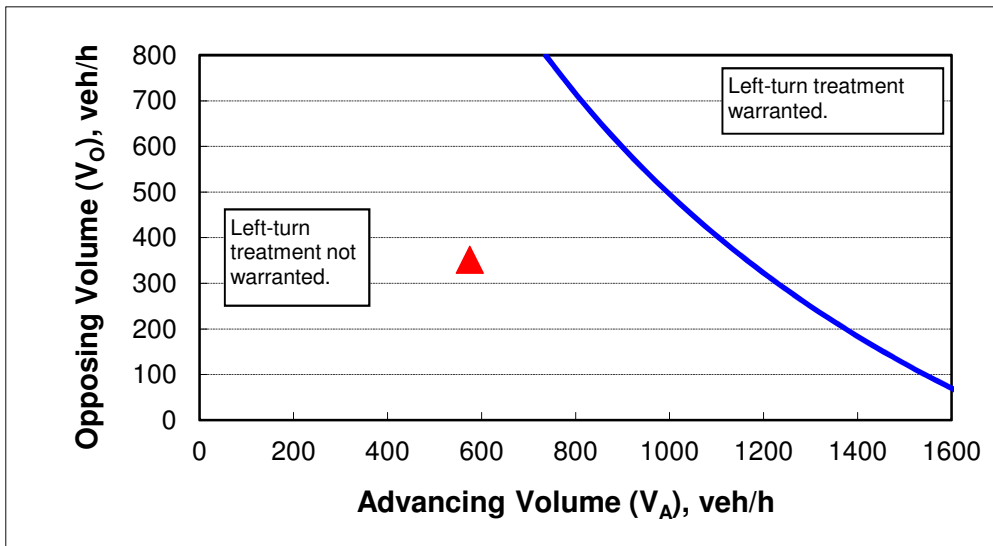
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	575
Opposing volume (V_O), veh/h:	351

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1164
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: Holley Park Subdivision
 Intersection: NE John Storm Avenue at NE Lockwood Creek Road
 Date: 2/14/2019
 Scenario: 2021 Buildout Conditions - AM Peak Hour (WB)

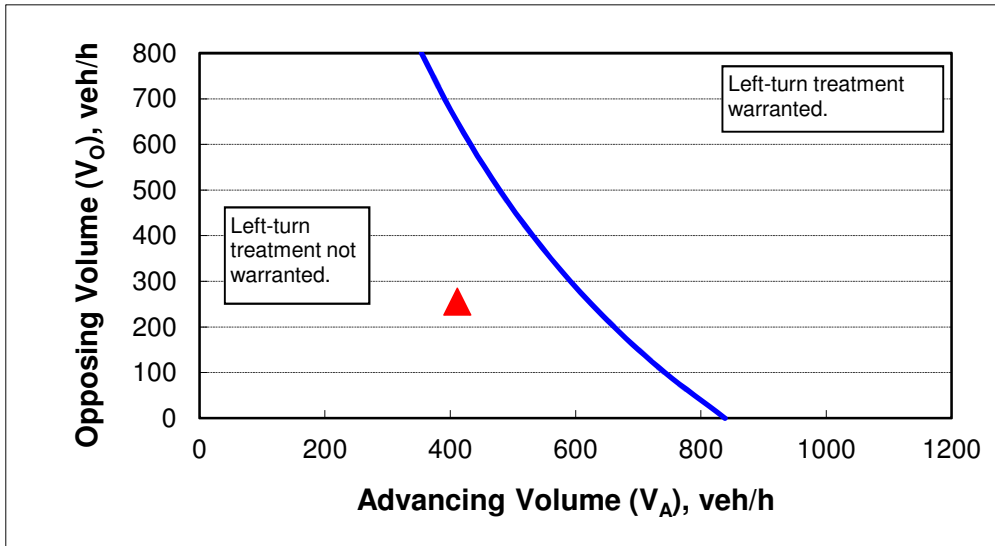
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	6%
Advancing volume (V_A), veh/h:	411
Opposing volume (V_O), veh/h:	255

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	622
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: Holley Park Subdivision
 Intersection: NE John Storm Avenue at NE Lockwood Creek Road
 Date: 2/14/2019
 Scenario: 2021 Buildout Conditions - PM Peak Hour (WB)

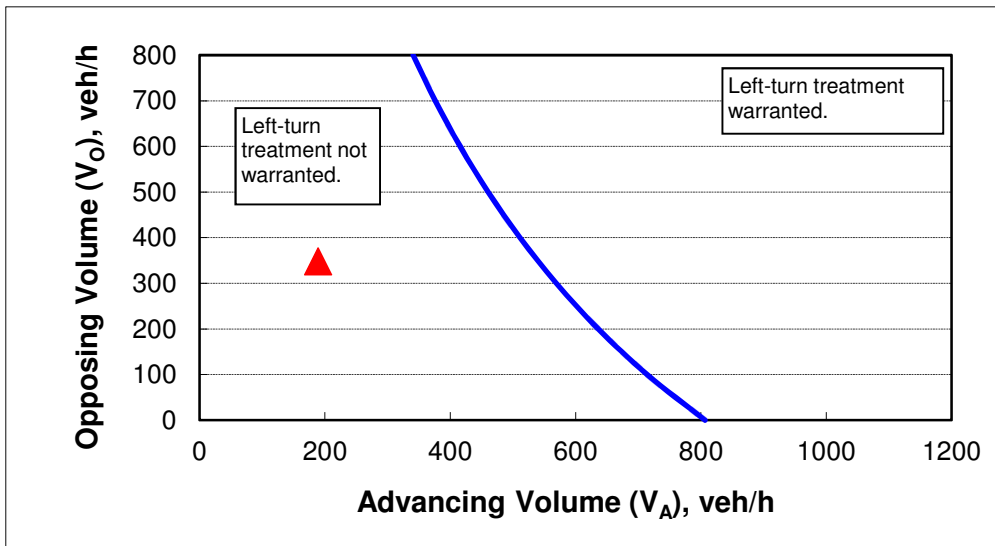
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	7%
Advancing volume (V_A), veh/h:	189
Opposing volume (V_O), veh/h:	348

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	540
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Traffic Signal Warrant Analysis



Project: Holley Park Subdivision
 Date: 2/14/2019
 Scenario: 2021 Buildout Conditions

Major Street:	4th Street	Minor Street:	Aspen Avenue
Number of Lanes:	2	Number of Lanes:	1
PM Peak Hour Volumes:	1019	PM Peak Hour Volumes:	73

Warrant Used:

_____ 100 percent of standard warrants used
 X 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	100% Warrants	70% Warrants	100% Warrants	70% Warrants
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	10,190	7,400	
Minor Street*	730	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	10,190	11,100	
Minor Street*	730	950	No
<i>Combination Warrant</i>			
Major Street	10,190	8,880	
Minor Street*	730	1,480	No

Note: Minor street right-turning traffic volumes reduced by 25%.

Traffic Signal Warrant Analysis



Project: Holley Park Subdivision
 Date: 2/14/2019
 Scenario: 2021 Buildout Conditions

Major Street:	4th Street	Minor Street:	Stonecreek Drive
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	926	PM Peak Hour Volumes:	30

Warrant Used:

_____ 100 percent of standard warrants used
 X 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	100% Warrants	70% Warrants	100% Warrants	70% Warrants
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	9,260	6,200	
Minor Street*	300	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	9,260	9,300	
Minor Street*	300	950	No
<i>Combination Warrant</i>			
Major Street	9,260	7,440	
Minor Street*	300	1,480	No

Note: Minor street right-turning traffic volumes reduced by 25%.

Traffic Signal Warrant Analysis



Project: Holley Park Subdivision
 Date: 2/14/2019
 Scenario: 2021 Buildout Conditions

Major Street:	4th Street	Minor Street:	Highland Avenue
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	808	PM Peak Hour Volumes:	95

Warrant Used:

_____ 100 percent of standard warrants used
 X 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	100% Warrants	70% Warrants	100% Warrants	70% Warrants
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	8,080	6,200	
Minor Street*	950	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	8,080	9,300	
Minor Street*	950	950	No
<i>Combination Warrant</i>			
Major Street	8,080	7,440	
Minor Street*	950	1,480	No

Note: Minor street right-turning traffic volumes reduced by 25%.

Traffic Signal Warrant Analysis



Project: Holley Park Subdivision
 Date: 2/14/2019
 Scenario: 2021 Buildout Conditions

Major Street: Lockwood Creek Road Minor Street: John Storm Avenue
 Number of Lanes: 1 Number of Lanes: 1
 PM Peak Hour Volumes: 537 PM Peak Hour Volumes: 49

Warrant Used:

- 100 percent of standard warrants used
- 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	100% Warrants	70% Warrants	100% Warrants	70% Warrants
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	5,370	6,200	
Minor Street*	490	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	5,370	9,300	
Minor Street*	490	950	No
<i>Combination Warrant</i>			
Major Street	5,370	7,440	
Minor Street*	490	1,480	No

Note: Minor street right-turning traffic volumes reduced by 25%.



LEVEL OF SERVICE

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

Level of service A: Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.

Level of service B: Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.

Level of service C: Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.

Level of service D: Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.

Level of service E: Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.

Level of service F: Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.



*LEVEL OF SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS*

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

*LEVEL OF SERVICE CRITERIA
FOR UNSIGNALIZED INTERSECTIONS*

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

HCM 6th Roundabout
1: Pacific Highway & W 4th St

01/11/2019

Intersection				
Intersection Delay, s/veh	5.6			
Intersection LOS	A			
Approach	WB	NB		SB
Entry Lanes	1	2		1
Conflicting Circle Lanes	2	2		2
Adj Approach Flow, veh/h	387	270		309
Demand Flow Rate, veh/h	406	289		324
Vehicles Circulating, veh/h	65	45		386
Vehicles Exiting, veh/h	269	665		85
Ped Vol Crossing Leg, #/h	4	2		3
Ped Cap Adj	0.999	0.998		1.000
Approach Delay, s/veh	5.5	4.0		7.0
Approach LOS	A	A		A
Lane	Left	Left	Right	Left
Designated Moves	LR	LT	R	LT
Assumed Moves	LR	LT	R	LT
RT Channelized				
Lane Util	1.000	0.225	0.775	1.000
Follow-Up Headway, s	2.535	2.667	2.535	2.535
Critical Headway, s	4.328	4.645	4.328	4.328
Entry Flow, veh/h	406	65	224	324
Cap Entry Lane, veh/h	1344	1295	1367	1023
Entry HV Adj Factor	0.953	0.935	0.933	0.953
Flow Entry, veh/h	387	61	209	309
Cap Entry, veh/h	1280	1208	1272	974
V/C Ratio	0.302	0.050	0.164	0.317
Control Delay, s/veh	5.5	3.4	4.2	7.0
LOS	A	A	A	A
95th %tile Queue, veh	1	0	1	1

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↖		↖	↗
Traffic Vol, veh/h	46	198	312	49	71	35
Future Vol, veh/h	46	198	312	49	71	35
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	80	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	6	6	6	6	3	3
Mvmt Flow	56	241	380	60	87	43

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	441	0	-	0	764
Stage 1	-	-	-	-	411
Stage 2	-	-	-	-	353
Critical Hdwy	4.16	-	-	-	6.43
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	2.254	-	-	-	3.527
Pot Cap-1 Maneuver	1098	-	-	-	370
Stage 1	-	-	-	-	667
Stage 2	-	-	-	-	709
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1097	-	-	-	350
Mov Cap-2 Maneuver	-	-	-	-	350
Stage 1	-	-	-	-	632
Stage 2	-	-	-	-	708

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	16.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1097	-	-	-	350	638
HCM Lane V/C Ratio	0.051	-	-	-	0.247	0.067
HCM Control Delay (s)	8.5	-	-	-	18.6	11
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1	0.2

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	2	321	401	31	46	7
Future Vol, veh/h	2	321	401	31	46	7
Conflicting Peds, #/hr	1	0	0	1	36	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	76	76	76	76	76	76
Heavy Vehicles, %	5	5	6	6	2	2
Mvmt Flow	3	422	528	41	61	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	570	0	-	0	1014 550
Stage 1	-	-	-	-	550 -
Stage 2	-	-	-	-	464 -
Critical Hdwy	4.15	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.245	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	988	-	-	-	264 535
Stage 1	-	-	-	-	578 -
Stage 2	-	-	-	-	633 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	987	-	-	-	262 534
Mov Cap-2 Maneuver	-	-	-	-	262 -
Stage 1	-	-	-	-	575 -
Stage 2	-	-	-	-	632 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	22
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	987	-	-	-	281
HCM Lane V/C Ratio	0.003	-	-	-	0.248
HCM Control Delay (s)	8.7	0	-	-	22
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1

Intersection												
Int Delay, s/veh	8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	124	120	12	4	241	33	27	1	7	8	3	180
Future Vol, veh/h	124	120	12	4	241	33	27	1	7	8	3	180
Conflicting Peds, #/hr	0	0	10	10	0	0	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	180	-	-	100	-	-	190	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	5	5	5	3	3	3	46	46	46	9	9	9
Mvmt Flow	177	171	17	6	344	47	39	1	10	11	4	257

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	391	0	0	198	0	0	1056	947	190	919	932	370
Stage 1	-	-	-	-	-	-	544	544	-	380	380	-
Stage 2	-	-	-	-	-	-	512	403	-	539	552	-
Critical Hdwy	4.15	-	-	4.13	-	-	7.56	6.96	6.66	7.19	6.59	6.29
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.96	-	6.19	5.59	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.96	-	6.19	5.59	-
Follow-up Hdwy	2.245	-	-	2.227	-	-	3.914	4.414	3.714	3.581	4.081	3.381
Pot Cap-1 Maneuver	1151	-	-	1369	-	-	168	221	751	245	259	660
Stage 1	-	-	-	-	-	-	452	454	-	628	602	-
Stage 2	-	-	-	-	-	-	472	530	-	514	504	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1151	-	-	1356	-	-	88	184	744	211	216	659
Mov Cap-2 Maneuver	-	-	-	-	-	-	88	184	-	211	216	-
Stage 1	-	-	-	-	-	-	379	380	-	531	600	-
Stage 2	-	-	-	-	-	-	284	528	-	427	422	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	4.2			0.1			60.2			14.9		
HCM LOS							F			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	88	539	1151	-	-	1356	-	-	211	638
HCM Lane V/C Ratio	0.438	0.021	0.154	-	-	0.004	-	-	0.054	0.41
HCM Control Delay (s)	74.6	11.8	8.7	-	-	7.7	-	-	23	14.5
HCM Lane LOS	F	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	1.8	0.1	0.5	-	-	0	-	-	0.2	2

HCM 6th TWSC
5: NE John Storm Ave & NE Lockwood Creek Rd

01/11/2019

Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	92	25	10	255	54	8
Future Vol, veh/h	92	25	10	255	54	8
Conflicting Peds, #/hr	0	5	5	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	66	66	66	66	66	66
Heavy Vehicles, %	8	8	3	3	3	3
Mvmt Flow	139	38	15	386	82	12

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	182	0	579 163
Stage 1	-	-	-	-	163 -
Stage 2	-	-	-	-	416 -
Critical Hdwy	-	-	4.13	-	6.43 6.23
Critical Hdwy Stg 1	-	-	-	-	5.43 -
Critical Hdwy Stg 2	-	-	-	-	5.43 -
Follow-up Hdwy	-	-	2.227	-	3.527 3.327
Pot Cap-1 Maneuver	-	-	1387	-	475 879
Stage 1	-	-	-	-	864 -
Stage 2	-	-	-	-	664 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1380	-	466 875
Mov Cap-2 Maneuver	-	-	-	-	466 -
Stage 1	-	-	-	-	848 -
Stage 2	-	-	-	-	664 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	13.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	496	-	-	1380	-
HCM Lane V/C Ratio	0.189	-	-	0.011	-
HCM Control Delay (s)	13.9	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

HCM 6th Roundabout
1: Pacific Highway & W 4th St

01/11/2019

Intersection				
Intersection Delay, s/veh	5.5			
Intersection LOS	A			
Approach	WB	NB		SB
Entry Lanes	1	2		1
Conflicting Circle Lanes	2	2		2
Adj Approach Flow, veh/h	215	751		175
Demand Flow Rate, veh/h	217	759		177
Vehicles Circulating, veh/h	154	22		186
Vehicles Exiting, veh/h	627	341		185
Ped Vol Crossing Leg, #/h	0	0		3
Ped Cap Adj	1.000	1.000		1.000
Approach Delay, s/veh	4.4	6.1		4.2
Approach LOS	A	A		A
Lane	Left	Left	Right	Left
Designated Moves	LR	LT	R	LT
Assumed Moves	LR	LT	R	LT
RT Channelized				
Lane Util	1.000	0.203	0.797	1.000
Follow-Up Headway, s	2.535	2.667	2.535	2.535
Critical Headway, s	4.328	4.645	4.328	4.328
Entry Flow, veh/h	217	154	605	177
Cap Entry Lane, veh/h	1246	1323	1394	1212
Entry HV Adj Factor	0.991	0.990	0.990	0.991
Flow Entry, veh/h	215	152	599	175
Cap Entry, veh/h	1234	1310	1380	1201
V/C Ratio	0.174	0.116	0.434	0.146
Control Delay, s/veh	4.4	3.7	6.8	4.2
LOS	A	A	A	A
95th %tile Queue, veh	1	0	2	1

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑	↘		↙	↘
Traffic Vol, veh/h	159	431	177	51	40	23
Future Vol, veh/h	159	431	177	51	40	23
Conflicting Peds, #/hr	4	0	0	4	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	80	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	171	463	190	55	43	25

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	249	0	-	0	1028 222
Stage 1	-	-	-	-	222 -
Stage 2	-	-	-	-	806 -
Critical Hdwy	4.11	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.209	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1323	-	-	-	262 823
Stage 1	-	-	-	-	820 -
Stage 2	-	-	-	-	443 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1318	-	-	-	226 820
Mov Cap-2 Maneuver	-	-	-	-	226 -
Stage 1	-	-	-	-	711 -
Stage 2	-	-	-	-	441 -

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	19.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1318	-	-	-	226	820
HCM Lane V/C Ratio	0.13	-	-	-	0.19	0.03
HCM Control Delay (s)	8.1	-	-	-	24.6	9.5
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	0.1

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	8	456	246	31	25	3
Future Vol, veh/h	8	456	246	31	25	3
Conflicting Peds, #/hr	0	0	0	0	3	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	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	9	496	267	34	27	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	301	0	-	0	801 284
Stage 1	-	-	-	-	284 -
Stage 2	-	-	-	-	517 -
Critical Hdwy	4.11	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.209	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1266	-	-	-	356 760
Stage 1	-	-	-	-	769 -
Stage 2	-	-	-	-	603 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1266	-	-	-	352 760
Mov Cap-2 Maneuver	-	-	-	-	352 -
Stage 1	-	-	-	-	761 -
Stage 2	-	-	-	-	603 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1266	-	-	-	373
HCM Lane V/C Ratio	0.007	-	-	-	0.082
HCM Control Delay (s)	7.9	0	-	-	15.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↔		↔	↔	
Traffic Vol, veh/h	190	260	4	1	155	18	9	6	6	8	1	99
Future Vol, veh/h	190	260	4	1	155	18	9	6	6	8	1	99
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	180	-	-	100	-	-	190	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	2	2	2	5	5	5	1	1	1
Mvmt Flow	204	280	4	1	167	19	10	6	6	9	1	106

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	186	0	0	286	0	0	924	880	284	875	873	177
Stage 1	-	-	-	-	-	-	692	692	-	179	179	-
Stage 2	-	-	-	-	-	-	232	188	-	696	694	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.15	6.55	6.25	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.545	4.045	3.345	3.509	4.009	3.309
Pot Cap-1 Maneuver	1395	-	-	1276	-	-	247	283	748	271	290	869
Stage 1	-	-	-	-	-	-	429	441	-	825	753	-
Stage 2	-	-	-	-	-	-	764	739	-	434	446	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1395	-	-	1274	-	-	191	241	747	234	247	869
Mov Cap-2 Maneuver	-	-	-	-	-	-	191	241	-	234	247	-
Stage 1	-	-	-	-	-	-	366	376	-	705	752	-
Stage 2	-	-	-	-	-	-	669	738	-	361	380	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.4	0	19.4	10.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	191	364	1395	-	-	1274	-	-	234	848
HCM Lane V/C Ratio	0.051	0.035	0.146	-	-	0.001	-	-	0.037	0.127
HCM Control Delay (s)	24.9	15.3	8	-	-	7.8	-	-	21	9.9
HCM Lane LOS	C	C	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.2	0.1	0.5	-	-	0	-	-	0.1	0.4

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	203	72	7	120	30	16
Future Vol, veh/h	203	72	7	120	30	16
Conflicting Peds, #/hr	0	1	1	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	89	89	89	89	89	89
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	228	81	8	135	34	18

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	310	0	421
Stage 1	-	-	-	-	270
Stage 2	-	-	-	-	151
Critical Hdwy	-	-	4.11	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.209	-	3.5
Pot Cap-1 Maneuver	-	-	1256	-	593
Stage 1	-	-	-	-	780
Stage 2	-	-	-	-	882
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1255	-	588
Mov Cap-2 Maneuver	-	-	-	-	588
Stage 1	-	-	-	-	774
Stage 2	-	-	-	-	882

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	641	-	-	1255	-
HCM Lane V/C Ratio	0.081	-	-	0.006	-
HCM Control Delay (s)	11.1	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

HCM 6th Roundabout
1: Pacific Highway & W 4th St

01/11/2019

Intersection				
Intersection Delay, s/veh	6.6			
Intersection LOS	A			
Approach	WB	NB		SB
Entry Lanes	1	2		1
Conflicting Circle Lanes	2	2		2
Adj Approach Flow, veh/h	497	336		349
Demand Flow Rate, veh/h	522	360		366
Vehicles Circulating, veh/h	74	52		490
Vehicles Exiting, veh/h	338	804		105
Ped Vol Crossing Leg, #/h	4	2		3
Ped Cap Adj	0.999	0.998		1.000
Approach Delay, s/veh	6.6	4.4		8.6
Approach LOS	A	A		A
Lane	Left	Left	Right	Left
Designated Moves	LR	LT	R	LT
Assumed Moves	LR	LT	R	LT
RT Channelized				
Lane Util	1.000	0.206	0.794	1.000
Follow-Up Headway, s	2.535	2.667	2.535	2.535
Critical Headway, s	4.328	4.645	4.328	4.328
Entry Flow, veh/h	522	74	286	366
Cap Entry Lane, veh/h	1334	1287	1359	936
Entry HV Adj Factor	0.952	0.935	0.934	0.954
Flow Entry, veh/h	497	69	267	349
Cap Entry, veh/h	1269	1200	1266	893
V/C Ratio	0.392	0.058	0.211	0.391
Control Delay, s/veh	6.6	3.5	4.7	8.6
LOS	A	A	A	A
95th %tile Queue, veh	2	0	1	2

HCM 6th TWSC
2: W 4th St/E 4th St & Aspen Ave

01/11/2019

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗		↖	↗
Traffic Vol, veh/h	54	253	399	59	89	50
Future Vol, veh/h	54	253	399	59	89	50
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	80	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	6	6	6	6	3	3
Mvmt Flow	66	309	487	72	109	61

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	560	0	-	0	965 524
Stage 1	-	-	-	-	524 -
Stage 2	-	-	-	-	441 -
Critical Hdwy	4.16	-	-	-	6.43 6.23
Critical Hdwy Stg 1	-	-	-	-	5.43 -
Critical Hdwy Stg 2	-	-	-	-	5.43 -
Follow-up Hdwy	2.254	-	-	-	3.527 3.327
Pot Cap-1 Maneuver	991	-	-	-	282 551
Stage 1	-	-	-	-	592 -
Stage 2	-	-	-	-	646 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	990	-	-	-	263 550
Mov Cap-2 Maneuver	-	-	-	-	263 -
Stage 1	-	-	-	-	552 -
Stage 2	-	-	-	-	645 -

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	22.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	990	-	-	-	263	550
HCM Lane V/C Ratio	0.067	-	-	-	0.413	0.111
HCM Control Delay (s)	8.9	-	-	-	28	12.4
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1.9	0.4

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	2	397	502	36	52	7
Future Vol, veh/h	2	397	502	36	52	7
Conflicting Peds, #/hr	1	0	0	1	36	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	76	76	76	76	76	76
Heavy Vehicles, %	5	5	6	6	2	2
Mvmt Flow	3	522	661	47	68	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	709	0	0	1250	686
Stage 1	-	-	-	686	-
Stage 2	-	-	-	564	-
Critical Hdwy	4.15	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.245	-	-	3.518	3.318
Pot Cap-1 Maneuver	876	-	-	191	447
Stage 1	-	-	-	500	-
Stage 2	-	-	-	569	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	875	-	-	190	447
Mov Cap-2 Maneuver	-	-	-	190	-
Stage 1	-	-	-	497	-
Stage 2	-	-	-	568	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	33.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	875	-	-	-	204
HCM Lane V/C Ratio	0.003	-	-	-	0.381
HCM Control Delay (s)	9.1	0	-	-	33.1
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	1.7

Intersection												
Int Delay, s/veh	8.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	127	241	1	2	348	59	10	1	1	37	2	196
Future Vol, veh/h	127	241	1	2	348	59	10	1	1	37	2	196
Conflicting Peds, #/hr	0	0	10	10	0	0	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	180	-	-	100	-	-	190	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	5	5	5	3	3	3	46	46	46	9	9	9
Mvmt Flow	181	344	1	3	497	84	14	1	1	53	3	280

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	581	0	0	355	0	0	1406	1304	355	1253	1262	541
Stage 1	-	-	-	-	-	-	717	717	-	545	545	-
Stage 2	-	-	-	-	-	-	689	587	-	708	717	-
Critical Hdwy	4.15	-	-	4.13	-	-	7.56	6.96	6.66	7.19	6.59	6.29
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.96	-	6.19	5.59	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.96	-	6.19	5.59	-
Follow-up Hdwy	2.245	-	-	2.227	-	-	3.914	4.414	3.714	3.581	4.081	3.381
Pot Cap-1 Maneuver	978	-	-	1198	-	-	94	131	600	144	165	528
Stage 1	-	-	-	-	-	-	359	374	-	510	507	-
Stage 2	-	-	-	-	-	-	372	433	-	415	423	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	978	-	-	1187	-	-	37	105	594	122	133	527
Mov Cap-2 Maneuver	-	-	-	-	-	-	37	105	-	122	133	-
Stage 1	-	-	-	-	-	-	290	302	-	416	505	-
Stage 2	-	-	-	-	-	-	173	432	-	336	341	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0	132.5	25.9
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	37	178	978	-	-	1187	-	-	122	512
HCM Lane V/C Ratio	0.386	0.016	0.186	-	-	0.002	-	-	0.433	0.552
HCM Control Delay (s)	153.9	25.6	9.5	-	-	8	-	-	55.4	20.4
HCM Lane LOS	F	D	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	1.3	0	0.7	-	-	0	-	-	1.9	3.3

HCM 6th TWSC
5: NE John Storm Ave & NE Lockwood Creek Rd

01/11/2019

Intersection						
Int Delay, s/veh	3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	227	27	25	385	57	23
Future Vol, veh/h	227	27	25	385	57	23
Conflicting Peds, #/hr	0	5	5	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	66	66	66	66	66	66
Heavy Vehicles, %	8	8	3	3	3	3
Mvmt Flow	344	41	38	583	86	35

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	390	0	1029
Stage 1	-	-	-	-	370
Stage 2	-	-	-	-	659
Critical Hdwy	-	-	4.13	-	6.43
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	-	-	2.227	-	3.527
Pot Cap-1 Maneuver	-	-	1163	-	258
Stage 1	-	-	-	-	696
Stage 2	-	-	-	-	513
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1157	-	244
Mov Cap-2 Maneuver	-	-	-	-	244
Stage 1	-	-	-	-	658
Stage 2	-	-	-	-	513

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	25
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	299	-	-	1157	-
HCM Lane V/C Ratio	0.405	-	-	0.033	-
HCM Control Delay (s)	25	-	-	8.2	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	0.1	-

HCM 6th Roundabout
1: Pacific Highway & W 4th St

01/11/2019

Intersection				
Intersection Delay, s/veh	6.3			
Intersection LOS	A			
Approach	WB	NB		SB
Entry Lanes	1	2		1
Conflicting Circle Lanes	2	2		2
Adj Approach Flow, veh/h	277	886		205
Demand Flow Rate, veh/h	279	895		207
Vehicles Circulating, veh/h	182	31		242
Vehicles Exiting, veh/h	744	418		219
Ped Vol Crossing Leg, #/h	0	0		3
Ped Cap Adj	1.000	1.000		1.000
Approach Delay, s/veh	5.0	7.1		4.7
Approach LOS	A	A		A
Lane	Left	Left	Right	Left
Designated Moves	LR	LT	R	LT
Assumed Moves	LR	LT	R	LT
RT Channelized				
Lane Util	1.000	0.203	0.797	1.000
Follow-Up Headway, s	2.535	2.667	2.535	2.535
Critical Headway, s	4.328	4.645	4.328	4.328
Entry Flow, veh/h	279	182	713	207
Cap Entry Lane, veh/h	1217	1312	1383	1156
Entry HV Adj Factor	0.993	0.990	0.990	0.992
Flow Entry, veh/h	277	180	706	205
Cap Entry, veh/h	1208	1299	1370	1146
V/C Ratio	0.229	0.139	0.515	0.179
Control Delay, s/veh	5.0	3.9	8.0	4.7
LOS	A	A	A	A
95th %tile Queue, veh	1	0	3	1

HCM 6th TWSC
2: W 4th St/E 4th St & Aspen Ave

01/11/2019

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗		↖	↗
Traffic Vol, veh/h	184	516	225	64	48	33
Future Vol, veh/h	184	516	225	64	48	33
Conflicting Peds, #/hr	4	0	0	4	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	80	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	198	555	242	69	52	35

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	315	0	-	0	1233 281
Stage 1	-	-	-	-	281 -
Stage 2	-	-	-	-	952 -
Critical Hdwy	4.11	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.209	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1251	-	-	-	197 763
Stage 1	-	-	-	-	771 -
Stage 2	-	-	-	-	378 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1246	-	-	-	164 760
Mov Cap-2 Maneuver	-	-	-	-	164 -
Stage 1	-	-	-	-	646 -
Stage 2	-	-	-	-	376 -

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	25.8
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1246	-	-	-	164	760
HCM Lane V/C Ratio	0.159	-	-	-	0.315	0.047
HCM Control Delay (s)	8.4	-	-	-	36.7	10
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.3	0.1

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	8	548	307	33	28	3
Future Vol, veh/h	8	548	307	33	28	3
Conflicting Peds, #/hr	0	0	0	0	3	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	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	9	596	334	36	30	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	370	0	-	0	969 352
Stage 1	-	-	-	-	352 -
Stage 2	-	-	-	-	617 -
Critical Hdwy	4.11	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.209	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1194	-	-	-	284 696
Stage 1	-	-	-	-	716 -
Stage 2	-	-	-	-	542 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1194	-	-	-	281 696
Mov Cap-2 Maneuver	-	-	-	-	281 -
Stage 1	-	-	-	-	708 -
Stage 2	-	-	-	-	542 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	18.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1194	-	-	-	298
HCM Lane V/C Ratio	0.007	-	-	-	0.113
HCM Control Delay (s)	8	0	-	-	18.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	224	329	3	1	204	26	6	7	2	16	1	104
Future Vol, veh/h	224	329	3	1	204	26	6	7	2	16	1	104
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	180	-	-	100	-	-	190	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	2	2	2	5	5	5	1	1	1
Mvmt Flow	241	354	3	1	219	28	6	8	2	17	1	112

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	247	0	0	359	0	0	1132	1089	358	1078	1076	233
Stage 1	-	-	-	-	-	-	840	840	-	235	235	-
Stage 2	-	-	-	-	-	-	292	249	-	843	841	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.15	6.55	6.25	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.545	4.045	3.345	3.509	4.009	3.309
Pot Cap-1 Maneuver	1325	-	-	1200	-	-	178	213	680	197	220	809
Stage 1	-	-	-	-	-	-	355	377	-	770	712	-
Stage 2	-	-	-	-	-	-	710	695	-	360	382	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1325	-	-	1198	-	-	131	174	679	164	180	809
Mov Cap-2 Maneuver	-	-	-	-	-	-	131	174	-	164	180	-
Stage 1	-	-	-	-	-	-	290	308	-	630	711	-
Stage 2	-	-	-	-	-	-	610	694	-	286	312	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.4	0	27.5	12.9
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	131	208	1325	-	-	1198	-	-	164	783
HCM Lane V/C Ratio	0.049	0.047	0.182	-	-	0.001	-	-	0.105	0.144
HCM Control Delay (s)	33.9	23.2	8.3	-	-	8	-	-	29.5	10.4
HCM Lane LOS	D	C	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.2	0.1	0.7	-	-	0	-	-	0.3	0.5

HCM 6th TWSC
 5: NE John Storm Ave & NE Lockwood Creek Rd

01/11/2019

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	272	76	11	174	32	21
Future Vol, veh/h	272	76	11	174	32	21
Conflicting Peds, #/hr	0	1	1	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	89	89	89	89	89	89
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	306	85	12	196	36	24

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	392	0	570
Stage 1	-	-	-	-	350
Stage 2	-	-	-	-	220
Critical Hdwy	-	-	4.11	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.209	-	3.5
Pot Cap-1 Maneuver	-	-	1172	-	486
Stage 1	-	-	-	-	718
Stage 2	-	-	-	-	821
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1171	-	480
Mov Cap-2 Maneuver	-	-	-	-	480
Stage 1	-	-	-	-	709
Stage 2	-	-	-	-	821

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	548	-	-	1171	-
HCM Lane V/C Ratio	0.109	-	-	0.011	-
HCM Control Delay (s)	12.4	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

HCM 6th Roundabout
1: Pacific Highway & W 4th St

02/01/2019

Intersection				
Intersection Delay, s/veh	6.7			
Intersection LOS	A			
Approach	WB	NB		SB
Entry Lanes	1	2	1	
Conflicting Circle Lanes	2	2	2	
Adj Approach Flow, veh/h	515	341	350	
Demand Flow Rate, veh/h	541	365	368	
Vehicles Circulating, veh/h	74	54	507	
Vehicles Exiting, veh/h	345	821	108	
Ped Vol Crossing Leg, #/h	4	2	3	
Ped Cap Adj	0.999	0.998	1.000	
Approach Delay, s/veh	6.8	4.5	8.8	
Approach LOS	A	A	A	
Lane	Left	Left	Right	Left
Designated Moves	LR	LT	R	LT
Assumed Moves	LR	LT	R	LT
RT Channelized				
Lane Util	1.000	0.203	0.797	1.000
Follow-Up Headway, s	2.535	2.667	2.535	2.535
Critical Headway, s	4.328	4.645	4.328	4.328
Entry Flow, veh/h	541	74	291	368
Cap Entry Lane, veh/h	1334	1284	1356	923
Entry HV Adj Factor	0.952	0.935	0.935	0.951
Flow Entry, veh/h	515	69	272	350
Cap Entry, veh/h	1269	1198	1265	877
V/C Ratio	0.406	0.058	0.215	0.399
Control Delay, s/veh	6.8	3.5	4.7	8.8
LOS	A	A	A	A
95th %tile Queue, veh	2	0	1	2

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗		↖	↗
Traffic Vol, veh/h	54	259	416	59	89	50
Future Vol, veh/h	54	259	416	59	89	50
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	80	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	6	6	6	6	3	3
Mvmt Flow	66	316	507	72	109	61

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	580	0	-	0	992
Stage 1	-	-	-	-	544
Stage 2	-	-	-	-	448
Critical Hdwy	4.16	-	-	-	6.43
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	2.254	-	-	-	3.527
Pot Cap-1 Maneuver	974	-	-	-	271
Stage 1	-	-	-	-	580
Stage 2	-	-	-	-	642
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	973	-	-	-	252
Mov Cap-2 Maneuver	-	-	-	-	252
Stage 1	-	-	-	-	540
Stage 2	-	-	-	-	641

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	23.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	973	-	-	-	252	536
HCM Lane V/C Ratio	0.068	-	-	-	0.431	0.114
HCM Control Delay (s)	9	-	-	-	29.7	12.6
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.2	-	-	-	2	0.4

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	2	403	519	36	52	7
Future Vol, veh/h	2	403	519	36	52	7
Conflicting Peds, #/hr	1	0	0	1	36	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	76	76	76	76	76	76
Heavy Vehicles, %	5	5	6	6	2	2
Mvmt Flow	3	530	683	47	68	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	731	0	-	0	1280 708
Stage 1	-	-	-	-	708 -
Stage 2	-	-	-	-	572 -
Critical Hdwy	4.15	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.245	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	860	-	-	-	183 435
Stage 1	-	-	-	-	488 -
Stage 2	-	-	-	-	565 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	859	-	-	-	182 435
Mov Cap-2 Maneuver	-	-	-	-	182 -
Stage 1	-	-	-	-	485 -
Stage 2	-	-	-	-	564 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	35.2
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	859	-	-	-	195
HCM Lane V/C Ratio	0.003	-	-	-	0.398
HCM Control Delay (s)	9.2	0	-	-	35.2
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	1.8

Intersection												
Int Delay, s/veh	9.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↔		↔	↔	
Traffic Vol, veh/h	127	247	1	2	365	60	10	1	1	37	2	196
Future Vol, veh/h	127	247	1	2	365	60	10	1	1	37	2	196
Conflicting Peds, #/hr	0	0	10	10	0	0	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	180	-	-	100	-	-	190	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	5	5	5	3	3	3	46	46	46	9	9	9
Mvmt Flow	181	353	1	3	521	86	14	1	1	53	3	280

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	607	0	0	364	0	0	1440	1339	364	1287	1296	566
Stage 1	-	-	-	-	-	-	726	726	-	570	570	-
Stage 2	-	-	-	-	-	-	714	613	-	717	726	-
Critical Hdwy	4.15	-	-	4.13	-	-	7.56	6.96	6.66	7.19	6.59	6.29
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.96	-	6.19	5.59	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.96	-	6.19	5.59	-
Follow-up Hdwy	2.245	-	-	2.227	-	-	3.914	4.414	3.714	3.581	4.081	3.381
Pot Cap-1 Maneuver	957	-	-	1189	-	-	88	125	593	136	157	511
Stage 1	-	-	-	-	-	-	354	370	-	494	494	-
Stage 2	-	-	-	-	-	-	360	420	-	410	419	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	957	-	-	1178	-	-	33	100	587	115	126	510
Mov Cap-2 Maneuver	-	-	-	-	-	-	33	100	-	115	126	-
Stage 1	-	-	-	-	-	-	284	297	-	401	493	-
Stage 2	-	-	-	-	-	-	161	419	-	330	336	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0	154.6	27.6
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	33	171	957	-	-	1178	-	-	115	495
HCM Lane V/C Ratio	0.433	0.017	0.19	-	-	0.002	-	-	0.46	0.571
HCM Control Delay (s)	180.2	26.4	9.6	-	-	8.1	-	-	60.5	21.5
HCM Lane LOS	F	D	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	1.4	0.1	0.7	-	-	0	-	-	2	3.5

HCM 6th TWSC
5: NE John Storm Ave & NE Lockwood Creek Rd

02/01/2019

Intersection						
Int Delay, s/veh	4.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	227	33	26	385	75	26
Future Vol, veh/h	227	33	26	385	75	26
Conflicting Peds, #/hr	0	5	5	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	66	66	66	66	66	66
Heavy Vehicles, %	8	8	3	3	3	3
Mvmt Flow	344	50	39	583	114	39

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	399	0	1035 374
Stage 1	-	-	-	-	374 -
Stage 2	-	-	-	-	661 -
Critical Hdwy	-	-	4.13	-	6.43 6.23
Critical Hdwy Stg 1	-	-	-	-	5.43 -
Critical Hdwy Stg 2	-	-	-	-	5.43 -
Follow-up Hdwy	-	-	2.227	-	3.527 3.327
Pot Cap-1 Maneuver	-	-	1154	-	256 670
Stage 1	-	-	-	-	693 -
Stage 2	-	-	-	-	512 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1149	-	242 667
Mov Cap-2 Maneuver	-	-	-	-	242 -
Stage 1	-	-	-	-	655 -
Stage 2	-	-	-	-	512 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	30.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	289	-	-	1149	-
HCM Lane V/C Ratio	0.53	-	-	0.034	-
HCM Control Delay (s)	30.7	-	-	8.2	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	2.9	-	-	0.1	-

HCM 6th Roundabout
1: Pacific Highway & W 4th St

02/01/2019

Intersection				
Intersection Delay, s/veh	6.5			
Intersection LOS	A			
Approach	WB	NB		SB
Entry Lanes	1	2	1	
Conflicting Circle Lanes	2	2	2	
Adj Approach Flow, veh/h	289	903	208	
Demand Flow Rate, veh/h	292	912	210	
Vehicles Circulating, veh/h	182	34	254	
Vehicles Exiting, veh/h	764	430	220	
Ped Vol Crossing Leg, #/h	0	0	3	
Ped Cap Adj	1.000	1.000	1.000	
Approach Delay, s/veh	5.1	7.3	4.8	
Approach LOS	A	A	A	
Lane	Left	Left	Right	Left
Designated Moves	LR	LT	R	LT
Assumed Moves	LR	LT	R	LT
RT Channelized				
Lane Util	1.000	0.200	0.800	1.000
Follow-Up Headway, s	2.535	2.667	2.535	2.535
Critical Headway, s	4.328	4.645	4.328	4.328
Entry Flow, veh/h	292	182	730	210
Cap Entry Lane, veh/h	1217	1308	1380	1144
Entry HV Adj Factor	0.990	0.990	0.990	0.992
Flow Entry, veh/h	289	180	723	208
Cap Entry, veh/h	1204	1295	1366	1134
V/C Ratio	0.240	0.139	0.529	0.184
Control Delay, s/veh	5.1	3.9	8.2	4.8
LOS	A	A	A	A
95th %tile Queue, veh	1	0	3	1

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗		↖	↗
Traffic Vol, veh/h	184	535	236	64	48	33
Future Vol, veh/h	184	535	236	64	48	33
Conflicting Peds, #/hr	4	0	0	4	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	80	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	198	575	254	69	52	35

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	327	0	-	0	1265 293
Stage 1	-	-	-	-	293 -
Stage 2	-	-	-	-	972 -
Critical Hdwy	4.11	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.209	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1238	-	-	-	189 751
Stage 1	-	-	-	-	762 -
Stage 2	-	-	-	-	370 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1233	-	-	-	157 748
Mov Cap-2 Maneuver	-	-	-	-	157 -
Stage 1	-	-	-	-	637 -
Stage 2	-	-	-	-	369 -

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	27.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1233	-	-	-	157	748
HCM Lane V/C Ratio	0.16	-	-	-	0.329	0.047
HCM Control Delay (s)	8.5	-	-	-	38.8	10.1
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.3	0.1

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	8	567	318	33	28	3
Future Vol, veh/h	8	567	318	33	28	3
Conflicting Peds, #/hr	0	0	0	0	3	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	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	9	616	346	36	30	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	382	0	-	0	1001 364
Stage 1	-	-	-	-	364 -
Stage 2	-	-	-	-	637 -
Critical Hdwy	4.11	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.209	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1182	-	-	-	271 685
Stage 1	-	-	-	-	707 -
Stage 2	-	-	-	-	531 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1182	-	-	-	268 685
Mov Cap-2 Maneuver	-	-	-	-	268 -
Stage 1	-	-	-	-	699 -
Stage 2	-	-	-	-	531 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	19.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1182	-	-	-	285
HCM Lane V/C Ratio	0.007	-	-	-	0.118
HCM Control Delay (s)	8.1	0	-	-	19.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	224	348	3	1	215	27	6	7	2	17	1	104
Future Vol, veh/h	224	348	3	1	215	27	6	7	2	17	1	104
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	180	-	-	100	-	-	190	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	2	2	2	5	5	5	1	1	1
Mvmt Flow	241	374	3	1	231	29	6	8	2	18	1	112

Major/Minor	Major1		Major2		Minor1			Minor2				
Conflicting Flow All	260	0	0	379	0	0	1164	1122	378	1111	1109	246
Stage 1	-	-	-	-	-	-	860	860	-	248	248	-
Stage 2	-	-	-	-	-	-	304	262	-	863	861	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.15	6.55	6.25	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.545	4.045	3.345	3.509	4.009	3.309
Pot Cap-1 Maneuver	1310	-	-	1179	-	-	169	203	662	187	210	795
Stage 1	-	-	-	-	-	-	346	369	-	758	703	-
Stage 2	-	-	-	-	-	-	699	686	-	351	374	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1310	-	-	1177	-	-	124	165	661	154	171	795
Mov Cap-2 Maneuver	-	-	-	-	-	-	124	165	-	154	171	-
Stage 1	-	-	-	-	-	-	282	300	-	619	702	-
Stage 2	-	-	-	-	-	-	599	685	-	278	304	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0	28.7	13.4
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	124	198	1310	-	-	1177	-	-	154	768
HCM Lane V/C Ratio	0.052	0.049	0.184	-	-	0.001	-	-	0.119	0.147
HCM Control Delay (s)	35.6	24.1	8.4	-	-	8.1	-	-	31.5	10.5
HCM Lane LOS	E	C	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.2	0.2	0.7	-	-	0	-	-	0.4	0.5

HCM 6th TWSC
5: NE John Storm Ave & NE Lockwood Creek Rd

02/01/2019

Intersection						
Int Delay, s/veh	1.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	272	96	15	174	44	23
Future Vol, veh/h	272	96	15	174	44	23
Conflicting Peds, #/hr	0	1	1	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	89	89	89	89	89	89
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	306	108	17	196	49	26

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	415	0	591
Stage 1	-	-	-	-	361
Stage 2	-	-	-	-	230
Critical Hdwy	-	-	4.11	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.209	-	3.5
Pot Cap-1 Maneuver	-	-	1149	-	473
Stage 1	-	-	-	-	710
Stage 2	-	-	-	-	813
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1148	-	464
Mov Cap-2 Maneuver	-	-	-	-	464
Stage 1	-	-	-	-	697
Stage 2	-	-	-	-	813

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	13.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	522	-	-	1148	-
HCM Lane V/C Ratio	0.144	-	-	0.015	-
HCM Control Delay (s)	13.1	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-