



9. Traffic Study



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Camas Heights Transportation Impact Study Camas, Washington

Date:

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Executive Summary

1. The property located at 22630 NE 28th Street in Camas, Washington, has been proposed for development with up to 124 single-family homes. The existing home will be removed from the site. The 31.13-acre site abuts the north side of NE 28th Street between NE 232nd Avenue and NE Ingle Road.
2. Direct access will be taken from NE 28th Street. The site will also connect to an extension of N 87th Avenue which will allow for access to NE 28th Street via N Juniper Street.
3. The proposed development will result in a net increase of up to 123 dwelling units (DU). The trip generation calculations show that the proposed project is estimated to have a net increase in trip generation of 90 morning peak hour trips, 121 evening peak hour trips, and 1,220 daily trips.
4. No significant trends or crash patterns were identified at any of the study intersections.
5. The available sight lines exceed the 590-foot intersection sight distance recommendation.
6. Access spacing standards are met on the north side of NE 28th Street but the residential driveways on the south side will remain out of compliance.
7. The proposed development will include site frontage improvements consistent with a three-lane cross-section on NE 28th Street, thus providing a left-turn lane for the site access.
8. The proposed development will not meet the requirements for a right-turn lane at the site access.
9. The proposed development will not trigger the need for any new traffic signals compared with the background condition.
10. Four intersections in the study area were identified as exceeding the applicable agency standard:
 - Two of the intersections (NE 13th Street at NE 192nd Avenue and NE Goodwin Road/NE 28th Street at NE Ingle Road) have planned improvements with identified funding sources. With these improvements, the intersections will operate acceptably. No additional mitigation is necessary.
 - The intersection of NE 58th Street (SR 500) at NE 199th Avenue will exceed the Clark County operational threshold in both background and buildout conditions. A future roundabout has been identified as the preferred solution. Set up of a proportionate share costing methodology has been discussed but this project is not currently on any agency plans and no funding source has been identified. The impacts of the proposed development are minor compared with the background condition and, in the short term with only the approved subdivisions under construction, the intersection will function with moderate delays and below capacity. Therefore, no project-specific mitigation is recommended.
 - The northbound left-turn lane on NE Camas Meadows Drive at NE Goodwin Road will exceed the Camas threshold under background and buildout conditions, but demand will be well below capacity. Restriping NE Goodwin Road to provide a two-way, left-turn lane on between NW Friberg-Strunk Street and NW Camas Meadows Drive is recommended.
11. The intersection of NE 13th Street at NE 192nd Avenue has planned improvements that require a proportionate share contribution. The proposed Camas Heights development will contribute 26 evening (PM) peak hour trips to this intersection.

12. A roundabout at the intersection of NE 58th Avenue (SR 500) at NE 199th Avenue has been identified as the preferred improvement to address growing congestion. Should a proportionate share methodology be developed to fund future improvements, the proposed Camas Heights development will contribute 19 evening (PM) peak hour trips to this intersection.



Project Description

Introduction

The property located at 22630 NE 28th Street in Camas, Washington, has been proposed for development with up to 124 single-family homes. The existing single-family home on the site will be removed.

This report examines the traffic impacts of the proposed development on the transportation system in the vicinity of the project site. Based on correspondence with the Camas city engineer, this report conducts safety and capacity/level of service analyses at the following nine (9) intersections including the site access driveway:

1. NE 58th Street (SR 500) at NE 199th Avenue
2. NE 13th Street at NE 192nd Avenue
3. NE 13th Street/NE Goodwin Road at NE 202nd Avenue/NW Friberg-Strunk Street
4. NE Goodwin Road at NW Camas Meadows Drive
5. NE Goodwin Road/NE 28th Street at NE Ingle Road
6. NE 28th Street at N Juniper Street
7. NE 28th Street at Site Access
8. NE 28th Street at NE 232nd Avenue
9. SE Leadbetter Road at NE/SE Everett Street

All supporting data and calculations are included in the appendix to this report.

Location Description

The subject site is a 31.13-acre parcel, Property Identification Number 173157000, abutting the north side of NE 28th Street between NE 232nd Avenue and NE Ingle Road, as shown in Figure 1. Existing zoning is R-10 (Residential-10,000) which "is intended for single-family dwellings with densities of four to five dwellings per acre ... and an average lot size is ten thousand square feet."

The proposed development will remove the existing home on the site and construct up to 124 single-family homes. A direct access, shown as "C" Street in the site plan in Appendix A, will be taken from NE 28th Street. The site will also connect to an extension of N 87th Avenue from the adjacent development to the west. This connection will allow for access to NE 28th Street via N Juniper Street.

Figure 1 displays a vicinity map of the project site, with the project site outlined in blue. A site plan depicting the proposed project is provided in Appendix A.



Figure 1: Project Location (image from Clark County MapsOnline)

Vicinity Streets

The proposed development is expected to impact 14 roadways near the site. Table 1 provides a description of each of the vicinity roadways within the study area near the study intersections.

Table 1: Vicinity Roadway Descriptions

Street Name	Jurisdiction	Functional Classification	Cross-Section	Speed (MPH)	Curbs & Sidewalks	On-Street Parking	Bicycle Facilities
NE 58 th Street (SR 500)	WSDOT	State Route	2	Not Posted	None	None	None
NE 13 th Street	Clark County/ Camas	Collector/ Arterial	2-3	35	Partial	None	None
NE Goodwin Road	Camas	Arterial	2-3	50	Partial	None	Partial
NE 28 th Street	Camas/ Clark County	Arterial/ Rural Major Collector	2-3	50	Partial	None	None
SE Leadbetter Street	Camas	Arterial	2	40	Partial	None	None
NE 192 nd Avenue	Vancouver	Principal Arterial	2-3	40	Partial	None	None
NE 202 nd Avenue	Camas	Local	2	25	None	None	None



Table 1: Vicinity Roadway Descriptions

Street Name	Jurisdiction	Functional Classification	Cross-Section	Speed (MPH)	Curbs & Sidewalks	On-Street Parking	Bicycle Facilities
NW Friberg-Struck Road	Camas	Arterial	2-3	40	Both Sides	None	Both Sides
NW Camas Meadows Drive	Camas	Arterial	2-3	35	Partial	None	None
NE 199 th Avenue	Clark County	Rural Minor Collector	2	Not Posted	None	None	None
NE Ingle Road	City of Camas	Arterial	2-3	50	Partial	None	Partial
N Juniper Street	Camas	Local	2	Not Posted	Both Sides	None	None
NE 232 nd Avenue	Clark County/ Camas	Rural Major Collector/ Arterial	2	45	None	None	None
NE/SE Everett Street	Camas	Arterial	2-3	35	None	None	None

Study Intersections

Based on coordination with City of Camas staff, nine intersections were identified for analysis. A summarized description of the study intersections is provided in Table 2.

Table 2: Study Intersection Descriptions

Intersection		Geometry	Traffic Control	Phasing/Stopped Approaches
1	NE 58 th Street (SR 500) at NE 199 th Avenue	Three-Legged	Stop-Controlled	NB Stop-Controlled
2	NE 13 th Street at NE 192 nd Avenue	Three-Legged	Traffic Signal	WB Protected SB Protected/Permitted Left
3	NE Goodwin Road at NW Friberg-Strunk Street	Four-Legged	Traffic Signal	EB Permitted/WB Protected Left NB/SB Permitted
4	NE Goodwin Road at NW Camas Meadows Drive	Three-Legged	Stop-Controlled	NWB Stop-Controlled
5	NE Goodwin Road/NE 28 th Street at NE Ingle Road	Three-Legged	Stop-Controlled	SEB Stop-Controlled
6	NE 28 th Street at N Juniper Street	Four-Legged	Stop-Controlled	SB Stop-Controlled NB Private Driveway
7	NE 28 th Street at Site Access (Future)	Three-Legged	Stop-Controlled	SB Stop-Controlled



Table 2: Study Intersection Descriptions

	Intersection	Geometry	Traffic Control	Phasing/Stopped Approaches
8	NE 28 th Street at NE 232 nd Avenue	Four-Legged	Stop-Controlled	NB/SB Stop-Controlled
9	SE Leadbetter Road at NE/SE Everett Street	Three-Legged	Stop-Controlled	SEB Stop-Controlled

A vicinity map showing the project site, vicinity streets, and study intersection configurations is shown in Figure 2 on page 10.

Transit

The study area does not have any fixed-route transit service at this time and C-Tran has no long-range plans to extend service. The closest C-Tran fixed service routes are Route 30 and Route 92:

- #30 Burton Route runs from downtown Vancouver to the Fisher’s Landing Transit Center every day of the week. The closest stop to the study area is on NE 162nd Avenue at NE 18th Street almost four miles from the project site.
- C-Tran route 92 runs from the Fisher’s Landing Transit Center through southern Camas along NW 6th Avenue and NE 3rd Avenue to Washougal. Service is available every day of the week. The closest stop to the study area is on NE 3rd Avenue at NE Franklin Street.

The C-Tran Camas Connector Dial-A-Ride service currently serves areas of the city south of Lacamas Lake. This service primarily operates by accepting telephone calls from riders traveling to/from a location inside a defined boundary. Outside of Camas, it has two morning, one afternoon, and one evening scheduled stop at Fisher’s Landing Transit Center and Hiddenbrook Drive on SE 34th Street. The hours of operation are Monday through Friday from 5:30 to 9:15 AM and 2:00 to 7:00 PM.

Pedestrian and Bicycle Facilities

The street network surrounding the proposed development generally has no existing pedestrian or bicycle facilities. However, frontage improvements are required with development.

Segments of sidewalk have been constructed along NE 28th Street and NE Ingle Road. Eventually these segments will connect together as more development is proposed.

Segments of bike lanes have been constructed along NE Ingle Road and bike lanes or shoulders are present along segments of NE Goodwin Road. Other developments have widened NE 28th Street to provide three travel lanes but no bike lanes have been provided. Bike lanes may be added within redevelopment of lands on the south side of NE 28th Street.

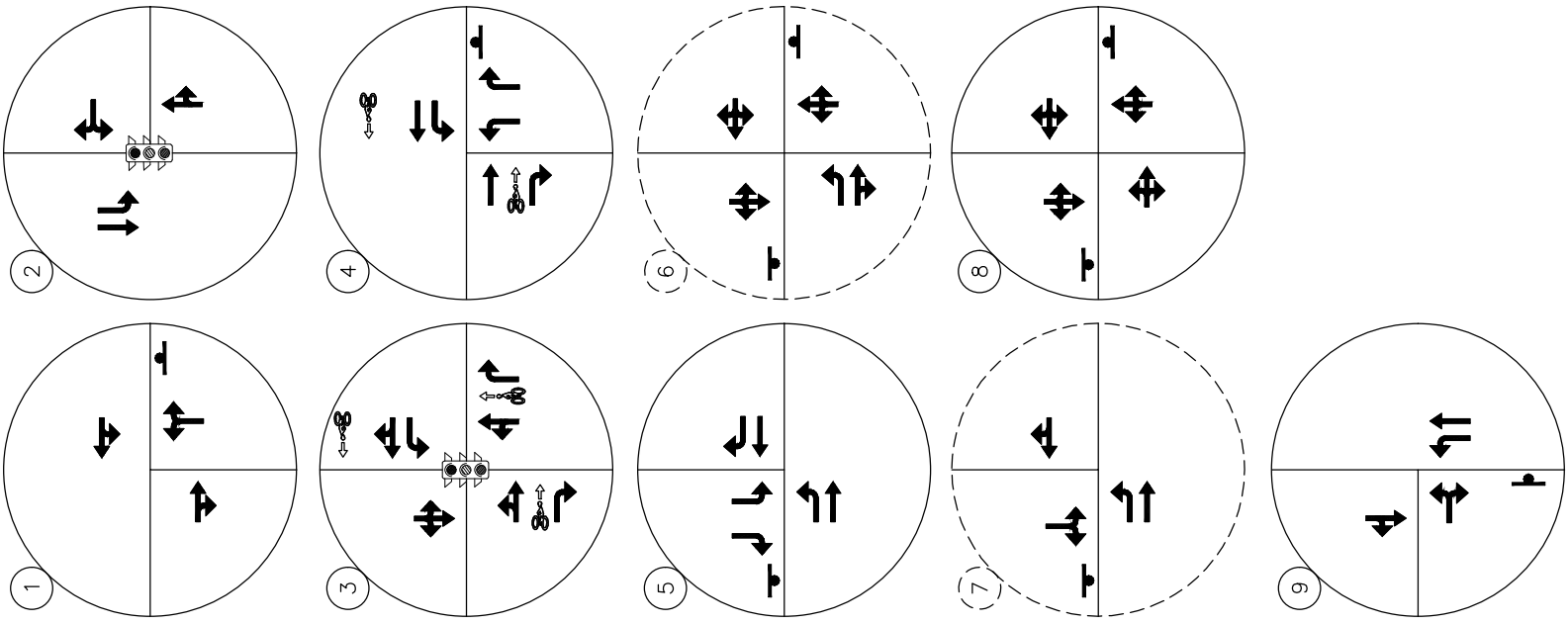
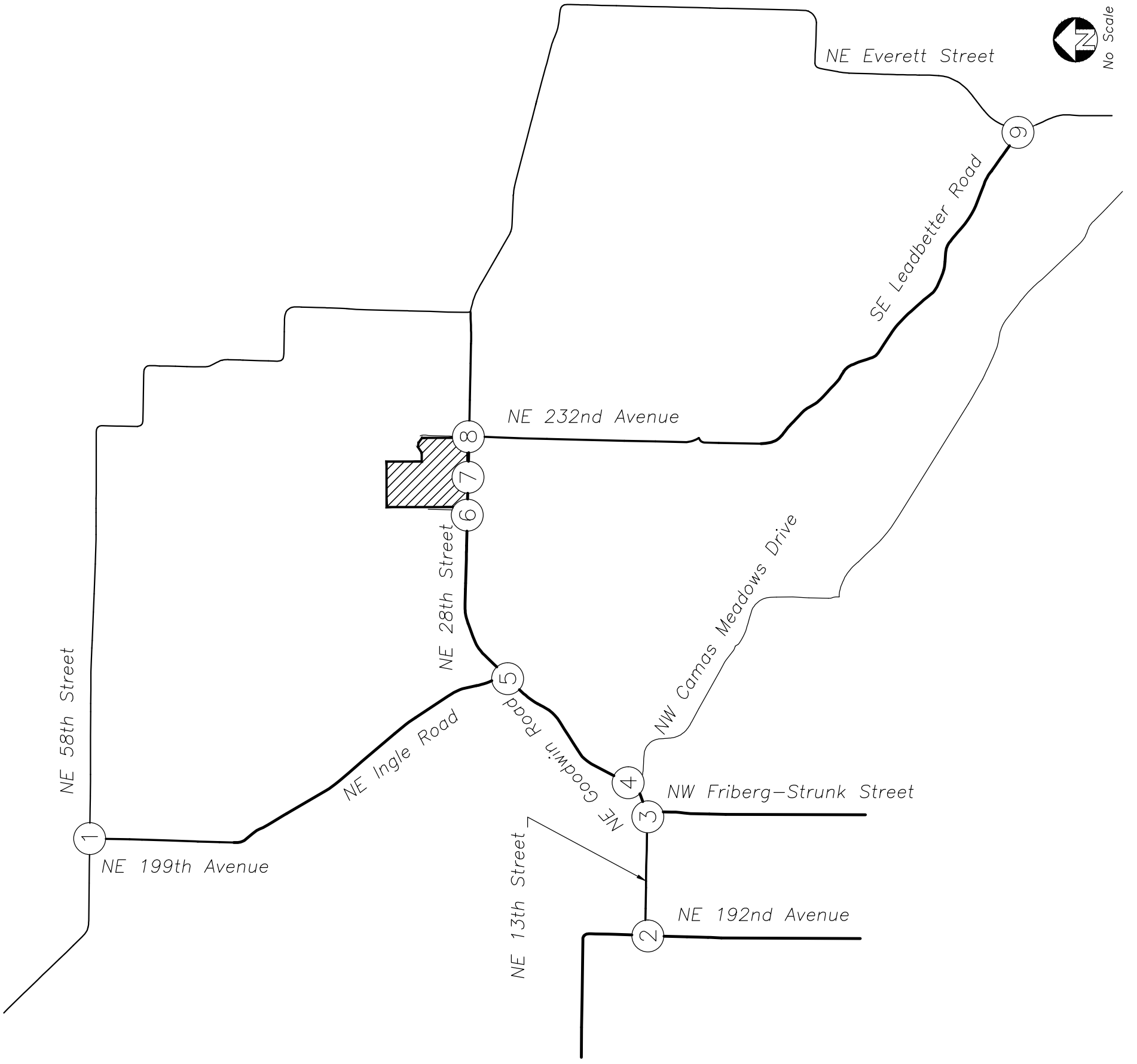
Lacamas Lake Elementary School is located on the east side of NE 232nd Avenue approximately one mile south of NE 28th Street. Students from this elementary school generally attend Liberty Middle School and Camas High



School. The most direct route to these schools follows NE 232nd Avenue but NE 28th Street to SR 500 is another route option. Currently, none of these roadways have pedestrian or bicycle facilities suitable for students.

The location of the bus stop(s) that will serve these schools is currently unknown. The proposed development will include sidewalks that will enable students to access a bus stop within the development or one located on the north side of NE 28th Street.





- LEGEND**
- STUDY INTERSECTION (EXISTING)
 - STUDY INTERSECTION (PROPOSED)
 - ⊥ STOP SIGN
 - ⊥ TRAFFIC SIGNAL
 - ↔ BIKE LANE
 - ▨ PROJECT SITE
 - STATE ROUTE
 - ARTERIAL ROADWAY
 - COLLECTOR ROADWAY
 - LOCAL ROADWAY

Site Trips

Trip Generation

To estimate the number of trips that will be generated by the existing and proposed uses, trip equations from the *Trip Generation Manual*¹ were used. Specifically, data from land use code 210, Single-Family Detached Housing, was used to estimate site trip generation based on the number of dwelling units. Since the proposed development will remove the existing single-family home and construct up to 124 new single-family homes, the trip generation estimate shown in Table 3 is for the net increase of up to 123 dwelling units (DU). The detailed calculation is shown in Appendix A.

Table 3: Net Trip Generation Summary

Land Use	ITE Code	Size	Morning Peak Hour			Evening Peak Hour			Weekday Total
			In	Out	Total	In	Out	Total	
Single-Family Homes	210	123 DU	23	67	90	76	45	121	1,220

As shown in Table 3, the trip generation calculations show that the proposed project is estimated to have a net increase in trip generation of 90 morning peak hour trips, 121 evening peak hour trips, and 1,220 daily trips.

Trip Distribution

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

- Approximately 70 percent of site trips will travel to/from the west on NE 28th Street
 - Approximately 20 percent will travel to/from the north/west on NE Ingle Road/NE 199th Avenue to NE 58th Street
 - Approximately 10 percent will travel to/from the south on NW Camas Meadows Drive
 - Approximately 20 percent will travel to/from the south on NW Friberg-Strunk Street
 - Approximately 10 percent will travel to/from the north/west on NE 192nd Avenue
 - Approximately 10 percent will travel to/from the south on NE 192nd Avenue
- Approximately 30 percent of site trips will travel to/from the east on NE 28th Street
 - Approximately 10 percent will travel to/from the south on NE 232nd Avenue/SE Leadbetter Street
 - Approximately 10 percent will travel to/from destinations on SR 500 to NE Everett Street
 - Approximately 10 percent will travel to/from locations east of the site on SR 500/local streets

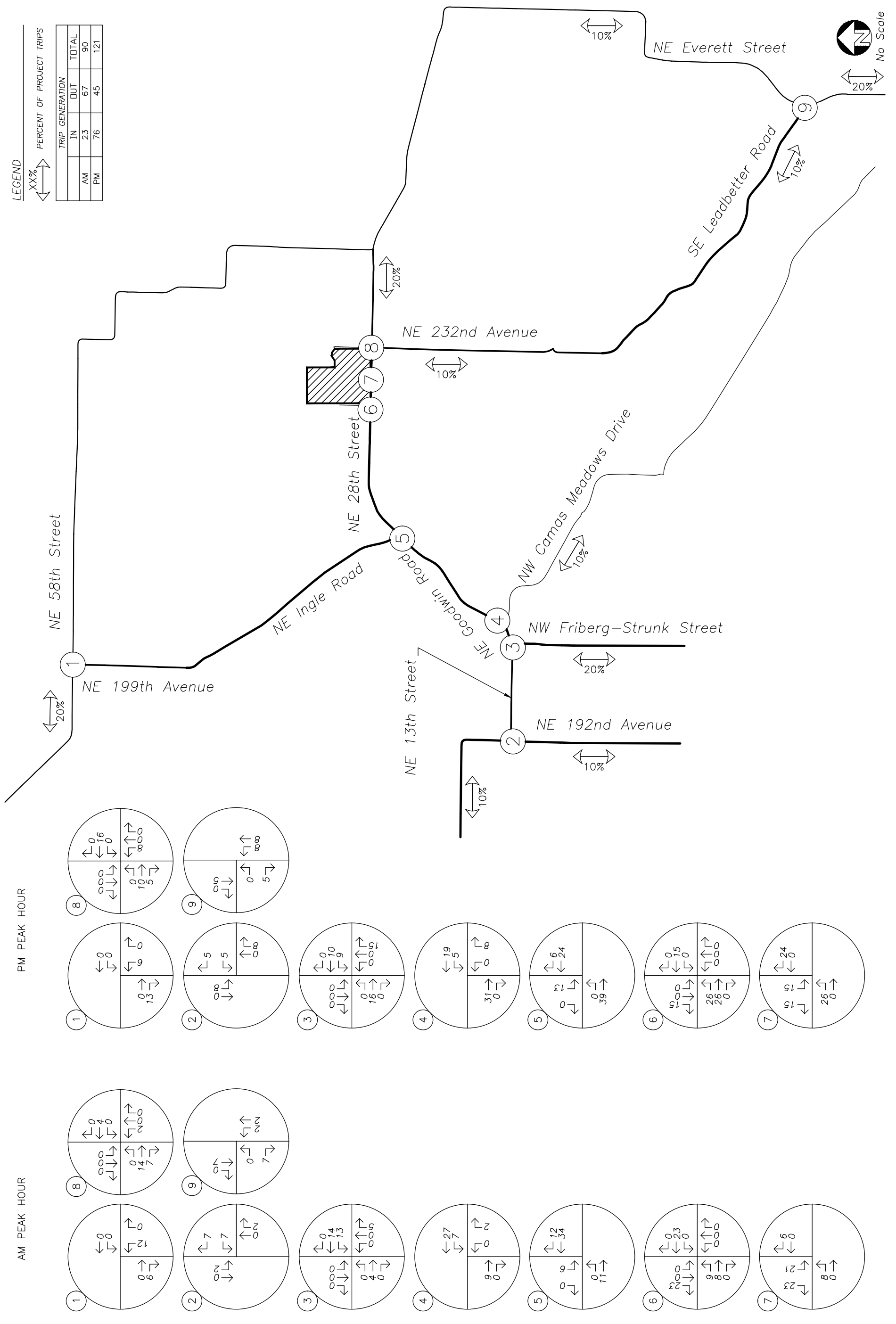
The trip distribution and assignment for the total site trips generated during the morning and evening peak hours is shown in Figure 3. Note, approximately 35 percent of the site trips are assumed to travel on N Juniper Street via the internal connection to N 87th Avenue.

¹ Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.





SITE TRIP DISTRIBUTION & ASSIGNMENT



Traffic Volumes

Existing Conditions

Due to the ongoing COVID-19 viral pandemic, traffic volumes have been depressed relative to normal conditions since mid-March 2020. Under these conditions, traditional traffic count data collection methods are not recommended. Therefore, the following methodology was used to adjust historical traffic counts at the study intersections to estimate year 2021 traffic conditions without the influence of COVID-19:

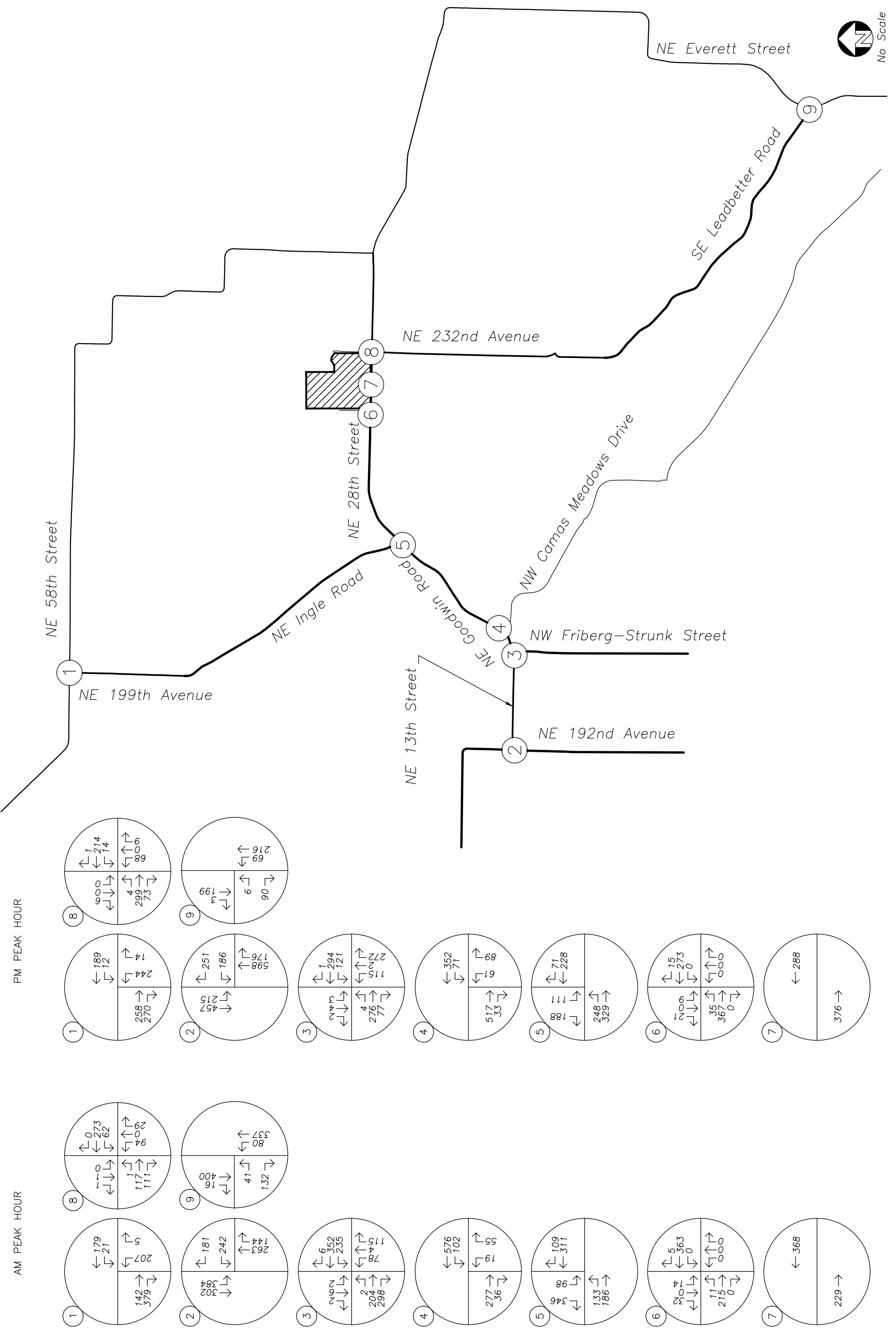
- New turning movement counts were collected on Thursday, September 16, 2021, at the study area intersections.
- Historical turning movement counts from Tuesday, September 24, 2019, were obtained at the intersection of NE 28th Street at NE 232nd Avenue for both morning and evening peak hours.
- Historical and present-day data from the PORTAL: Transportation Data Archive for Portland-Vancouver were obtained for the first three weeks of September from 2018 through 2021. Average midweek morning and evening peak directional hour volumes were calculated for each year of data. Three station locations were used in the evaluation:
 - SR 14 at 192nd Avenue Station
 - SR 14 at 6th Avenue Station
 - SR 500 at 79th Street Station
- Average volumes for the historical years, 2018 and 2019, were grown by 2.0 percent per year and compared with the average volumes for 2021 for each direction of travel and peak hour for each station. Adjustment rates were calculated and averaged for all locations to develop a morning adjustment factor of 1.17 and an evening adjustment factor of 1.11.
- The adjustment factors were applied to all intersection turning movements for the morning and evening peak hours, respectively.
- With lower traffic volumes currently on roadways, peak hour factors (PHFs) are often lower as well. With higher volumes and more congestion, PHFs increase and begin to approach 1.0. The PHFs from the 2021 traffic counts were adjusted upwards to account for the higher volumes. For the morning peak hour, an upward adjustment factor of 1.08 was used, which is approximately half the volume adjustment rate. For the evening peak hour, an upward adjustment factor of 1.02 was used. No PHF was increased to more than 0.95.

Figure 4 shows the year 2021 existing traffic volumes at the study intersections during the morning and evening peak hours. Traffic counts and portal data are provided in Appendix B.



TRAFFIC VOLUMES
Year 2021 Existing Conditions
AM & PM Peak Hours

Figure 4
Camas Heights
10/1/2021



Background Conditions

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. Two components were included in the background traffic estimates: 1) general growth and 2) growth associated with planned developments. An analysis year of 2025 was evaluated for opening year traffic conditions.

For the general background growth, the annual growth rate of 2.0 percent per year was applied to the adjusted year 2021 existing traffic volumes.

In addition to the general growth, two developments that are approved and under construction were included as in-process traffic. Portions of these developments were constructed at the time of the traffic counts. City of Camas staff provided estimates of the percent completion for each develop. The in-process projects include:

1. Green Mountain Estates – Assumed to be 50 percent constructed
2. Green Mountain Planned Residential Development (PRD) – Assumed to be 40 percent constructed
The Master Plan for this development was approved in 2015 and the trips were vested. Buildout was estimated to occur in 2029. Several phases have been approved and are currently under construction. Phase 3 has been removed from the development as the land was purchased as open space.

All vested trips for these developments were added to the general growth to estimate the year 2025 background volumes shown in Figure 5 for the study intersections during the morning and evening peak hours. The in-process traffic volumes are included in Appendix B.

Buildout Conditions

Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the year 2025 background volumes to obtain the expected year 2025 buildout conditions. Figure 6 shows the resulting year 2025 buildout traffic volumes at the study intersections during the morning and evening peak hours.

Planned Improvements

Frontage improvements on NE 28th Street are assumed to include a center turn lane at the new site access.

The Vancouver Six-Year Transportation Improvement Program (2022-2027) identifies NE 192nd Avenue & NE 13th Street Intersection Improvement as a partially funded project. The City currently has partial funding for design of the improvements and has collected a proportional share contribution from developments that contribute trips to the intersection. This project was not assumed to be in place for the opening year of the project.

The Green Mountain PRD Master Plan was conditioned with adding an eastbound left-turn lane, westbound right-turn lane, and a traffic signal at the intersection of NE Goodwin Road/NE 28th Street and NE Ingle Road to be installed when warranted as phases of development occur. A Transportation Compliance Letter (TCL) was required for each phase of development to determine when the improvements would be needed. The first two elements have been completed. The signal was warranted with Phase 3 and assumed in the B1-POD. Since

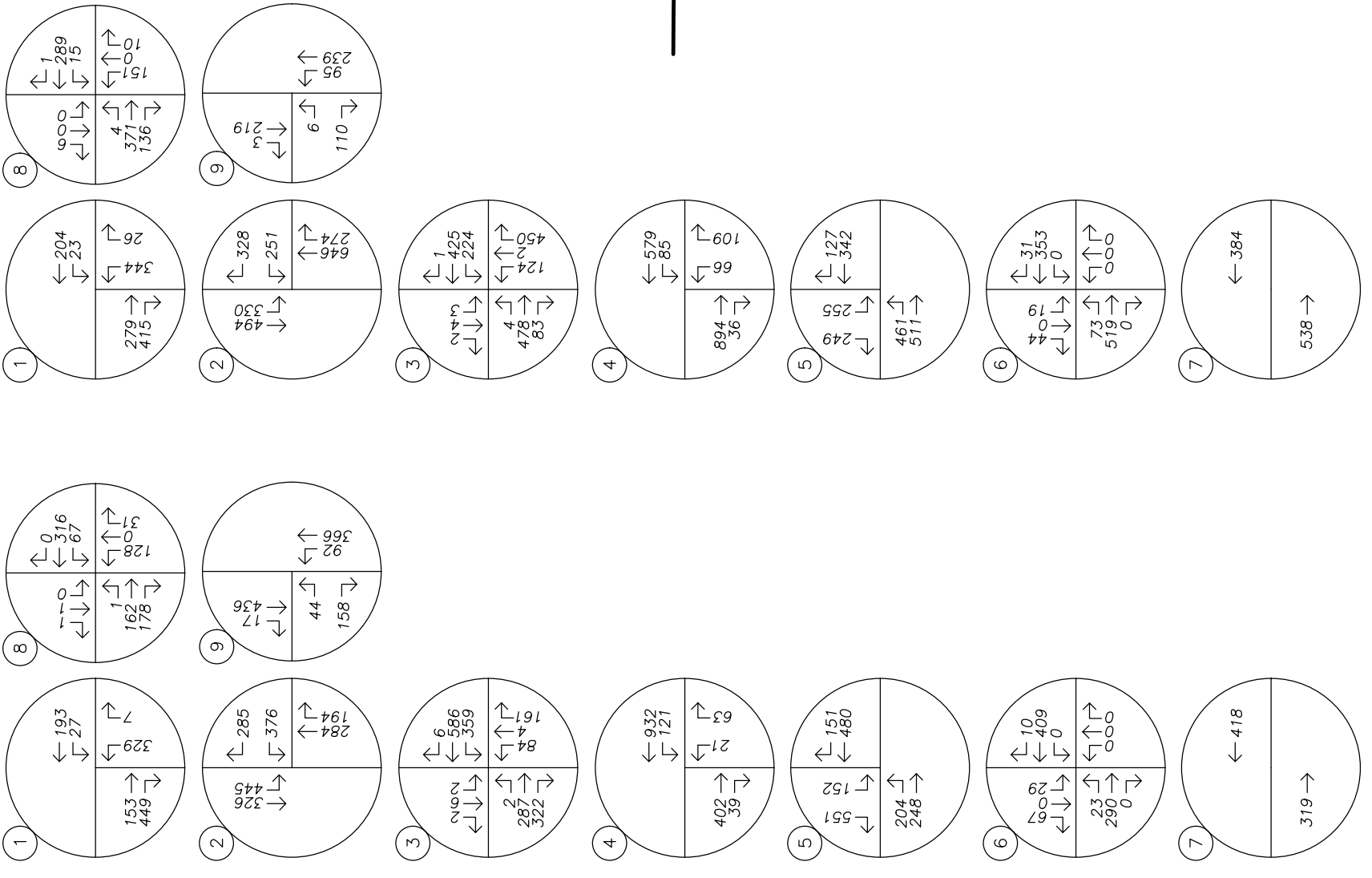
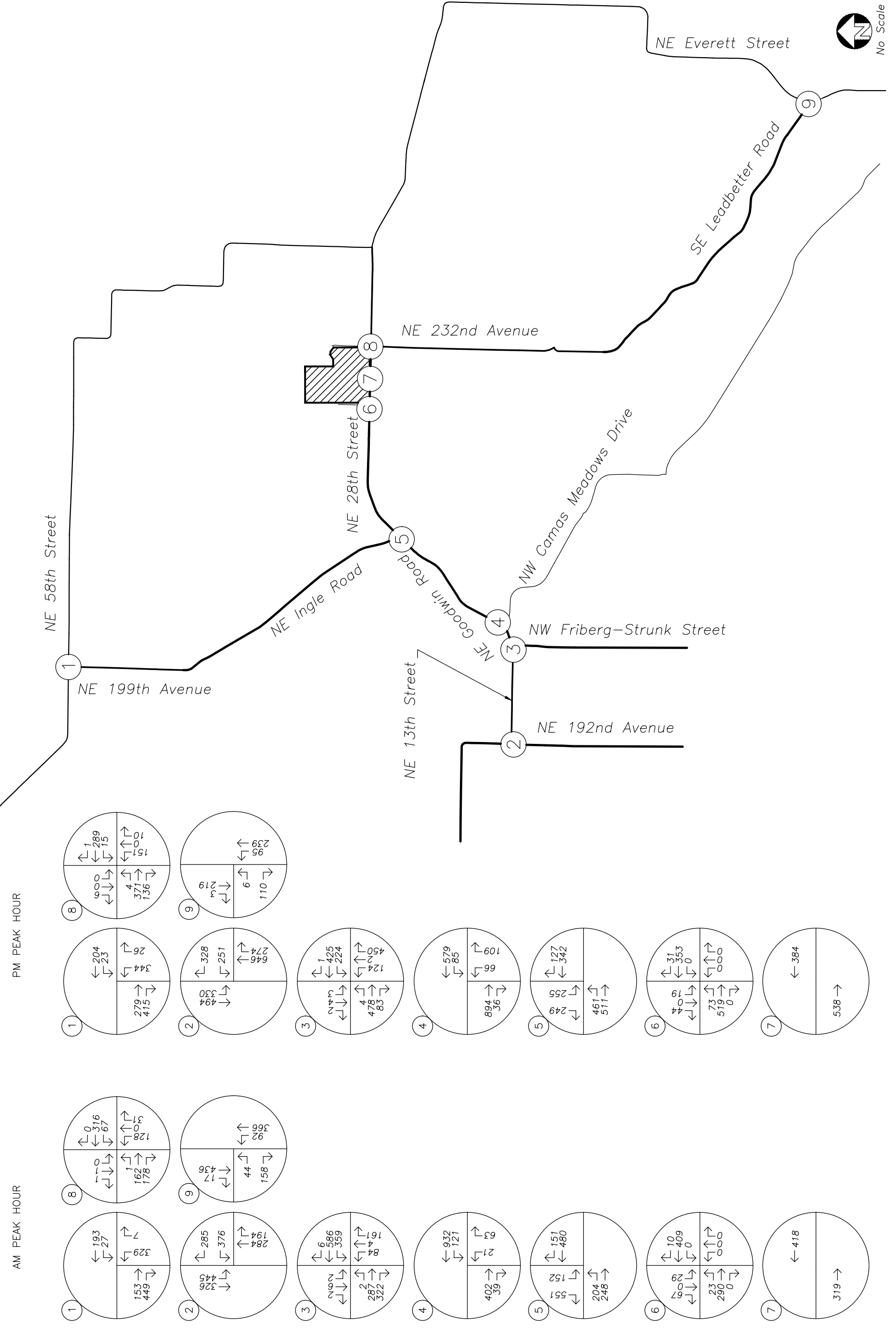
Phase 3 will not occur, the current status of the signal construction is unclear, but design is underway. The intersection will initially be evaluated without the conditioned signal.

The Green Mountain PRD Master Plan identified that an eastbound right-turn lane was warranted at the intersection of NE 58th Street (SR 500) at NE 199th Avenue. The project was not conditioned with an improvement but was required to monitor the intersection operations in a TCL for each phase of development. As phases of development have occurred, the TCLs have indicated that WSDOT and Clark County would prefer a roundabout at this intersection. The TCLs have suggested that “WSDOT and Clark County will coordinate to administer a proportionate share impact mitigation methodology.” This project is not currently on any agency plans and no funding source has been identified. Since neither the right-turn lane nor roundabout will be constructed prior to the buildout year for the proposed development, no improvements are assumed at this intersection.

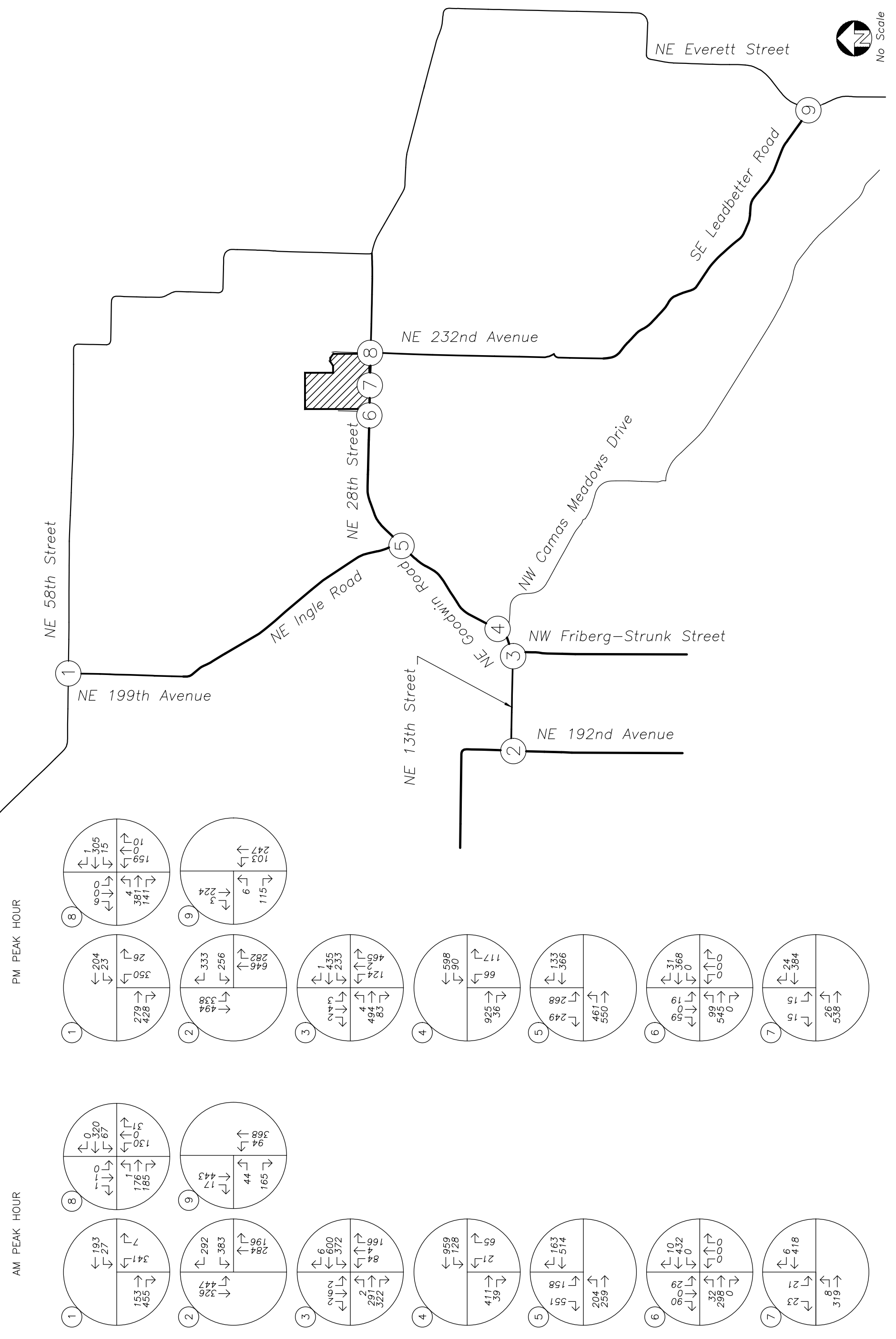




TRAFFIC VOLUMES
Year 2023 Background Conditions
AM & PM Peak Hours



TRAFFIC VOLUMES



Safety Analysis

Crash History Review

Using data obtained from the Washington State Patrol Collision Analysis Tool, a review of five years of the most recent available crash history (January 2015 through December 2019) was performed at the study intersections. The crash data was evaluated based on the number of crashes, the type of collisions, and the severity of the collisions. Crash severity is based on injuries sustained by people involved in the crash, and includes five categories:

- *No Injury Collision*
- *Minor (Possible or Evident) Injury Collision*
- *Serious Injury Collision*
- *Fatal Collision*
- *Unknown*

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 1.00 crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

Table 4 provides a summary of crash types while Table 5 summarizes crash severities and rates for each of the study intersections. Detailed crash data is provided in Appendix C.

Crashes involving vulnerable users or resulting in serious or fatal injuries are discussed further below, organized by intersection.

NE Goodwin Road at NW Friberg-Strunk Street

One collision involving a pedestrian was reported in 2016. A southbound vehicle making a left turn collided with a pedestrian crossing the street. The contributing factor was listed as inattention. The injury severity was identified as minor.

NE Leadbetter Street at NE/SE Everett Street

One collision that resulted in a serious injury was reported in 2019. The collision involved northbound motorcyclist. No other vehicles were reported as part of the crash and contributing circumstances were listed as "other."

Crash Rates

All intersections had estimated crash rates well below 1.0.

Conclusion

No significant trends or crash patterns were identified at any of the study intersections.

Table 4: Crash Type Summary

	Intersection	Crash Type							Total Crashes	
		Angle	Turn	Fixed Object	Side swipe	Rear End	Other	Ped		Bike
1	NE 58 th Street (SR 500) at NE 199 th Avenue	0	9	2	1	0	0	0	0	11
2	NE 13 th Street at NE 192 nd Avenue	0	4	0	1	1	0	0	0	6
3	NE Goodwin Road at NW Friberg-Strunk Street	0	1	0	0	0	0	1	0	2
4	NE Goodwin Road at NW Camas Meadows Drive	0	3	1	0	0	0	0	0	4
5	NE Goodwin Road/NE 28 th Street at NE Ingle Road	0	4	1	0	3	0	0	0	8
8	NE 28 th Street at NE 232 nd Avenue	0	1	1	1	3	0	0	0	6
9	SE Leadbetter Road at NE/SE Everett Street	0	1	0	0	1	0	0	0	2

Table 5: Crash Severity and Rate Summary

	Intersection	Injury Severity					Total Crashes	AADT	Crash Rate
		None	Minor	Severe	Fatal	Unknown			
1	NE 58 th Street (SR 500) at NE 199 th Avenue	5	6	0	0	0	11	9,870	0.61
2	NE 13 th Street at NE 192 nd Avenue	5	1	0	0	0	6	18,830	0.17
3	NE Goodwin Road at NW Friberg-Strunk Street	1	1	0	0	0	2	11,710	0.09
4	NE Goodwin Road at NW Camas Meadows Drive	2	2	0	0	0	4	11,230	0.20
5	NE Goodwin Road/NE 28 th Street at NE Ingle Road	4	4	0	0	0	8	11,750	0.37
8	NE 28 th Street at NE 232 nd Avenue	4	1	0	0	1	6	6,880	0.48
9	SE Leadbetter Road at NE/SE Everett Street	1	0	1	0	0	2	5,830	0.19

Sight Distance Evaluation

A sight distance analysis was conducted at the site access driveway. To evaluate the sight distance available at these intersections, intersection sight distance was measured and recommended in accordance with the current AASHTO manual². According to AASHTO, the driver's eye is assumed to be 14.5 feet from the near edge of the nearest travel lane of the intersecting street and at a height of 3.5 feet above the minor-street approach pavement. The vehicle driver's eye-height along the major-street approach is assumed to be 3.5 feet above the cross-street pavement.

Both intersection sight distance (ISD) and stopping sight distance (SSD) are assessed. The ISD is an operational measure, intended to provide sufficient line of sight along the major street so that a driver can turn from the minor street without impeding traffic flow. The SSD is the minimum requirement to ensure safe operation of the roadway. Stopping sight distance allows an oncoming driver to see a hazard in the roadway, react, and come to a complete stop if necessary to avoid a collision. As long as the available intersection sight distance is at least equal to the minimum required stopping sight distance for the design speed of the roadway, adequate sight distance is available for safe operation of the intersection.

NE 28th Street currently has a posted speed limit of 50 mph in both directions and a downward slope of one to two percent from east to west. It will be widened to a three-lane cross-section along the sight frontage; therefore, sight distance for the left-turn movement needs to account for the additional center lane. Based on these factors, the recommended ISD is 590 feet, and the required SSD is 440 feet for vehicles approaching from the east and 420 feet for vehicles approaching from the west.

Available sight lines at the access location are measured to exceed 600 feet in either direction assuming that the few existing trees along the edge of the site frontage are removed with the roadway widening. Based on the sight distance analysis, adequate sight distances are available at the proposed site access intersection to ensure safe and efficient operation along NE 28th Street. No mitigation for sight distance is necessary or recommended.

Access Spacing

Per Table 3 of the *Camas Engineering Design Standards for Streets*, as a designated arterial street, intersection access spacing requirements for NE 28th Street are a minimum of 660 feet to a maximum of 1,000 feet.

The proposed access will be located approximately 880 feet west of NE 232nd Avenue and approximately 1,000 feet east of N Juniper Street. On the north side of the street, one access to a single residence will be located approximately 660 feet west of the site access and no accesses will be located between the site access and NE 232nd Avenue. On the south side of the street, five residential driveways and a utility access will be located within 660 feet east of the proposed site access. One residential driveway will be located nearly opposite the proposed site access, and two other residential driveways on the south side will be located within 660 feet west of the proposed site access.

² American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 7th Edition, 2018.

Warrant Analysis

Left-Turn Lane Warrants

The proposed development will include site frontage improvements consistent with a three-lane cross-section on NE 28th Street, thus providing a left-turn lane for the site access.

Right-Turn Lane Warrants

The proposed development will not meet the requirements for a right-turn lane at the site access. The warrant analysis is included in Appendix C.

The Green Mountain Planned Residential Development (PRD) Phase 2 identified the need for an eastbound right-turn lane on NE 58th Street (SR 500 at NE 199th Avenue); however, subsequent development approvals have indicated that WSDOT and Clark County would prefer a roundabout at this intersection, which would negate the need for the right-turn lane. This project is not currently on any agency plans and no funding source has been identified.

Preliminary Traffic Signal Warrants

Preliminary traffic signal warrants were examined for the unsignalized intersections in the study area based on the methodologies in the Manual on Uniform Traffic Control Devices (MUTCD). Warrant 1, *Eight Hour Vehicular Volumes*, was used from the MUTCD published by the Federal Highway Administration in 2009. Warrants were evaluated based on the common assumption that traffic counted during the evening peak hour represents ten percent of the ADT. Most of the unsignalized intersections currently have a posted speed of 50 mph; therefore, the 70% of standard is applicable. The results are summarized in Table 6 for year 2025 background and buildout conditions. Detailed information on the warrant analysis is included in Appendix C.

As shown in Table 6, traffic signal warrants are met at two of the study area intersections for both the 2025 background and buildout scenarios.

Table 6: Summary of Preliminary Traffic Signal Warrant Evaluation

Intersection		Warrant Met?	
		2025 Background Condition	2025 Buildout Condition
1	NE 58 th Street (SR 500) at NE 199 th Avenue	Yes	Yes
4	NE Goodwin Road at NW Camas Meadows Drive	No	No
5	NE Goodwin Road/NE 28 th Street at NE Ingle Road	Yes	Yes
6	NE 28 th Street at N Juniper Street	No	No
7	NE 28 th Street at Site Access	No	No
8	NE 28 th Street at NE 232 nd Avenue	No	No
9	SE Leadbetter Road at NE/SE Everett Street	No	No



The intersection of NE 58th Street (SR 500) at NE 199th Avenue currently meets WSDOT standards for a traffic signal; however, prior development approvals have indicated that WSDOT and Clark County would prefer a roundabout at this intersection. Set up of a proportionate share costing methodology has been discussed but this project is not currently on any agency plans and no funding source has been identified. Since the roundabout will not be constructed prior to the buildout year for the proposed development, no improvements are assumed at this intersection.

A traffic signal at the intersection of NE Goodwin Road/NE 28th Street at NE Ingle Road has been required as a condition of approval for the Green Mountain PRD. The installation of the signal was not required with Phase 1 or Phase 2 approval. The TCL prepared for Phase 3 indicated a signal was warranted and the TCL for B1-POD assumed the signal was in place. Since Phase 3 will not occur, the current status of the signal construction is unclear, but design is underway. The intersection will initially be evaluated without the conditioned signal.

Operational Analysis

Intersection Capacity Analysis

A capacity and delay analysis were conducted for each of the study intersections per the signalized and unsignalized intersection analysis methodologies in the *Highway Capacity Manual (HCM)*³. 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.

Performance Standards

The study area includes intersections in the City of Camas, City of Vancouver, and on a WSDOT facility in Clark County. The standards for these agencies are listed below.

- According to the Camas Transportation Impact Study Guidelines, a minimum LOS D should be maintained on collector and arterial streets.
- According to Vancouver Municipal Code 11.80.130, impacts occur when off-site intersection conditions are at a LOS F for signalized intersections, or when conditions are at LOS E and the v/c ratio is greater than 0.95 for signalized intersections, or when the v/c ratio for any lane on any approach is greater than 0.95 for unsignalized intersections.
- According to Clark County's Unified Development Code 40.350, performance standards require unsignalized intersections to operate at LOS E or better unless traffic signal warrants are met. If traffic signal warrants are met, the intersection is required to operate at LOS D or better. Individual movements at signalized intersections of regional significance are to operate with average delays of less than two cycle lengths or 240 seconds, whichever is less.
- According to Chapter 320 of the WSDOT Design Manual, thresholds are LOS C for rural and LOS D for urban non-NHS facilities, unless a WSDOT region specifies otherwise for specific route segments.

Delay & Capacity Analysis

The LOS, delay, and v/c results of the capacity analysis are shown in Table 7 for the morning and evening peak hours. For signalized intersections, the overall intersection operations are reported. For unsignalized intersections, the worst movement is reported with the applicable movement shown in parentheses.

³ Transportation Research Board, *Highway Capacity Manual 6th Edition*, 2016.

Table 7: Capacity Analysis Summary

Intersection (Jurisdiction) & Condition	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
1. NE 58th Street (SR 500) at NE 199th Avenue (State EB/WB & Clark County NB)						
2021 Existing	C (NB)	24 (NB)	0.57 (NB)	D (NB)	26 (NB)	0.63 (NB)
2025 Background	F (NB)	88 (NB)	>1.00 (NB)	F (NB)	111 (NB)	>1.00 (NB)
2025 Buildout	F (NB)	100 (NB)	>1.00 (NB)	F (NB)	120 (NB)	>1.00 (NB)
2. NE 13th Street at NE 192nd Avenue (Vancouver)						
2021 Existing	C	21	0.88	C	27	0.90
2025 Background	F	105	>1.00	F	103	>1.00
2025 Buildout	F	111	>1.00	F	108	>1.00
3. NE Goodwin Road at NW Friberg-Strunk Street (Camas)						
2021 Existing	B	13	0.52	B	12	0.42
2025 Background	B	18	0.68	C	22	0.61
2025 Buildout	B	19	0.70	C	24	0.62
4. NE Goodwin Road at NW Camas Meadows Drive (Camas)						
2021 Existing	C (NBL)	24 (NBL)	0.10 (NBL)	D (NBL)	27 (NBL)	0.28 (NBL)
2025 Background	F (NBL)	55 (NBL)	0.24 (NBL)	F (NBL)	134 (NBL)	0.81 (NBL)
2025 Buildout	F (NBL)	59 (NBL)	0.25 (NBL)	E (NBL)	169 (NBL)	0.90 (NBL)
5. NE Goodwin Road/NE 28th Street at NE Ingle Road (Camas)						
2021 Existing	C (SBL)	23 (SBL)	0.52 (SBR)	F (SBL)	53 (SBL)	0.63 (SBR)
2025 Background	F (SBL)	145 (SBL)	>1.00 (SBL)	F (SBL)	>200 (SBL)	>1.00 (SBL)
2025 Buildout	F (SBL)	>200 (SBL)	>1.00 (SBR)	F (SBL)	>200 (SBL)	>1.00 (SBL)
6. NE 28th Street at N Juniper Street (Camas)						
2021 Existing	B (SB)	12 (SB)	0.09 (SB)	B (SB)	11 (SB)	0.05 (SB)
2025 Background	B (SB)	14 (SB)	0.21 (SB)	B (SB)	13 (SB)	0.14 (SB)
2025 Buildout	B (SB)	14 (SB)	0.27 (SB)	B (SB)	14 (SB)	0.17 (SB)
7. NE 28th Street at Site Access (Camas)						
2025 Buildout	B (SB)	13 (SB)	0.10 (SB)	B (SB)	14 (SB)	0.07 (SB)
8. NE 28th Street at NE 232nd Avenue (Camas)						
2021 Existing	C (NB)	19 (NB)	0.37 (NB)	C (NB)	16 (NB)	0.19 (NB)
2025 Background	D (NB)	31 (NB)	0.58 (NB)	D (NB)	30 (NB)	0.55 (NB)
2025 Buildout	D (NB)	34 (NB)	0.62 (NB)	D (NB)	35 (NB)	0.61 (NB)
9. SE Leadbetter Road at NE/SE Everett Street (Camas)						
2021 Existing	C (EB)	18 (EB)	0.43 (EB)	B (EB)	10 (EB)	0.13 (EB)
2025 Background	C (EB)	23 (EB)	0.54 (EB)	B (EB)	11 (EB)	0.17 (EB)
2025 Buildout	C (EB)	24 (EB)	0.56 (EB)	B (EB)	11 (EB)	0.18 (EB)

BOLDED results indicate operation above acceptable jurisdictional standards.

Four intersections in the study area were identified as exceeding the applicable agency standard.

NE 58th Street (SR 500) at NE 199th Avenue

This intersection meets the WSDOT LOS C standards for the highway movements (east/west) under all conditions but will exceed the Clark County threshold of LOS D for an intersection that meets signal warrants. NE 199th Avenue is expected to operate at LOS F for both 2025 background and buildout conditions.

Traffic volumes at this intersection currently warrant an eastbound right-turn lane and/or a traffic signal. The original Green Mountain PRD Master Plan identified the eastbound right-turn lane as the recommended improvement but TCLs for subsequent phases have indicated that WSDOT and Clark County would prefer a future roundabout at this intersection.

Table 8: Operations Comparison with Improvements at NE 58th Street (SR 500)/NE 199th Avenue

Configuration & Condition	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
Add Eastbound Right-Turn Lane						
2025 Buildout	D (NB)	30 (NB)	0.75 (NB)	E (NB)	39 (NB)	0.83 (NB)
Add Roundabout						
2025 Buildout	B	12	0.70 (EB)	B	12	0.69 (EB)

As shown in Table 8, construction of a roundabout will result in low overall delays at the intersection and meet both agency standards. The eastbound right-turn lane is also effective at reducing delays on the northbound approach and would bring it into compliance with the Clark County threshold during the morning peak hour but not the evening peak hour. Thus, it would have less long-term utility.

The operational results in Table 7 and Table 8 reflect the operations analysis with all vested trips from the Green Mountain PRD. In reality, only about 40 percent of the total development is under construction or approved for construction at this time. Table 9 presents the intersection operations with just the approved subdivisions in Green Mountain.

Table 9: Operations at NE 58th Street (SR 500)/NE 199th Avenue with Approved Subdivisions

Condition	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
2025 Background	E (NB)	40 (NB)	0.78 (NB)	E (NB)	44 (NB)	0.82 (NB)
2025 Buildout	E (NB)	45 (NB)	0.82 (NB)	E (NB)	48 (NB)	0.85 (NB)

With only the approved subdivisions, this intersection meets the WSDOT standards for the highway movements (east/west) under all conditions but will exceed the Clark County threshold of LOS D for an intersection that meets signal warrants. NE 199th Avenue is expected to operate at LOS E for both 2025 background and buildout conditions but the forecast demand is not anticipated to exceed capacity.

As noted earlier, no improvements at this intersection are currently on any agency plans and no funding source has been identified. The impacts of the proposed development are minor compared with the background



condition and, in the short term with only the approved subdivisions under construction, the intersection will function with moderate delays and below capacity. Therefore, no mitigation is recommended.

Should a proportionate share methodology be developed to fund future improvements, the proposed Camas Heights development will contribute 19 evening (PM) peak hour trips to this intersection.

NE 13th Street at NE 192nd Avenue

This intersection will exceed the Vancouver threshold of LOS E and a v/c ratio greater than 0.95 for both 2025 background and buildout conditions.

The City of Vancouver has a planned improvement to add northbound right-turn and westbound right-turn lanes at the intersection and is collecting proportionate share contributions to help fund the project. With the planned improvements, the intersection will meet the Vancouver operational thresholds for 2025 buildout conditions, as shown in Table 10. No additional mitigation is necessary.

Table 10: Operations with Planned Improvements at NE 13th Street/NE 192nd Avenue

Condition	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
2025 Buildout	B	19	0.85	B	18	0.81

The proposed Camas Heights development will contribute 26 evening (PM) peak hour trips to this intersection.

NE Goodwin Road at NW Camas Meadows Drive

This northbound left-turn lane will exceed the Camas threshold of LOS D during the evening peak hour for 2025 background and buildout conditions. The proposed development does not add any trips to this movement but affects the operations because it adds to the through traffic on NE Goodwin Road.

This intersection was not analyzed as part of the Green Mountain PRD Master Plan; therefore, no issues or mitigation recommendations were included with that project.

A traffic signal is not warranted at this intersection even with the fully vested trips from the Green Mountain PRD. Although demand is well below capacity, one improvement to consider that could reduce delays is the striping of a two-way, left-turn lane on NE Goodwin Road between NW Friberg-Strunk Street and NW Camas Meadows Drive. This striping change would allow a two-stage left-turn movement for traffic turning from NW Camas Meadows Drive. With this change, operations of the northbound left-turn movement would meet the Camas threshold, as shown in Table 11.

Table 11: Operations with Restriping at NE Goodwin Road/NW Camas Meadows Drive

Condition	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
2025 Buildout	C (NBL)	24 (NBL)	0.11 (NBL)	C (NBL)	24 (NBL)	0.27 (NBL)

Based on the operational improvements that can be gained with the modification, restriping NE Goodwin Road to provide a two-way, left-turn lane on between NW Friberg-Strunk Street and NW Camas Meadows Drive is recommended. This improvement would reduce delays for the northbound left-turn movement.



NE Goodwin Road/NE 28th Street at NE Ingle Road

The southbound left-turn lane will exceed the Camas threshold of LOS D for both the 2025 background and buildout conditions.

A traffic signal at the intersection of NE Goodwin Road/NE 28th Street at NE Ingle Road has been required as a condition of approval for the Green Mountain PRD. The installation of the signal was not required with Phase 1 or Phase 2 subdivision approval but was required with Phase 3 subdivision approval and assumed to be in place for the B1 South subdivision. Since Phase 3 will not occur, the current status of the signal construction is unclear, but design is underway.

With the planned improvements, the intersection will meet the Camas operational thresholds for 2025 buildout conditions, as shown in Table 12. No additional mitigation is necessary.

Table 12: Operations with Planned Improvements at NE 13th Street/NE 192nd Avenue

Condition	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
2025 Buildout	D	37	0.73	B	15	0.77

Conclusion

Four intersections in the study area were identified as exceeding the applicable agency standard:

- Two of the intersections (NE 13th Street at NE 192nd Avenue and NE Goodwin Road/NE 28th Street at NE Ingle Road) have planned improvements with identified funding sources. With these improvements, the intersections will operate acceptably. No additional mitigation is necessary.
- The intersection of NE 58th Street (SR 500) at NE 199th Avenue will exceed the Clark County operational threshold in both background and buildout conditions. A future roundabout has been identified as the preferred solution. Set up of a proportionate share costing methodology has been discussed but this project is not currently on any agency plans and no funding source has been identified. The impacts of the proposed development are minor compared with the background condition and, in the short term with only the approved subdivisions under construction, the intersection will function with moderate delays and below capacity. Therefore, no mitigation is recommended. However, should a proportionate share methodology be developed to fund future improvements, the proposed Camas Heights development will contribute 19 evening (PM) peak hour trips to this intersection.
- The northbound left-turn lane on NE Camas Meadows Drive at NE Goodwin Road will exceed the Camas threshold under background and buildout conditions, but demand will be well below capacity. Restriping NE Goodwin Road to provide a two-way, left-turn lane on between NW Friberg-Strunk Street and NW Camas Meadows Drive is recommended.



Conclusions

Key findings of this study include:

- No significant trends or crash patterns were identified at any of the study intersections.
- The available sight lines exceed the 590-foot intersection sight distance recommendation.
- Access spacing standards are met on the north side of NE 28th Street but the residential driveways on the south side will remain out of compliance.
- The proposed development will include site frontage improvements consistent with a three-lane cross-section on NE 28th Street, thus providing a left-turn lane for the site access.
- The proposed development will not meet the requirements for a right-turn lane at the site access.
- The proposed development will not trigger the need for any new traffic signals compared with the background condition.
- Four intersections in the study area were identified as exceeding the applicable agency standard:
 - Two of the intersections (NE 13th Street at NE 192nd Avenue and NE Goodwin Road/NE 28th Street at NE Ingle Road) have planned improvements with identified funding sources. With these improvements, the intersections will operate acceptably. No additional mitigation is necessary.
 - The intersection of NE 58th Street (SR 500) at NE 199th Avenue will exceed the Clark County operational threshold in both background and buildout conditions. A future roundabout has been identified as the preferred solution. Set up of a proportionate share costing methodology has been discussed but this project is not currently on any agency plans and no funding source has been identified. The impacts of the proposed development are minor compared with the background condition and, in the short term with only the approved subdivisions under construction, the intersection will function with moderate delays and below capacity. Therefore, no project-specific mitigation is recommended.
 - The northbound left-turn lane on NE Camas Meadows Drive at NE Goodwin Road will exceed the Camas threshold under background and buildout conditions, but demand will be well below capacity. Restriping NE Goodwin Road to provide a two-way, left-turn lane on between NW Friberg-Strunk Street and NW Camas Meadows Drive is recommended.
- The intersection of NE 13th Street at NE 192nd Avenue has planned improvements that require a proportionate share contribution. The proposed Camas Heights development will contribute 26 evening (PM) peak hour trips to this intersection.
- A roundabout at the intersection of NE 58th Avenue (SR 500) at NE 199th Avenue has been identified as the preferred improvement to address growing congestion. Should a proportionate share methodology be developed to fund future improvements, the proposed Camas Heights development will contribute 19 evening (PM) peak hour trips to this intersection.

Appendix A – Site Information

Site Plan

Trip Generation Calculations





EXISTING LAND USE
 RESIDENTIAL AND AGRICULTURAL, ZONED R-10.

PROJECT PURPOSE
 SUBDIVIDE 1 PARCEL INTO 121 SINGLE-FAMILY RESIDENTIAL LOTS WITH ASSOCIATED ROADS AND SITE IMPROVEMENTS.

SITE AREA
 37.27 AC (1,623,311 SF)

DATUM
 ELEVATIONS ARE BASED ON CLARK COUNTY BENCHMARK NO. 23A, LOCATED AT THE INTERSECTION OF NE 232ND AVENUE AND NE 28TH STREET. ELEVATION = 350.91 FEET (NGVD29 (47)).

APPLICANT
 LENNAR NORTHWEST, INC.
 CONTACT: RYAN SELBY
 11807 NE 99TH ST, SUITE 1170
 VANCOUVER, WA 98682

OWNER
 HANG FUNG ENTERPRISES, LLC.
 PO. BOX 872744
 VANCOUVER, WA 98687

CONTACT
 AKS ENGINEERING & FORESTRY, LLC.
 CONTACT: MICHAEL ANDREOTTI
 9600 NE 126TH AVENUE, SUITE 2520
 VANCOUVER, WA 98682
 PH: 360-882-0419
 FAX: 360-882-0426
 E-MAIL: ANDREOTTI@AKS-ENG.COM

PROPERTY DESCRIPTION
 LOCATED IN THE NORTHEAST 1/4 OF SECTION 21, TOWNSHIP 2 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. PROPERTY SERIAL # 173157-000.

GENERAL NOTES

- OPEN SPACE TRACTS C, D, F, H, & J TO BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION (HOA).
- ACCESS TRACTS E, I, & K TO BE OWNED AND MAINTAINED BY THE HOA.
- STORMWATER TRACT B TO BE OWNED BY THE HOA AND MAINTAINED BY HOA.
- NATURAL AREA TRACT A TO BE OWNED BY THE HOA.
- BUILDING ENVELOPES SHALL BE PER THE PROPOSED DEVELOPMENT STANDARDS TABLE SHOWN ON THIS SHEET AND SHEETS P3.1-P3.2.
- THERE ARE TEN PROPOSED INTERNAL PUBLIC ROADS TO SERVE THE DEVELOPMENT. THE ROADS ARE PROPOSED TO BE CONSTRUCTED TO THE 2 LANE LOCAL/SPRINKLERED SECTION (CITY OF CAMAS STANDARD DETAIL ST3).
- ALL LOTS WILL BE SERVED WITH PUBLIC SANITARY SEWER AND WATER BY CITY OF CAMAS.
- SURFACE MATERIAL FOR ALL PROPOSED ROADWAYS IS ASPHALT.
- STORMWATER WILL BE DETAINED, TREATED, AND DISCHARGED TO THE EXISTING WETLAND THROUGH TRACT B PER CITY OF CAMAS STANDARDS.
- THERE ARE NO BICYCLE IMPROVEMENTS PROPOSED ON SITE.
- HAUF-WIDTH ROW IMPROVEMENTS ARE PROPOSED FOR FRONTAGE ALONG NE 28TH AVENUE.
- 40' X 40' BUILDING FOOTPRINTS SHOWN PER CAMAS CODE 17.19.0300.3. SEE SECTION ACTUAL BUILDING FOOT PRINTS WILL VARY AND BE DETERMINED AND REVIEWED WITH BUILDING PERMIT.
- EXISTING ACCESS AND UTILITY EASEMENT PER AFN 5719904 TO BE RELINQUISHED WITH THIS PLAT. EXISTING TEMPORARY TURNAROUND EASEMENT PER AFN 4232555 TO BE RELINQUISHED WITH THIS PLAT.
- THE SITE IS WITHIN THE NEHRP SITE CLASS B.
- REFERENCE PROJECT GEOTECHNICAL REPORTS FOR ADDITIONAL INFORMATION ON GEOLOGICALLY HAZARDOUS AREAS.
- FINAL ADDRESS MONUMENT LOCATION TO BE DETERMINED DURING FINAL ENGINEERING.
- SEE SHEETS P9.0-P9.2 FOR STREET LIGHTING.

PROPOSED DEVELOPMENT STANDARDS

AVERAGE LOT AREA	NONE*
MINIMUM LOT SIZE	7,000 SQUARE FEET
MAXIMUM LOT SIZE	12,000 SQUARE FEET
MINIMUM LOT WIDTH	60 FEET
MINIMUM LOT DEPTH	90 FEET
MAXIMUM BUILDING LOT COVERAGE	50%**
MAXIMUM BUILDING HEIGHT	35 FEET
MINIMUM FRONT YARD SETBACK	15 FEET**
MINIMUM FRONT YARD - GARAGE	20 FEET**
MINIMUM SIDE YARD	5 FEET
MINIMUM SIDE YARD	10 FEET
MINIMUM REAR YARD	15 FEET**
MINIMUM LOT FRONTAGE ON CUL-DE-SAC	30 FEET

* THE PROPOSED DEVELOPED IS USING DENSITY TRANSFER STANDARDS. NO AVERAGE LOT AREA IS REQUIRED.

** MODIFICATION TO STANDARDS PROPOSED PER CMC 18.09.060

STATISTICS

TOTAL GROSS AREA:	1,623,311 SF (37.27 AC)
NATURAL AREA TRACTS:	120,539 SF (2.77 AC)
OPEN SPACE TRACTS:	113,259 SF (2.60 AC)
STORMWATER TRACT:	55,139 SF (1.27 AC)
ACCESS TRACTS:	8,879 SF (0.20 AC)
RIGHT-OF-WAY AREA:	465,236 SF (10.68 AC)
AVERAGE LOT AREA:	8,226 SF

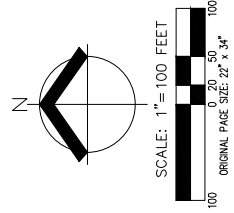
DENSITY CALCULATIONS

TOTAL GROSS AREA:	1,623,311 SF (37.27 AC)
NATURAL & OPEN SPACE AREAS:	233,798 SF (5.37 AC)
NET SITE AREA:	1,389,513 SF (31.90 AC)
MAXIMUM LOTS ALLOWED (31.90 AC X 4.3):	137 LOTS
PROPOSED LOTS:	121 LOTS
PROPOSED DENSITY (121 LOTS / 31.90 AC):	3.79 LOTS/NET ACRE

TRACT AREA & PURPOSE

TRACT A:	120,539 SF	NATURAL AREA
TRACT B:	55,139 SF	STORMWATER FACILITY
TRACT C:	1,309 SF	OPEN SPACE
TRACT D:	1,007 SF	OPEN SPACE
TRACT E:	1,998 SF	PRIVATE STREET
TRACT F:	56,082 SF	OPEN SPACE
TRACT G:	4,295 SF	PRIVATE STREET
TRACT H:	29,544 SF	OPEN SPACE
TRACT I:	1,453 SF	PRIVATE STREET
TRACT J:	25,317 SF	OPEN SPACE
TRACT K:	1,133 SF	PRIVATE STREET

THE PURPOSE OF THIS PRELIMINARY PLAT IS TO SHOW THE PROPOSED LOT DIMENSIONS AND AREAS FOR PLANNING PURPOSES. THIS IS NOT AN OFFICIAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES.





TRIP GENERATION CALCULATIONS

Land Use: Single-Family Detached Housing
 Land Use Code: 210
 Setting/Location: General Urban/Suburban
 Variable: Dwelling Units
 Variable Value: 123

AM PEAK HOUR

Trip Equation: $\ln(T) = 0.91\ln(X) + 0.12$

	Enter	Exit	Total
Directional Distribution	26%	74%	
Trip Ends	23	67	90

PM PEAK HOUR

Trip Equation: $\ln(T) = 0.94\ln(X) + 0.27$

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	76	45	121

WEEKDAY

Trip Equation: $\ln(T) = 0.92\ln(X) + 2.68$

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	610	610	1,220

SATURDAY

Trip Equation: $\ln(T) = 0.94\ln(X) + 2.56$

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	596	596	1,192

Source: Trip Generation Manual, Tenth Edition

Appendix B – Volumes

Traffic Counts

In-Process Trips





(303) 216-2439

www.alltrafficdata.net

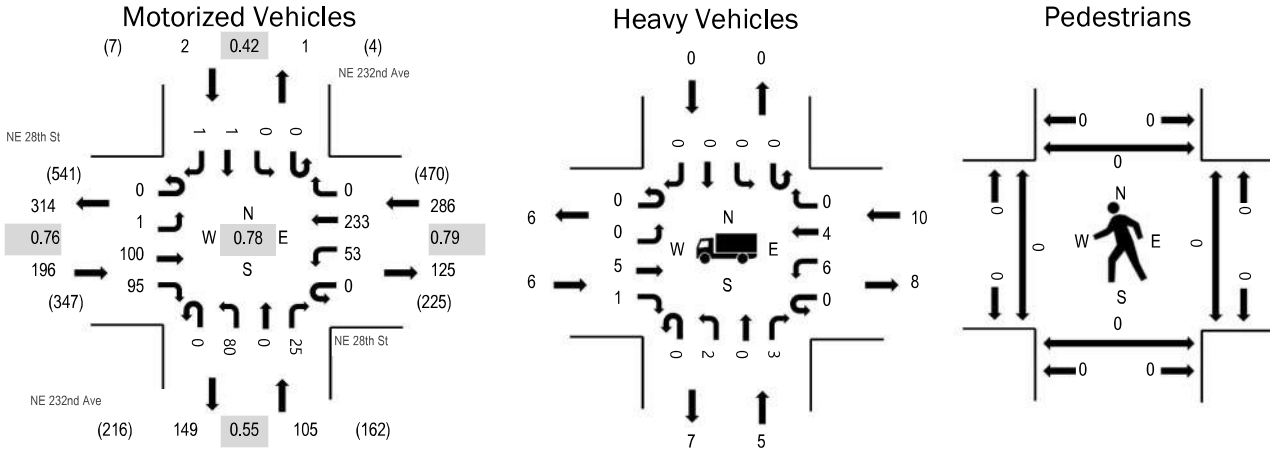
Location: 1 NE 232nd Ave & NE 28th St AM

Date: Thursday, September 16, 2021

Peak Hour: 07:25 AM - 08:25 AM

Peak 15-Minutes: 07:50 AM - 08:05 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.1%	0.76
WB	3.5%	0.79
NB	4.8%	0.55
SB	0.0%	0.42
All	3.6%	0.78

Traffic Counts - Motorized Vehicles

Interval Start Time	NE 28th St Eastbound				NE 28th St Westbound				NE 232nd Ave Northbound				NE 232nd Ave Southbound				Total	Rolling Hour	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			
7:00 AM	0	0	4	3	0	2	12	0	0	2	0	0	0	0	0	0	0	23	467
7:05 AM	0	0	6	5	0	0	16	0	0	2	0	0	0	0	0	0	0	29	510
7:10 AM	0	0	3	0	0	0	12	0	0	4	0	0	0	0	1	0	0	20	532
7:15 AM	0	0	5	6	0	1	16	0	0	4	0	0	0	0	0	0	0	32	553
7:20 AM	0	0	4	3	0	2	9	0	0	0	0	0	0	0	0	0	0	18	565
7:25 AM	0	0	5	5	0	2	25	0	0	6	0	0	0	0	0	0	0	43	589
7:30 AM	0	0	11	4	0	1	20	0	0	4	0	0	0	0	0	1	0	41	573
7:35 AM	0	0	7	2	0	3	19	0	0	9	0	0	0	0	0	0	0	40	580
7:40 AM	0	0	8	9	0	9	16	0	0	0	0	0	0	0	0	0	0	42	581
7:45 AM	0	1	6	15	0	9	20	0	0	5	0	0	0	0	0	0	0	56	569
7:50 AM	0	0	13	11	0	14	23	0	0	7	0	3	0	0	0	0	0	71	566
7:55 AM	0	0	12	11	0	6	7	0	0	9	0	7	0	0	0	0	0	52	537
8:00 AM	0	0	5	7	0	7	27	0	0	10	0	9	0	0	1	0	0	66	519
8:05 AM	0	0	10	8	0	1	15	0	0	13	0	4	0	0	0	0	0	51	
8:10 AM	0	0	12	6	0	0	16	0	0	6	0	1	0	0	0	0	0	41	
8:15 AM	0	0	5	10	0	0	21	0	0	8	0	0	0	0	0	0	0	44	
8:20 AM	0	0	6	7	0	1	24	0	0	3	0	1	0	0	0	0	0	42	
8:25 AM	0	0	6	6	0	1	8	0	0	3	2	0	0	0	1	0	0	27	
8:30 AM	0	0	8	13	0	1	19	0	0	5	0	0	0	0	0	2	0	48	
8:35 AM	0	0	9	5	0	2	19	0	0	6	0	0	0	0	0	0	0	41	
8:40 AM	0	0	9	1	0	0	9	0	0	9	1	0	0	0	0	1	0	30	
8:45 AM	0	0	14	3	0	1	28	0	0	6	0	1	0	0	0	0	0	53	
8:50 AM	0	0	17	4	0	0	16	0	0	5	0	0	0	0	0	0	0	42	
8:55 AM	0	0	11	6	0	0	10	0	0	4	0	3	0	0	0	0	0	34	
Count Total	0	1	196	150	0	63	407	0	0	130	3	29	0	0	3	4	0	986	
Peak Hour	0	1	100	95	0	53	233	0	0	80	0	25	0	0	1	1	0	589	

Location: 1 NE 232nd Ave & NE 28th St AM

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

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	1	0	1	0	2	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	1	1	0	0	2	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	0	1	0	1	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	0	1	1	0	2	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	1	0	0	0	1	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	1	0	0	0	1	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	2	0	2	0	4	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	0	0	2	0	2	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	2	1	0	3	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	0	2	0	2	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	2	2	1	0	5	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	0	1	0	1	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	1	2	0	0	3	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	2	0	0	0	2	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	1	0	0	1	2	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	2	0	0	0	2	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	1	0	0	0	1	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	15	8	12	1	36	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	6	5	10	0	21	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

Location: 2 NE 28th St & NE Ingle Rd AM



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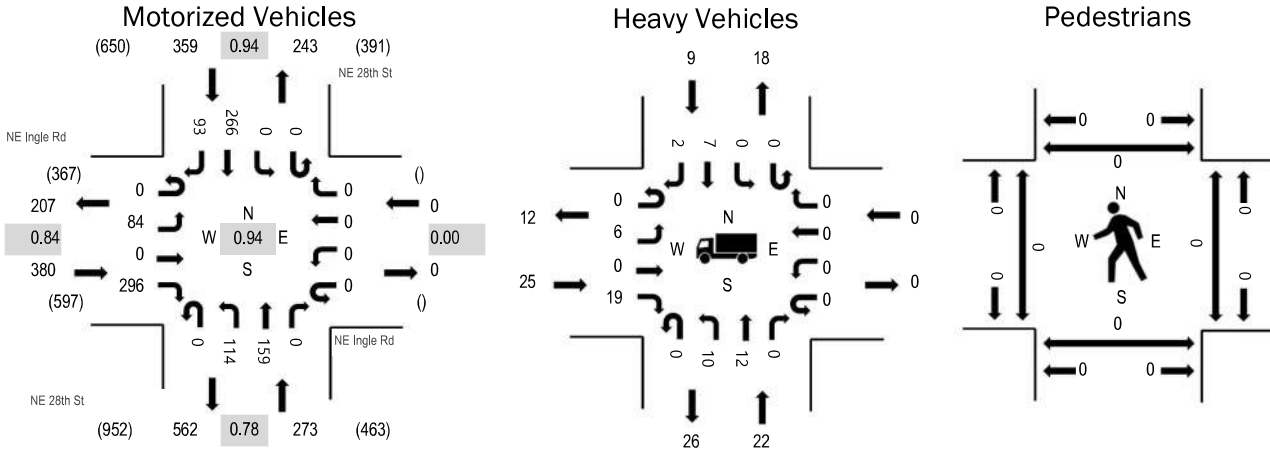
Location: 2 NE 28th St & NE Ingle Rd AM

Date: Thursday, September 16, 2021

Peak Hour: 07:40 AM - 08:40 AM

Peak 15-Minutes: 07:40 AM - 07:55 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	6.6%	0.84
WB	0.0%	0.00
NB	8.1%	0.78
SB	2.5%	0.94
All	5.5%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	NE Ingle Rd Eastbound				NE Ingle Rd Westbound				NE 28th St Northbound				NE 28th St Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	7	0	0	0	0	0	4	8	0	0	0	14	6	39	788
7:05 AM	0	2	0	18	0	0	0	0	0	5	4	0	0	0	14	8	51	826
7:10 AM	0	2	0	14	0	0	0	0	0	5	4	0	0	0	10	8	43	853
7:15 AM	0	4	0	12	0	0	0	0	0	7	5	0	0	0	14	7	49	879
7:20 AM	0	3	0	17	0	0	0	0	0	7	10	0	0	0	9	5	51	919
7:25 AM	0	10	0	20	0	0	0	0	0	5	3	0	0	0	24	6	68	959
7:30 AM	0	6	0	13	0	0	0	0	0	7	8	0	0	0	25	6	65	972
7:35 AM	0	1	0	20	0	0	0	0	0	10	6	0	0	0	24	8	69	992
7:40 AM	0	5	0	24	0	0	0	0	0	12	17	0	0	0	19	8	85	1,012
7:45 AM	0	11	0	25	0	0	0	0	0	8	17	0	0	0	29	4	94	987
7:50 AM	0	5	0	21	0	0	0	0	0	7	18	0	0	0	28	11	90	979
7:55 AM	0	13	0	32	0	0	0	0	0	5	10	0	0	0	21	3	84	951
8:00 AM	0	5	0	18	0	0	0	0	0	9	11	0	0	0	27	7	77	922
8:05 AM	0	10	0	19	0	0	0	0	0	8	11	0	0	0	21	9	78	
8:10 AM	0	6	0	19	0	0	0	0	0	6	13	0	0	0	20	5	69	
8:15 AM	0	8	0	27	0	0	0	0	0	10	9	0	0	0	23	12	89	
8:20 AM	0	3	0	35	0	0	0	0	0	5	14	0	0	0	26	8	91	
8:25 AM	0	6	0	34	0	0	0	0	0	13	11	0	0	0	13	4	81	
8:30 AM	0	5	0	24	0	0	0	0	0	14	10	0	0	0	21	11	85	
8:35 AM	0	7	0	18	0	0	0	0	0	17	18	0	0	0	18	11	89	
8:40 AM	0	4	0	8	0	0	0	0	0	14	11	0	0	0	18	5	60	
8:45 AM	0	5	0	17	0	0	0	0	0	8	20	0	0	0	31	5	86	
8:50 AM	0	3	0	10	0	0	0	0	0	6	16	0	0	0	21	6	62	
8:55 AM	0	5	0	16	0	0	0	0	0	9	8	0	0	0	14	3	55	
Count Total	0	129	0	468	0	0	0	0	0	201	262	0	0	0	484	166	1,710	
Peak Hour	0	84	0	296	0	0	0	0	0	114	159	0	0	0	266	93	1,012	

Location: 2 NE 28th St & NE Ingle Rd AM

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

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	1	0	0	1	2	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	4	0	1	5	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	2	3	0	0	5	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	0	0	0	1	1	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	2	0	1	3	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	0	2	0	0	2	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	3	0	0	3	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	2	1	0	0	3	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	1	0	0	1	2	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	2	1	0	1	4	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	1	1	0	1	3	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	3	1	0	0	4	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	3	0	0	1	4	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	7	1	0	0	8	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	2	4	0	2	8	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	1	4	0	1	6	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	2	2	0	1	5	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	1	4	0	1	6	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	4	0	3	7	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	1	3	0	0	4	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	1	2	0	1	4	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	2	0	0	0	2	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	32	42	0	17	91	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	25	22	0	9	56	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

Location: 3 NW Goodwin Rd & NW Camas Meadows Dr AM



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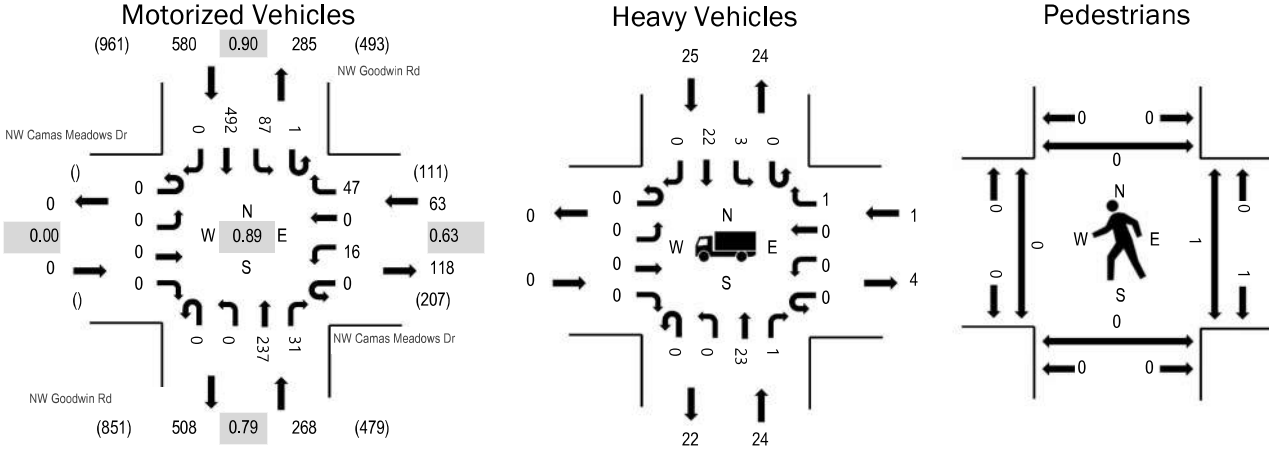
Location: 3 NW Goodwin Rd & NW Camas Meadows Dr AM

Date: Thursday, September 16, 2021

Peak Hour: 07:35 AM - 08:35 AM

Peak 15-Minutes: 08:20 AM - 08:35 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	1.6%	0.63
NB	9.0%	0.79
SB	4.3%	0.90
All	5.5%	0.89

Traffic Counts - Motorized Vehicles

Interval Start Time	NW Camas Meadows Dr Eastbound				NW Camas Meadows Dr Westbound				NW Goodwin Rd Northbound				NW Goodwin Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	0	0	2	0	0	0	0	11	1	0	3	18	0	35	712
7:05 AM	0	0	0	0	0	2	0	1	0	0	9	0	0	8	24	0	44	749
7:10 AM	0	0	0	0	0	1	0	5	0	0	9	3	0	3	21	0	42	772
7:15 AM	0	0	0	0	0	1	0	2	0	0	11	3	0	2	26	0	45	790
7:20 AM	0	0	0	0	0	0	0	1	0	0	13	3	0	7	18	0	42	823
7:25 AM	0	0	0	0	0	2	0	1	0	0	7	3	0	10	39	0	62	874
7:30 AM	0	0	0	0	0	12	0	5	0	0	14	1	0	7	25	0	64	891
7:35 AM	0	0	0	0	0	0	0	7	0	0	20	2	0	5	35	0	69	911
7:40 AM	0	0	0	0	0	1	0	5	0	0	23	1	0	11	35	0	76	903
7:45 AM	0	0	0	0	0	1	0	5	0	0	19	1	0	13	41	0	80	883
7:50 AM	0	0	0	0	0	1	0	3	0	0	18	4	0	6	46	0	78	878
7:55 AM	0	0	0	0	0	2	0	4	0	0	15	7	1	9	37	0	75	857
8:00 AM	0	0	0	0	0	1	0	6	0	0	14	1	0	9	41	0	72	839
8:05 AM	0	0	0	0	0	0	0	4	0	0	22	1	0	4	36	0	67	
8:10 AM	0	0	0	0	0	2	0	1	0	0	12	3	0	5	37	0	60	
8:15 AM	0	0	0	0	0	4	0	3	0	0	16	0	0	8	47	0	78	
8:20 AM	0	0	0	0	0	0	0	2	0	0	28	2	0	8	53	0	93	
8:25 AM	0	0	0	0	0	3	0	4	0	0	21	6	0	4	41	0	79	
8:30 AM	0	0	0	0	0	1	0	3	0	0	29	3	0	5	43	0	84	
8:35 AM	0	0	0	0	0	1	0	1	0	0	27	4	0	1	27	0	61	
8:40 AM	0	0	0	0	0	1	0	2	0	0	21	0	0	6	26	0	56	
8:45 AM	0	0	0	0	0	1	0	2	0	0	28	2	0	4	38	0	75	
8:50 AM	0	0	0	0	0	0	0	2	0	0	16	6	0	4	29	0	57	
8:55 AM	0	0	0	0	0	0	0	3	0	0	17	2	0	6	29	0	57	
Count Total	0	0	0	0	0	39	0	72	0	0	420	59	1	148	812	0	1,551	
Peak Hour	0	0	0	0	0	16	0	47	0	0	237	31	1	87	492	0	911	

Location: 3 NW Goodwin Rd & NW Camas Meadows Dr AM

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

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	1	1	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	3	0	0	3	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	1	0	0	1	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	2	0	1	3	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	1	0	1	2	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	0	2	1	0	3	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	2	0	0	2	7:30 AM	0	0	0	0	0	7:30 AM	0	0	1	0	1
7:35 AM	0	2	1	0	3	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	2	0	0	2	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	0	1	0	0	1	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	0	0	1	1	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	0	3	0	4	7	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	0	0	3	3	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	0	1	0	1	2	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	0	0	3	3	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	0	5	0	6	11	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	4	0	3	7	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	0	3	0	2	5	8:25 AM	0	0	0	0	0	8:25 AM	0	0	1	0	1
8:30 AM	0	3	0	2	5	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	0	7	0	1	8	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	1	0	3	4	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	4	0	1	5	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	2	0	2	4	8:50 AM	0	1	0	1	1	8:50 AM	0	0	0	0	0
8:55 AM	0	0	0	2	2	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	0	49	2	37	88	Count Total	0	1	0	1	1	Count Total	0	0	2	0	2
Peak Hour	0	24	1	25	50	Peak Hour	0	0	0	0	0	Peak Hour	0	0	1	0	1

Location: 4 NW Friberg Strunk & NW Goodwin Rd AM



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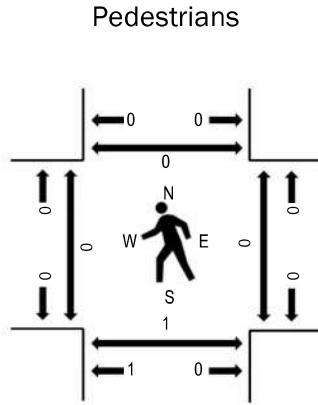
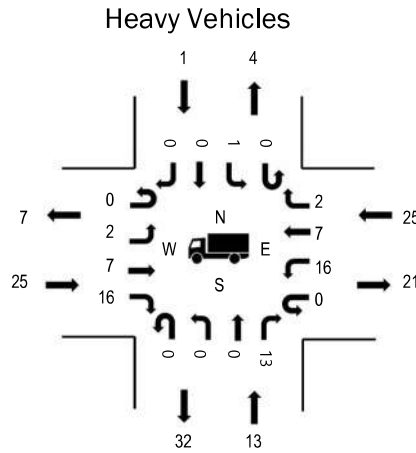
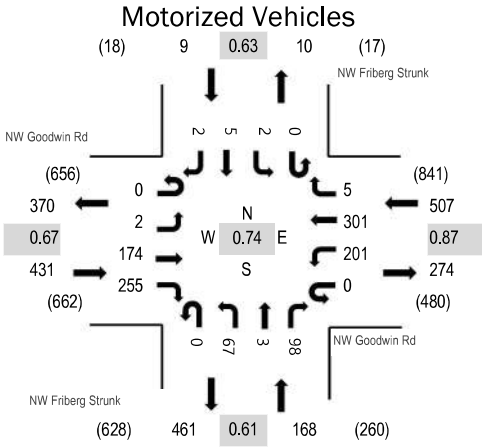
Location: 4 NW Friberg Strunk & NW Goodwin Rd AM

Date: Thursday, September 16, 2021

Peak Hour: 07:40 AM - 08:40 AM

Peak 15-Minutes: 08:20 AM - 08:35 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	5.8%	0.67
WB	4.9%	0.87
NB	7.7%	0.61
SB	11.1%	0.63
All	5.7%	0.74

Traffic Counts - Motorized Vehicles

Interval Start Time	NW Goodwin Rd Eastbound				NW Goodwin Rd Westbound				NW Friberg Strunk Northbound				NW Friberg Strunk Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	10	1	0	3	22	0	0	0	0	1	0	0	0	0	37	701
7:05 AM	0	0	5	3	0	8	12	0	0	1	0	4	0	0	0	0	33	736
7:10 AM	0	1	8	5	0	7	16	0	0	5	0	1	0	0	1	0	44	776
7:15 AM	0	0	12	13	0	8	18	0	0	1	0	3	0	0	1	0	56	822
7:20 AM	0	0	11	9	0	7	18	0	0	6	0	6	0	0	0	0	57	874
7:25 AM	0	1	9	14	0	5	19	0	0	4	1	0	0	0	3	0	56	942
7:30 AM	0	0	9	6	0	8	32	0	0	7	0	4	0	0	0	0	66	1,010
7:35 AM	0	0	19	8	0	7	22	0	0	0	0	4	0	0	1	0	61	1,074
7:40 AM	0	0	15	5	0	12	29	0	0	3	0	5	0	0	0	1	70	1,115
7:45 AM	0	0	20	7	0	9	24	0	0	2	0	4	0	0	1	0	67	1,110
7:50 AM	0	0	16	9	0	9	27	0	0	2	0	5	0	0	0	0	68	1,106
7:55 AM	0	0	11	8	0	20	36	0	0	1	1	8	0	0	1	0	86	1,099
8:00 AM	0	0	17	8	0	13	23	0	0	6	0	4	0	1	0	0	72	1,080
8:05 AM	0	0	9	14	0	15	25	0	0	2	0	8	0	0	0	0	73	
8:10 AM	0	0	10	33	0	8	26	0	0	7	0	6	0	0	0	0	90	
8:15 AM	0	0	12	41	0	26	18	1	0	3	0	6	0	0	1	0	108	
8:20 AM	0	0	13	43	0	22	23	2	0	9	0	12	0	0	1	0	125	
8:25 AM	0	0	12	37	0	28	23	0	0	7	1	14	0	0	1	1	124	
8:30 AM	0	2	18	35	0	22	25	1	0	11	1	14	0	1	0	0	130	
8:35 AM	0	0	21	15	0	17	22	1	0	14	0	12	0	0	0	0	102	
8:40 AM	0	0	16	3	0	4	23	1	0	6	1	10	0	1	0	0	65	
8:45 AM	0	0	21	6	0	4	20	0	0	3	0	8	0	0	0	1	63	
8:50 AM	0	0	17	2	0	11	25	0	0	0	0	6	0	0	0	0	61	
8:55 AM	0	1	16	5	0	13	21	0	0	4	1	5	0	0	1	0	67	
Count Total	0	5	327	330	0	286	549	6	0	104	6	150	0	3	12	3	1,781	
Peak Hour	0	2	174	255	0	201	301	5	0	67	3	98	0	2	5	2	1,115	

Location: 4 NW Friberg Strunk & NW Goodwin Rd AM

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

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	1	0	0	0	1	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	1	0	1	0	2	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	3	0	0	0	3	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	2	1	0	0	3	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	1	2	0	3	7:20 AM	1	0	0	0	1	7:20 AM	0	1	0	0	1
7:25 AM	2	2	0	1	5	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	2	0	0	0	2	7:30 AM	0	0	0	0	0	7:30 AM	0	1	0	0	1
7:35 AM	3	0	0	0	3	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	1	0	0	1	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	1	0	0	0	1	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	0	1	0	1	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	2	1	2	0	5	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	1	0	4	0	5	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	3	0	0	0	3	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	6	1	7	0	14	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	6	4	3	0	13	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	2	3	2	0	7	8:25 AM	1	0	0	0	1	8:25 AM	0	0	0	0	0
8:30 AM	3	1	5	1	10	8:30 AM	0	0	0	0	0	8:30 AM	0	1	0	0	1
8:35 AM	1	2	1	0	4	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	4	1	2	1	8	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	3	1	2	0	6	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	2	0	1	0	3	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	1	2	2	1	6	8:55 AM	1	0	0	0	1	8:55 AM	0	1	0	0	1
Count Total	49	21	35	4	109	Count Total	3	0	0	0	3	Count Total	0	4	0	0	4
Peak Hour	25	13	25	1	64	Peak Hour	1	0	0	0	1	Peak Hour	0	1	0	0	1

Location: 5 NE 192nd Ave & NE 13th St AM



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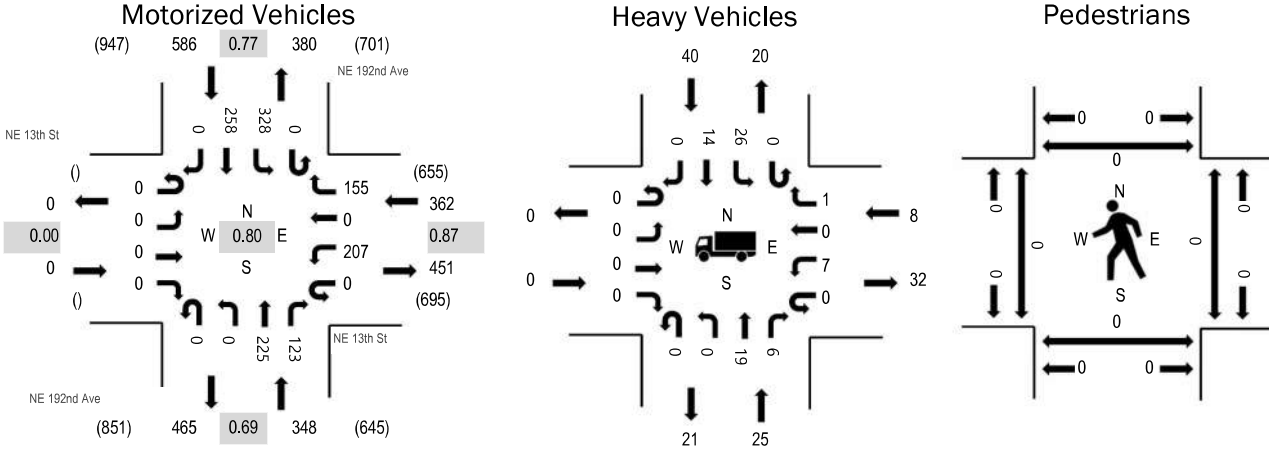
Location: 5 NE 192nd Ave & NE 13th St AM

Date: Thursday, September 16, 2021

Peak Hour: 07:40 AM - 08:40 AM

Peak 15-Minutes: 08:15 AM - 08:30 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	2.2%	0.87
NB	7.2%	0.69
SB	6.8%	0.77
All	5.6%	0.80

Traffic Counts - Motorized Vehicles

Interval Start Time	NE 13th St Eastbound				NE 13th St Westbound				NE 192nd Ave Northbound				NE 192nd Ave Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	0	0	17	0	7	0	0	12	5	0	6	9	0	56	982
7:05 AM	0	0	0	0	0	9	0	4	0	0	13	3	0	7	15	0	51	999
7:10 AM	0	0	0	0	0	11	0	11	0	0	10	7	0	9	17	0	65	1,048
7:15 AM	0	0	0	0	0	10	0	9	0	0	10	8	0	13	23	0	73	1,115
7:20 AM	0	0	0	0	0	9	0	13	0	0	26	13	0	21	19	0	101	1,167
7:25 AM	0	0	0	0	0	11	0	12	0	0	26	13	0	11	18	0	91	1,208
7:30 AM	0	0	0	0	0	17	0	9	0	0	15	11	0	17	13	0	82	1,255
7:35 AM	0	0	0	0	0	22	0	11	0	0	17	3	0	11	19	0	83	1,272
7:40 AM	0	0	0	0	0	12	0	17	0	0	20	12	0	18	21	0	100	1,296
7:45 AM	0	0	0	0	0	15	0	14	0	0	14	4	0	16	24	0	87	1,290
7:50 AM	0	0	0	0	0	15	0	13	0	0	12	4	0	17	26	0	87	1,289
7:55 AM	0	0	0	0	0	23	0	10	0	0	15	9	0	21	28	0	106	1,283
8:00 AM	0	0	0	0	0	19	0	12	0	0	11	6	0	12	13	0	73	1,265
8:05 AM	0	0	0	0	0	17	0	8	0	0	13	7	0	32	23	0	100	
8:10 AM	0	0	0	0	0	20	0	14	0	0	26	11	0	35	26	0	132	
8:15 AM	0	0	0	0	0	11	0	8	0	0	21	13	0	50	22	0	125	
8:20 AM	0	0	0	0	0	19	0	16	0	0	32	21	0	35	19	0	142	
8:25 AM	0	0	0	0	0	17	0	13	0	0	29	15	0	48	16	0	138	
8:30 AM	0	0	0	0	0	20	0	12	0	0	15	7	0	27	18	0	99	
8:35 AM	0	0	0	0	0	19	0	18	0	0	17	14	0	17	22	0	107	
8:40 AM	0	0	0	0	0	16	0	21	0	0	15	9	0	9	24	0	94	
8:45 AM	0	0	0	0	0	14	0	9	0	0	17	13	0	13	20	0	86	
8:50 AM	0	0	0	0	0	14	0	13	0	0	15	9	0	11	19	0	81	
8:55 AM	0	0	0	0	0	14	0	10	0	0	16	11	0	11	26	0	88	
Count Total	0	0	0	0	0	371	0	284	0	0	417	228	0	467	480	0	2,247	
Peak Hour	0	0	0	0	0	207	0	155	0	0	225	123	0	328	258	0	1,296	

Location: 5 NE 192nd Ave & NE 13th St AM

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

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	1	1	2	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	1	1	1	3	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	0	0	2	2	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	1	0	4	5	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	4	2	3	9	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	0	2	2	0	4	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	3	0	1	4	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	0	3	0	2	5	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	2	0	1	3	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	0	2	0	2	4	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	1	0	1	2	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	0	3	1	4	8	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	0	0	2	2	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	0	2	2	0	4	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	1	1	7	9	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	0	3	0	8	11	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	3	0	4	7	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	0	2	1	3	6	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	1	2	2	5	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	0	5	1	6	12	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	5	2	2	9	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	5	1	2	8	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	5	3	2	10	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	2	2	2	6	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	0	56	22	62	140	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	0	25	8	40	73	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

Location: 6 NE Everett St & NW Leadbetter Rd AM



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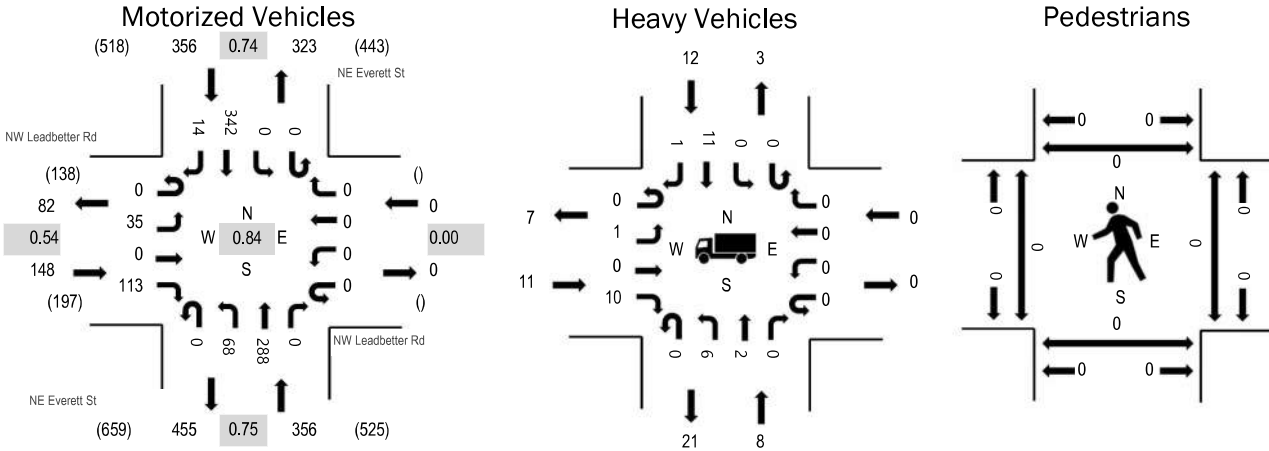
Location: 6 NE Everett St & NW Leadbetter Rd AM

Date: Thursday, September 16, 2021

Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:05 AM - 08:20 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	7.4%	0.54
WB	0.0%	0.00
NB	2.2%	0.75
SB	3.4%	0.74
All	3.6%	0.84

Traffic Counts - Motorized Vehicles

Interval Start Time	NW Leadbetter Rd Eastbound				NW Leadbetter Rd Westbound				NE Everett St Northbound				NE Everett St Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	3	0	0	0	0	0	6	5	0	0	0	13	0	27	450
7:05 AM	0	0	0	0	0	0	0	0	0	3	3	0	0	0	14	0	20	496
7:10 AM	0	0	0	4	0	0	0	0	0	6	5	0	0	0	9	0	24	563
7:15 AM	0	1	0	0	0	0	0	0	0	0	10	0	0	0	14	0	25	625
7:20 AM	0	0	0	5	0	0	0	0	0	4	17	0	0	0	17	1	44	682
7:25 AM	0	1	0	6	0	0	0	0	0	2	7	0	0	0	15	2	33	718
7:30 AM	0	0	0	4	0	0	0	0	0	8	14	0	0	0	12	0	38	751
7:35 AM	0	0	0	10	0	0	0	0	0	5	6	0	0	0	10	0	31	790
7:40 AM	0	0	0	2	0	0	0	0	0	4	9	0	0	0	11	0	26	835
7:45 AM	0	0	0	7	0	0	0	0	0	16	13	0	0	0	22	1	59	860
7:50 AM	0	1	0	8	0	0	0	0	0	7	7	0	0	0	19	1	43	839
7:55 AM	0	3	0	26	0	0	0	0	0	3	23	0	0	0	23	2	80	835
8:00 AM	0	5	0	17	0	0	0	0	0	4	32	0	0	0	14	1	73	790
8:05 AM	0	4	0	14	0	0	0	0	0	2	38	0	0	0	27	2	87	860
8:10 AM	0	4	0	3	0	0	0	0	0	7	36	0	0	0	35	1	86	860
8:15 AM	0	4	0	8	0	0	0	0	0	4	26	0	0	0	38	2	82	860
8:20 AM	0	3	0	9	0	0	0	0	0	3	21	0	0	0	44	0	80	860
8:25 AM	0	5	0	4	0	0	0	0	0	5	28	0	0	0	23	1	66	860
8:30 AM	0	2	0	4	0	0	0	0	0	5	33	0	0	0	33	0	77	860
8:35 AM	0	4	0	6	0	0	0	0	0	7	17	0	0	0	41	1	76	860
8:40 AM	0	0	0	7	0	0	0	0	0	5	14	0	0	0	23	2	51	860
8:45 AM	0	1	0	3	0	0	0	0	0	4	10	0	0	0	20	0	38	860
8:50 AM	0	0	0	6	0	0	0	0	0	6	12	0	0	0	15	0	39	860
8:55 AM	0	1	0	2	0	0	0	0	0	5	18	0	0	0	9	0	35	860
Count Total	0	39	0	158	0	0	0	0	0	121	404	0	0	0	501	17	1,240	
Peak Hour	0	35	0	113	0	0	0	0	0	68	288	0	0	0	342	14	860	

Location: 6 NE Everett St & NW Leadbetter Rd AM

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

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	1	0	0	1	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	1	1	0	1	3	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	3	0	0	3	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	2	0	0	2	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	0	0	0	1	1	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	0	3	0	0	3	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	1	4	0	0	5	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	4	0	0	1	5	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	3	0	0	0	3	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	1	0	0	0	1	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	0	0	4	4	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	1	0	0	0	1	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	0	0	3	3	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	1	0	0	2	3	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	0	0	1	1	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	0	0	0	1	1	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	1	0	0	1	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	0	0	2	2	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	0	0	1	1	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	12	15	0	17	44	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	11	8	0	12	31	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

Location: 7 NE 199th Ave & NE 58th St AM



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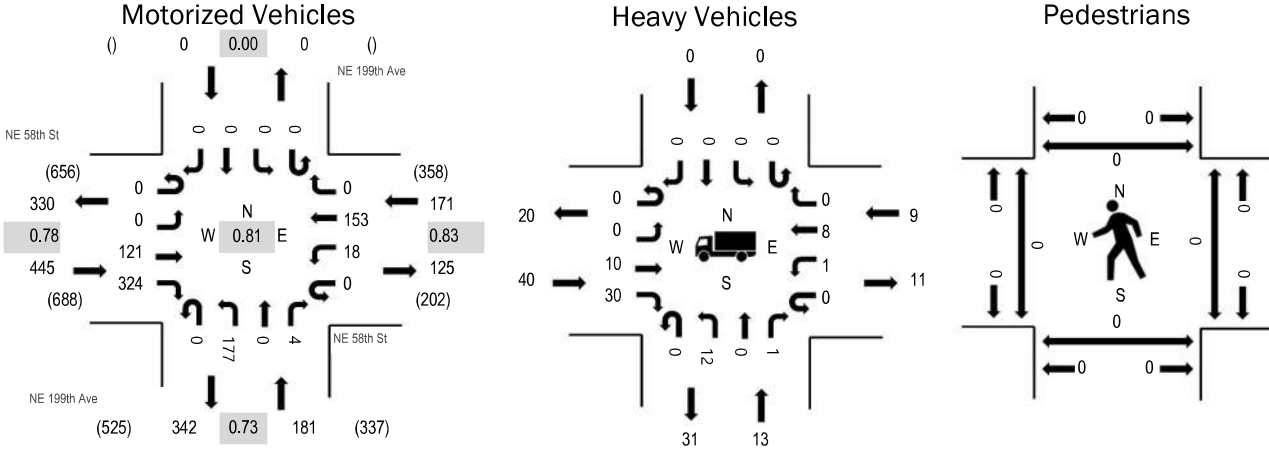
Location: 7 NE 199th Ave & NE 58th St AM

Date: Thursday, September 16, 2021

Peak Hour: 07:40 AM - 08:40 AM

Peak 15-Minutes: 08:20 AM - 08:35 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	9.0%	0.78
WB	5.3%	0.83
NB	7.2%	0.73
SB	0.0%	0.00
All	7.8%	0.81

Traffic Counts - Motorized Vehicles

Interval Start Time	NE 58th St Eastbound				NE 58th St Westbound				NE 199th Ave Northbound				NE 199th Ave Southbound				Total	Rolling Hour	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			
7:00 AM	0	0	8	4	0	1	18	0	0	14	0	0	0	0	0	0	0	45	637
7:05 AM	0	0	7	14	0	3	14	0	0	7	0	0	0	0	0	0	0	45	663
7:10 AM	0	0	1	11	0	0	15	0	0	13	0	0	0	0	0	0	0	40	666
7:15 AM	0	0	6	16	0	1	17	0	0	11	0	0	0	0	0	0	0	51	684
7:20 AM	0	0	4	17	0	3	16	0	0	12	0	1	0	0	0	0	0	53	689
7:25 AM	0	0	8	23	0	0	14	0	0	13	0	0	0	0	0	0	0	58	727
7:30 AM	0	0	2	15	0	0	10	0	0	12	0	0	0	0	0	0	0	39	741
7:35 AM	0	0	6	12	0	2	16	0	0	7	0	0	0	0	0	0	0	43	785
7:40 AM	0	0	8	22	0	3	22	0	0	16	0	1	0	0	0	0	0	72	797
7:45 AM	0	0	10	25	0	1	15	0	0	19	0	0	0	0	0	0	0	70	789
7:50 AM	0	0	12	22	0	0	18	0	0	14	0	0	0	0	0	0	0	66	763
7:55 AM	0	0	7	34	0	3	3	0	0	8	0	0	0	0	0	0	0	55	744
8:00 AM	0	0	13	25	0	1	15	0	0	17	0	0	0	0	0	0	0	71	746
8:05 AM	0	0	6	22	0	0	7	0	0	12	0	1	0	0	0	0	0	48	
8:10 AM	0	0	7	28	0	1	7	0	0	14	0	1	0	0	0	0	0	58	
8:15 AM	0	0	7	29	0	1	12	0	0	7	0	0	0	0	0	0	0	56	
8:20 AM	0	0	17	38	0	2	17	0	0	17	0	0	0	0	0	0	0	91	
8:25 AM	0	0	11	31	0	1	13	0	0	16	0	0	0	0	0	0	0	72	
8:30 AM	0	0	14	32	0	2	17	0	0	18	0	0	0	0	0	0	0	83	
8:35 AM	0	0	9	16	0	3	7	0	0	19	0	1	0	0	0	0	0	55	
8:40 AM	0	0	7	10	0	1	18	0	0	28	0	0	0	0	0	0	0	64	
8:45 AM	0	0	5	10	0	1	11	0	0	14	0	3	0	0	0	0	0	44	
8:50 AM	0	0	9	16	0	0	10	0	0	12	0	0	0	0	0	0	0	47	
8:55 AM	0	0	10	22	0	1	15	0	0	9	0	0	0	0	0	0	0	57	
Count Total	0	0	194	494	0	31	327	0	0	329	0	8	0	0	0	0	0	1,383	
Peak Hour	0	0	121	324	0	18	153	0	0	177	0	4	0	0	0	0	0	797	

Location: 7 NE 199th Ave & NE 58th St AM

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

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	1	1	1	0	3	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	1	0	0	0	1	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	0	1	0	1	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	3	1	2	0	6	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	4	1	0	0	5	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	2	2	1	0	5	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	1	0	0	1	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	1	1	1	0	3	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	2	2	1	0	5	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	2	0	2	0	4	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	1	0	0	0	1	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	4	0	2	0	6	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	4	2	0	0	6	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	4	0	0	0	4	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	7	1	1	0	9	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	9	0	3	0	12	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	3	3	0	0	6	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	3	3	0	0	6	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	1	2	0	0	3	8:35 AM	0	1	1	0	2	8:35 AM	0	0	0	0	0
8:40 AM	1	0	0	0	1	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	2	0	0	2	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	1	0	0	1	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	3	0	1	0	4	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	56	23	16	0	95	Count Total	0	1	1	0	2	Count Total	0	0	0	0	0
Peak Hour	40	13	9	0	62	Peak Hour	0	1	1	0	2	Peak Hour	0	0	0	0	0



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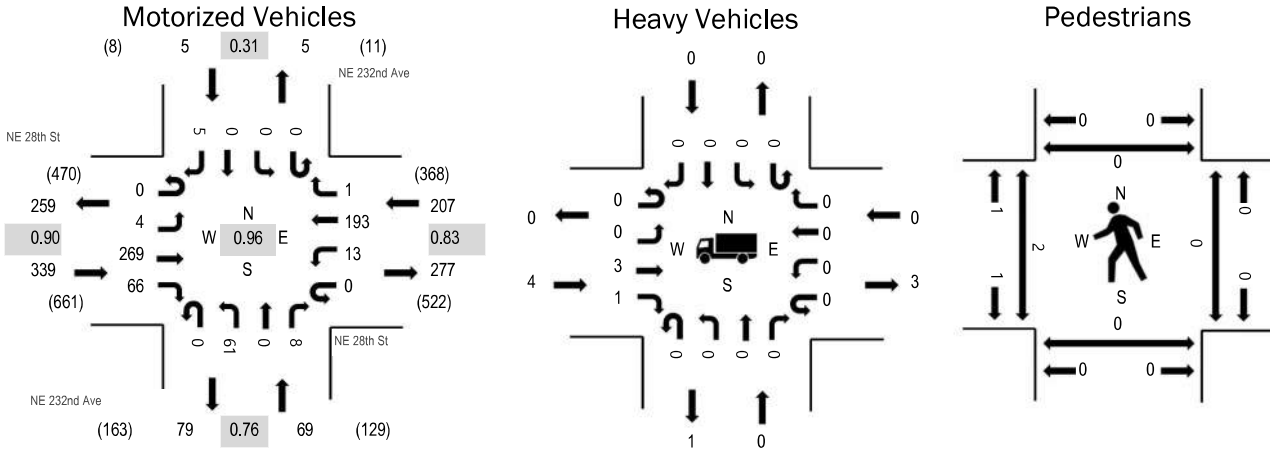
Location: 1 NE 232nd Ave & NE 28th St PM

Date: Thursday, September 16, 2021

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

Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.2%	0.90
WB	0.0%	0.83
NB	0.0%	0.76
SB	0.0%	0.31
All	0.6%	0.96

Traffic Counts - Motorized Vehicles

Interval Start Time	NE 28th St Eastbound				NE 28th St Westbound				NE 232nd Ave Northbound				NE 232nd Ave Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	24	6	0	1	12	0	0	5	0	1	0	0	0	0	49	616
4:05 PM	0	1	22	3	0	3	21	0	0	6	0	0	0	0	0	1	57	620
4:10 PM	0	0	16	10	0	0	13	0	0	10	0	0	0	0	0	0	49	620
4:15 PM	0	0	17	3	0	2	23	0	0	6	0	1	0	0	0	0	52	610
4:20 PM	0	0	30	2	0	0	19	0	0	3	0	0	0	0	0	0	54	606
4:25 PM	0	0	25	9	0	0	18	0	0	3	0	0	0	0	0	0	55	592
4:30 PM	0	1	25	7	0	1	9	0	0	6	0	0	0	0	0	0	49	584
4:35 PM	0	1	22	7	0	1	17	0	0	4	0	0	0	0	0	1	53	586
4:40 PM	0	1	24	3	0	1	11	0	0	7	0	1	0	0	0	1	49	580
4:45 PM	0	0	18	5	0	0	15	0	0	5	0	2	0	0	0	2	47	577
4:50 PM	0	0	31	6	0	1	15	0	0	4	0	1	0	0	0	0	58	574
4:55 PM	0	0	11	7	0	4	16	1	0	4	0	1	0	0	0	0	44	551
5:00 PM	0	0	28	4	0	0	16	0	0	3	0	2	0	0	0	0	53	550
5:05 PM	0	0	19	12	0	1	19	0	0	5	0	1	0	0	0	0	57	
5:10 PM	0	0	22	4	0	0	12	0	0	0	0	1	0	0	0	0	39	
5:15 PM	0	0	26	8	0	0	7	0	0	5	0	2	0	0	0	0	48	
5:20 PM	0	0	16	10	0	0	13	0	0	1	0	0	0	0	0	0	40	
5:25 PM	0	0	23	8	0	0	10	0	0	5	0	0	0	0	0	1	47	
5:30 PM	0	1	25	11	0	0	10	0	0	4	0	0	0	0	0	0	51	
5:35 PM	0	1	12	3	0	1	22	0	0	7	0	0	0	0	1	0	47	
5:40 PM	0	1	17	6	0	0	15	0	0	7	0	0	0	0	0	0	46	
5:45 PM	0	0	23	2	0	0	13	0	0	5	0	1	0	0	0	0	44	
5:50 PM	0	0	11	1	0	1	15	0	0	5	1	0	0	0	0	1	35	
5:55 PM	0	1	21	8	0	0	8	1	0	4	0	0	0	0	0	0	43	
Count Total	0	8	508	145	0	17	349	2	0	114	1	14	0	0	1	7	1,166	
Peak Hour	0	4	269	66	0	13	193	1	0	61	0	8	0	0	0	5	620	

Location: 1 NE 232nd Ave & NE 28th St PM

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

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

Location: 2 NE 28th St & NE Ingle Rd PM



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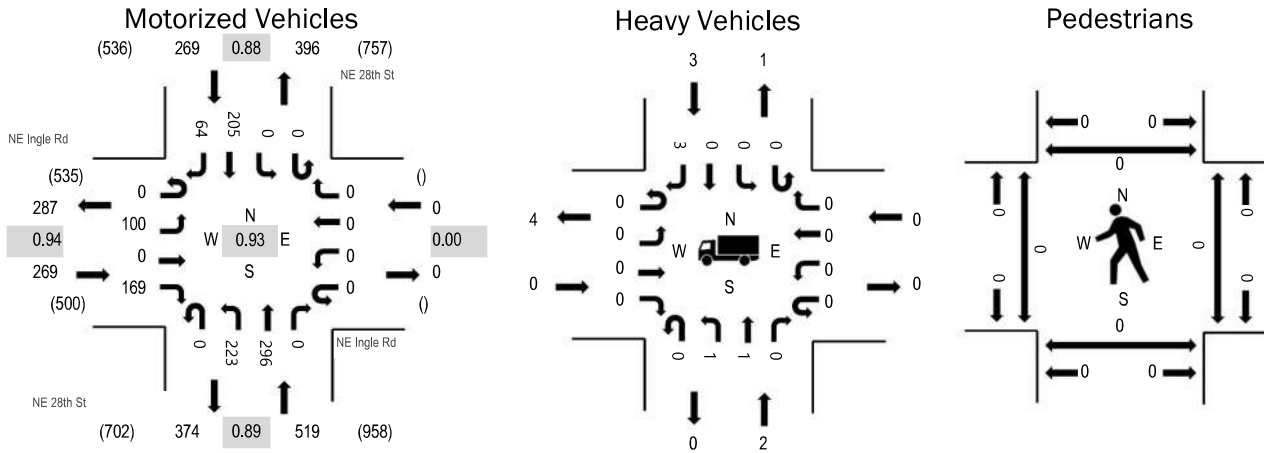
Location: 2 NE 28th St & NE Ingle Rd PM

Date: Thursday, September 16, 2021

Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.94
WB	0.0%	0.00
NB	0.4%	0.89
SB	1.1%	0.88
All	0.5%	0.93

Traffic Counts - Motorized Vehicles

Interval Start Time	NE Ingle Rd Eastbound				NE Ingle Rd Westbound				NE 28th St Northbound				NE 28th St Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	9	0	10	0	0	0	0	0	13	20	0	0	0	14	8	74	956
4:05 PM	0	8	0	9	0	0	0	0	0	13	22	0	0	0	19	9	80	980
4:10 PM	0	4	0	6	0	0	0	0	0	24	19	0	0	0	14	7	74	991
4:15 PM	0	4	0	9	0	0	0	0	0	10	20	0	0	0	24	8	75	1,013
4:20 PM	0	13	0	10	0	0	0	0	0	14	29	0	0	0	16	5	87	1,006
4:25 PM	0	8	0	13	0	0	0	0	0	8	26	0	0	0	19	5	79	999
4:30 PM	0	14	0	10	0	0	0	0	0	13	13	0	0	0	10	6	66	1,014
4:35 PM	0	8	0	16	0	0	0	0	0	13	24	0	0	0	19	4	84	1,041
4:40 PM	0	5	0	21	0	0	0	0	0	16	23	0	0	0	12	12	89	1,042
4:45 PM	0	8	0	13	0	0	0	0	0	18	26	0	0	0	21	5	91	1,057
4:50 PM	0	9	0	14	0	0	0	0	0	14	28	0	0	0	20	3	88	1,038
4:55 PM	0	6	0	12	0	0	0	0	0	7	19	0	0	0	23	2	69	1,031
5:00 PM	0	8	0	15	0	0	0	0	0	20	34	0	0	0	17	4	98	1,038
5:05 PM	0	11	0	14	0	0	0	0	0	25	15	0	0	0	20	6	91	
5:10 PM	0	9	0	14	0	0	0	0	0	24	30	0	0	0	15	4	96	
5:15 PM	0	12	0	8	0	0	0	0	0	14	23	0	0	0	7	4	68	
5:20 PM	0	11	0	13	0	0	0	0	0	16	21	0	0	0	14	5	80	
5:25 PM	0	9	0	17	0	0	0	0	0	13	33	0	0	0	14	8	94	
5:30 PM	0	7	0	17	0	0	0	0	0	25	26	0	0	0	13	5	93	
5:35 PM	0	6	0	15	0	0	0	0	0	23	12	0	0	0	21	8	85	
5:40 PM	0	4	0	17	0	0	0	0	0	24	29	0	0	0	20	10	104	
5:45 PM	0	6	0	6	0	0	0	0	0	21	19	0	0	0	17	3	72	
5:50 PM	0	8	0	13	0	0	0	0	0	15	22	0	0	0	18	5	81	
5:55 PM	0	11	0	10	0	0	0	0	0	16	26	0	0	0	13	0	76	
Count Total	0	198	0	302	0	0	0	0	0	399	559	0	0	0	400	136	1,994	
Peak Hour	0	100	0	169	0	0	0	0	0	223	296	0	0	0	205	64	1,057	

Location: 2 NE 28th St & NE Ingle Rd PM

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

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

Location: 3 NW Goodwin Rd & NW Camas Meadows Dr PM



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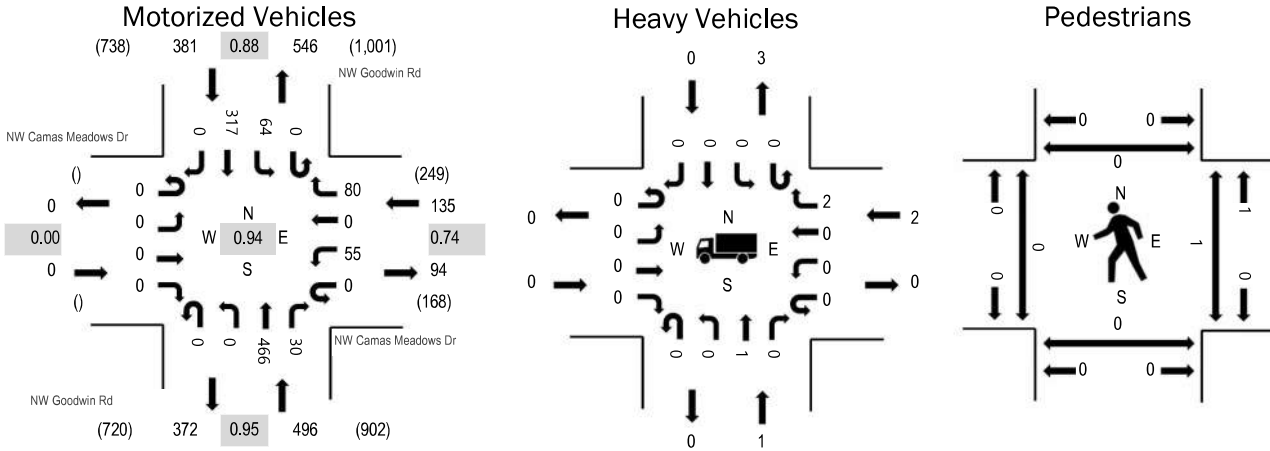
Location: 3 NW Goodwin Rd & NW Camas Meadows Dr PM

Date: Thursday, September 16, 2021

Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	1.5%	0.74
NB	0.2%	0.95
SB	0.0%	0.88
All	0.3%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	NW Camas Meadows Dr Eastbound				NW Camas Meadows Dr Westbound				NW Goodwin Rd Northbound				NW Goodwin Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	0	0	6	0	3	0	0	41	3	0	2	28	0	83	924
4:05 PM	0	0	0	0	0	4	0	6	0	0	21	3	0	6	20	0	60	938
4:10 PM	0	0	0	0	0	3	0	4	0	0	37	1	0	1	18	0	64	961
4:15 PM	0	0	0	0	0	3	0	8	0	0	29	0	0	10	30	0	80	985
4:20 PM	0	0	0	0	0	5	0	7	0	0	29	2	0	4	24	0	71	963
4:25 PM	0	0	0	0	0	4	0	5	0	0	33	2	0	3	33	0	80	970
4:30 PM	0	0	0	0	0	4	0	6	0	0	28	4	0	3	20	0	65	983
4:35 PM	0	0	0	0	0	1	0	5	0	0	32	0	0	3	31	0	72	998
4:40 PM	0	0	0	0	0	7	0	12	0	0	30	3	0	7	32	0	91	1,008
4:45 PM	0	0	0	0	0	7	0	3	0	0	49	3	0	3	29	0	94	1,012
4:50 PM	0	0	0	0	0	4	0	4	0	0	24	6	0	6	38	0	82	981
4:55 PM	0	0	0	0	0	7	0	1	0	0	40	2	0	6	26	0	82	977
5:00 PM	0	0	0	0	0	7	0	16	0	0	37	4	0	5	28	0	97	965
5:05 PM	0	0	0	0	0	4	0	8	0	0	37	1	0	4	29	0	83	
5:10 PM	0	0	0	0	0	3	0	9	0	0	45	2	0	5	24	0	88	
5:15 PM	0	0	0	0	0	0	0	6	0	0	35	2	0	0	15	0	58	
5:20 PM	0	0	0	0	0	4	0	5	0	0	36	3	0	5	25	0	78	
5:25 PM	0	0	0	0	0	8	0	3	0	0	46	2	0	7	27	0	93	
5:30 PM	0	0	0	0	0	2	0	7	0	0	41	2	0	5	23	0	80	
5:35 PM	0	0	0	0	0	3	0	8	0	0	35	2	0	9	25	0	82	
5:40 PM	0	0	0	0	0	6	0	10	0	0	41	1	0	9	28	0	95	
5:45 PM	0	0	0	0	0	2	0	3	0	0	30	2	0	3	23	0	63	
5:50 PM	0	0	0	0	0	3	0	7	0	0	37	1	0	5	25	0	78	
5:55 PM	0	0	0	0	0	0	0	6	0	0	36	2	0	4	22	0	70	
Count Total	0	0	0	0	0	97	0	152	0	0	849	53	0	115	623	0	1,889	
Peak Hour	0	0	0	0	0	55	0	80	0	0	466	30	0	64	317	0	1,012	

Location: 3 NW Goodwin Rd & NW Camas Meadows Dr PM

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

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	1	0	2	3	4:00 PM	0	0	0	0	0	4:00 PM	0	0	1	0	1
4:05 PM	0	1	0	2	3	4:05 PM	0	0	0	0	0	4:05 PM	0	0	1	0	1
4:10 PM	0	0	0	0	0	4:10 PM	0	1	0	0	1	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	1	0	0	1	4:20 PM	0	0	0	0	0
4:25 PM	0	2	0	1	3	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	1	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	1	1	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	1	0	0	1	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	1	0	0	1	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	2	0	2	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	2	0	0	2	5:05 PM	0	0	1	0	1
5:10 PM	0	0	0	0	0	5:10 PM	0	1	0	0	1	5:10 PM	0	0	0	0	0
5:15 PM	0	0	1	0	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	4	0	4
5:20 PM	0	1	0	0	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	1	0	0	1	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	1	0	1	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	1	0	0	1	5:35 PM	0	0	0	0	0
5:40 PM	0	0	1	0	1	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	1	0	1
5:50 PM	0	1	0	0	1	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	0	6	2	6	14	Count Total	0	9	3	1	13	Count Total	0	0	8	0	8
Peak Hour	0	1	2	0	3	Peak Hour	0	7	3	1	11	Peak Hour	0	0	5	0	5

Location: 4 NW Friberg Strunk & NW Goodwin Rd PM



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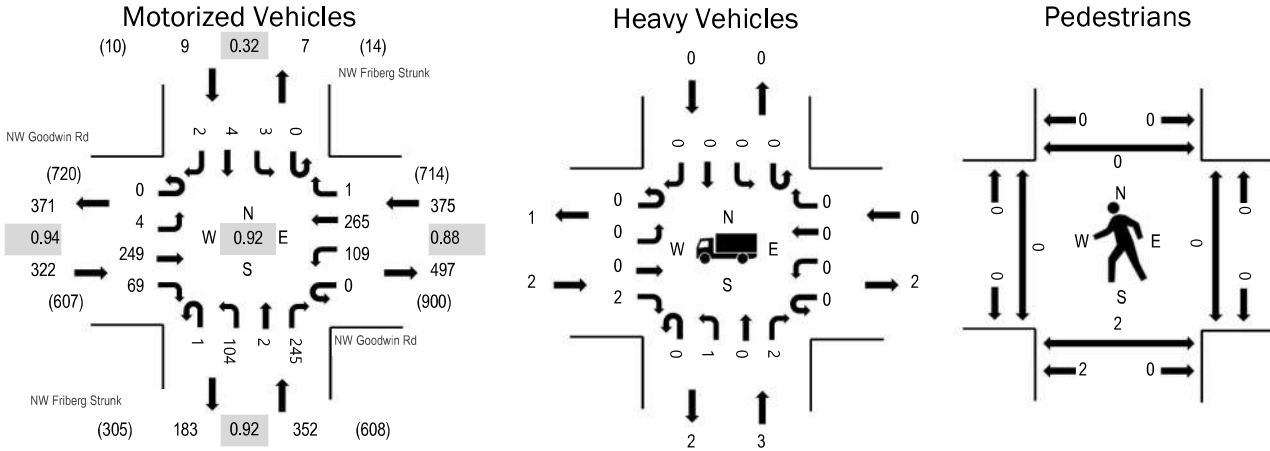
Location: 4 NW Friberg Strunk & NW Goodwin Rd PM

Date: Thursday, September 16, 2021

Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.6%	0.94
WB	0.0%	0.88
NB	0.9%	0.92
SB	0.0%	0.32
All	0.5%	0.92

Traffic Counts - Motorized Vehicles

Interval Start Time	NW Goodwin Rd Eastbound				NW Goodwin Rd Westbound				NW Friberg Strunk Northbound				NW Friberg Strunk Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	23	3	0	2	26	0	0	2	1	11	0	0	0	0	68	942
4:05 PM	0	1	16	6	0	2	18	0	0	5	0	19	0	0	0	0	67	970
4:10 PM	0	0	21	5	0	3	25	0	0	5	0	17	0	0	0	0	76	989
4:15 PM	0	0	15	3	0	7	18	0	0	2	1	12	0	0	0	0	58	1,017
4:20 PM	0	0	22	2	0	9	24	0	0	2	0	15	0	0	0	0	74	1,030
4:25 PM	0	0	16	2	0	4	26	0	0	4	0	13	0	0	0	0	65	1,022
4:30 PM	0	0	19	7	0	5	22	0	0	7	2	12	0	0	0	0	74	1,047
4:35 PM	0	0	19	8	0	9	31	0	0	13	0	15	0	0	0	0	95	1,057
4:40 PM	0	0	20	6	0	3	25	0	0	13	0	11	0	0	1	0	79	1,043
4:45 PM	0	0	27	4	0	3	35	0	0	11	0	25	0	0	0	0	105	1,058
4:50 PM	0	0	19	8	0	12	28	0	0	18	0	16	0	0	0	0	101	1,028
4:55 PM	0	0	20	7	0	11	24	1	0	5	0	12	0	0	0	0	80	1,002
5:00 PM	0	0	30	4	0	9	26	0	0	6	0	21	0	0	0	0	96	997
5:05 PM	0	1	15	6	0	18	19	0	0	11	0	16	0	0	0	0	86	
5:10 PM	0	0	26	5	0	8	22	0	1	16	0	25	0	0	1	0	104	
5:15 PM	0	1	23	7	0	5	12	0	0	7	0	16	0	0	0	0	71	
5:20 PM	0	0	16	3	0	11	13	0	0	5	0	18	0	0	0	0	66	
5:25 PM	0	0	20	8	0	8	18	0	0	7	1	26	0	1	0	1	90	
5:30 PM	0	0	23	4	0	12	18	0	0	2	0	23	0	1	0	1	84	
5:35 PM	0	1	12	8	0	7	27	0	0	1	0	22	0	1	2	0	81	
5:40 PM	0	1	18	5	0	5	23	0	0	15	1	25	0	0	1	0	94	
5:45 PM	0	0	21	4	0	8	19	1	0	8	0	14	0	0	0	0	75	
5:50 PM	0	0	13	6	0	7	19	1	0	7	0	22	0	0	0	0	75	
5:55 PM	0	0	24	3	0	7	18	0	0	10	0	13	0	0	0	0	75	
Count Total	0	5	478	124	0	175	536	3	1	182	6	419	0	3	5	2	1,939	
Peak Hour	0	4	249	69	0	109	265	1	1	104	2	245	0	3	4	2	1,058	

Location: 4 NW Friberg Strunk & NW Goodwin Rd PM

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

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	4	0	4	4:00 PM	0	1	0	0	1	4:00 PM	0	0	0	0	0
4:05 PM	2	0	1	0	3	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	1	0	0	1	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	1	0	0	1	4:20 PM	0	0	0	0	0
4:25 PM	2	0	0	0	2	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	1	0	0	1
4:35 PM	0	0	1	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	1	0	1	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	2	0	0	2
4:55 PM	0	0	0	0	0	4:55 PM	0	1	0	0	1	4:55 PM	0	0	0	0	0
5:00 PM	0	1	0	0	1	5:00 PM	2	0	0	0	2	5:00 PM	0	1	0	0	1
5:05 PM	0	0	0	0	0	5:05 PM	0	2	1	0	3	5:05 PM	0	0	0	0	0
5:10 PM	1	0	0	0	1	5:10 PM	0	1	0	0	1	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	1	0	0	1	5:20 PM	0	4	0	0	4	5:20 PM	0	4	0	0	4
5:25 PM	0	0	0	0	0	5:25 PM	0	1	0	0	1	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	1	0	1	5:30 PM	0	0	0	0	0
5:35 PM	1	0	0	0	1	5:35 PM	1	0	0	0	1	5:35 PM	0	1	0	0	1
5:40 PM	0	1	0	0	1	5:40 PM	0	0	1	0	1	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	1	0	0	0	1	5:45 PM	0	1	0	0	1
5:50 PM	1	0	0	0	1	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	1	0	1	5:55 PM	0	0	1	0	1	5:55 PM	0	0	0	0	0
Count Total	7	3	8	0	18	Count Total	4	12	5	0	21	Count Total	0	10	0	0	10
Peak Hour	2	3	0	0	5	Peak Hour	3	9	4	0	16	Peak Hour	0	8	0	0	8

Location: 5 NE 192nd Ave & NE 13th St PM



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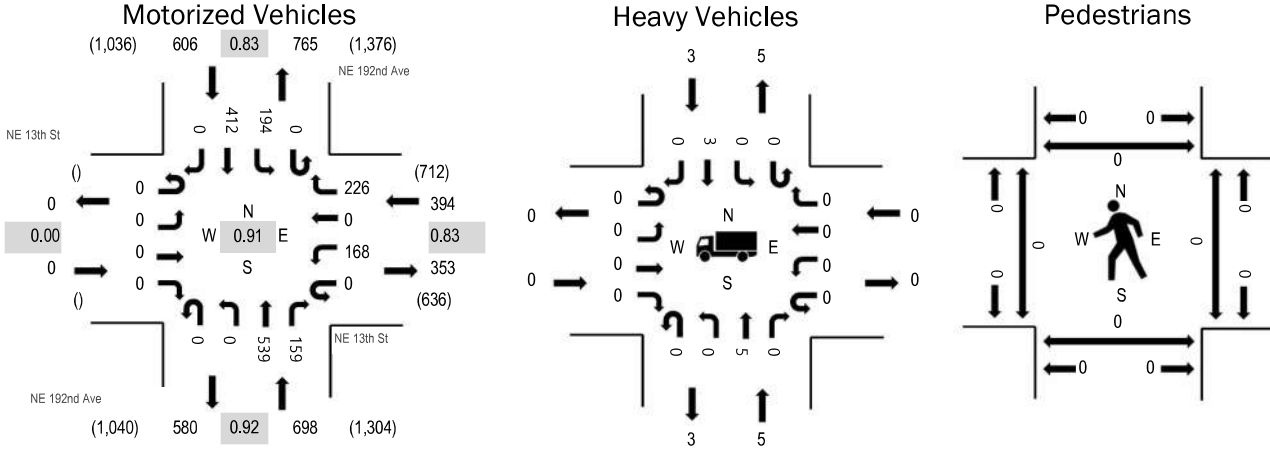
Location: 5 NE 192nd Ave & NE 13th St PM

Date: Thursday, September 16, 2021

Peak Hour: 04:35 PM - 05:35 PM

Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	0.0%	0.83
NB	0.7%	0.92
SB	0.5%	0.83
All	0.5%	0.91

Traffic Counts - Motorized Vehicles

Interval Start Time	NE 13th St Eastbound				NE 13th St Westbound				NE 192nd Ave Northbound				NE 192nd Ave Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	0	0	14	0	9	0	0	38	13	0	18	18	0	110	1,501
4:05 PM	0	0	0	0	0	13	0	10	0	0	39	8	0	10	25	0	105	1,550
4:10 PM	0	0	0	0	0	22	0	10	0	0	35	9	0	18	18	0	112	1,587
4:15 PM	0	0	0	0	0	12	0	4	0	0	44	10	0	9	28	0	107	1,618
4:20 PM	0	0	0	0	0	17	0	10	0	0	26	13	0	10	27	0	103	1,626
4:25 PM	0	0	0	0	0	17	0	9	0	0	37	10	0	13	22	0	108	1,646
4:30 PM	0	0	0	0	0	13	0	14	0	0	51	17	0	10	12	0	117	1,681
4:35 PM	0	0	0	0	0	16	0	26	0	0	40	7	0	18	26	0	133	1,698
4:40 PM	0	0	0	0	0	14	0	17	0	0	43	16	0	15	33	0	138	1,667
4:45 PM	0	0	0	0	0	18	0	24	0	0	53	14	0	18	38	0	165	1,652
4:50 PM	0	0	0	0	0	11	0	28	0	0	43	4	0	20	51	0	157	1,607
4:55 PM	0	0	0	0	0	16	0	24	0	0	37	15	0	16	38	0	146	1,573
5:00 PM	0	0	0	0	0	18	0	24	0	0	40	20	0	16	41	0	159	1,551
5:05 PM	0	0	0	0	0	14	0	18	0	0	46	10	0	19	35	0	142	
5:10 PM	0	0	0	0	0	8	0	19	0	0	54	18	0	14	30	0	143	
5:15 PM	0	0	0	0	0	12	0	17	0	0	48	10	0	12	16	0	115	
5:20 PM	0	0	0	0	0	9	0	11	0	0	46	17	0	14	26	0	123	
5:25 PM	0	0	0	0	0	17	0	11	0	0	44	14	0	17	40	0	143	
5:30 PM	0	0	0	0	0	15	0	7	0	0	45	14	0	15	38	0	134	
5:35 PM	0	0	0	0	0	19	0	6	0	0	26	7	0	13	31	0	102	
5:40 PM	0	0	0	0	0	11	0	22	0	0	44	8	0	14	24	0	123	
5:45 PM	0	0	0	0	0	18	0	17	0	0	45	11	0	8	21	0	120	
5:50 PM	0	0	0	0	0	9	0	15	0	0	42	16	0	12	29	0	123	
5:55 PM	0	0	0	0	0	13	0	14	0	0	44	13	0	13	27	0	124	
Count Total	0	0	0	0	0	346	0	366	0	0	1,010	294	0	342	694	0	3,052	
Peak Hour	0	0	0	0	0	168	0	226	0	0	539	159	0	194	412	0	1,698	

Location: 5 NE 192nd Ave & NE 13th St PM

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

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	1	2	3	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	2	0	3	5	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	1	0	1	2	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	1	0	0	1	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	2	2	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	1	0	1	2	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	1	1	0	2	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	1	0	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	1	0	0	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	2	2	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	1	1	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	3	0	0	3	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	1	1	2	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	1	0	1	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	1	0	1	2	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	1	0	0	1	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	0	13	4	14	31	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	0	5	0	3	8	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

Location: 6 NE Everett St & NW Leadbetter Rd PM



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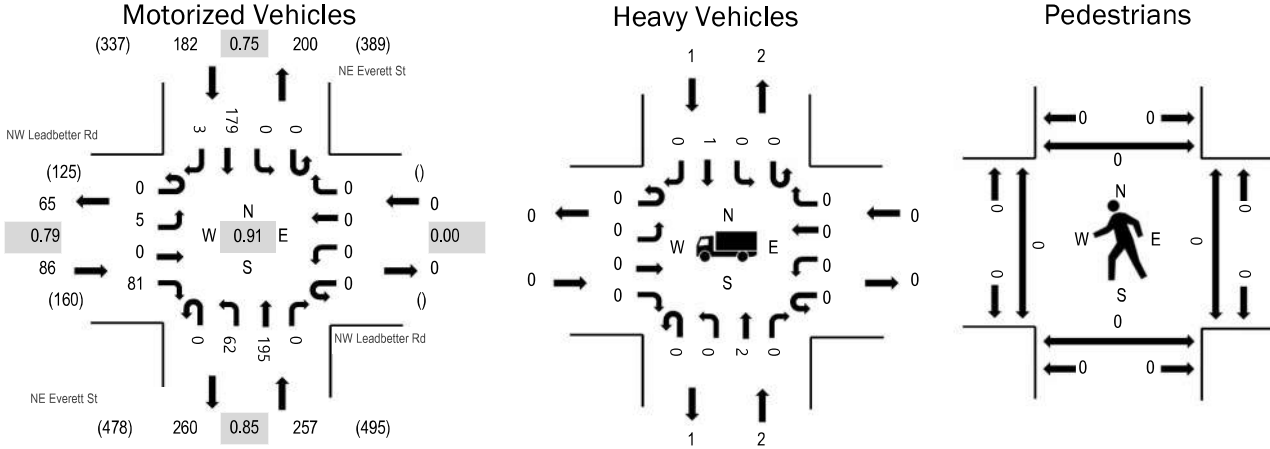
Location: 6 NE Everett St & NW Leadbetter Rd PM

Date: Thursday, September 16, 2021

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

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

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.79
WB	0.0%	0.00
NB	0.8%	0.85
SB	0.5%	0.75
All	0.6%	0.91

Traffic Counts - Motorized Vehicles

Interval Start Time	NW Leadbetter Rd Eastbound				NW Leadbetter Rd Westbound				NE Everett St Northbound				NE Everett St Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	2	0	0	0	0	0	3	8	0	0	0	13	0	26	502
4:05 PM	0	1	0	5	0	0	0	0	0	7	21	0	0	0	13	0	47	525
4:10 PM	0	1	0	7	0	0	0	0	0	4	17	0	0	0	18	3	50	515
4:15 PM	0	1	0	10	0	0	0	0	0	1	13	0	0	0	20	0	45	507
4:20 PM	0	0	0	9	0	0	0	0	0	8	13	0	0	0	20	0	50	498
4:25 PM	0	1	0	0	0	0	0	0	0	5	13	0	0	0	14	0	33	492
4:30 PM	0	1	0	7	0	0	0	0	0	6	23	0	0	0	8	0	45	507
4:35 PM	0	0	0	7	0	0	0	0	0	7	17	0	0	0	16	0	47	500
4:40 PM	0	0	0	5	0	0	0	0	0	5	18	0	0	0	11	0	39	495
4:45 PM	0	0	0	6	0	0	0	0	0	5	15	0	0	0	9	0	35	497
4:50 PM	0	0	0	5	0	0	0	0	0	3	11	0	0	0	18	0	37	506
4:55 PM	0	0	0	9	0	0	0	0	0	4	18	0	0	0	17	0	48	504
5:00 PM	0	0	0	11	0	0	0	0	0	7	16	0	0	0	15	0	49	490
5:05 PM	0	1	0	5	0	0	0	0	0	5	14	0	0	0	11	1	37	
5:10 PM	0	0	0	11	0	0	0	0	0	6	12	0	0	0	12	1	42	
5:15 PM	0	0	0	5	0	0	0	0	0	2	19	0	0	0	10	0	36	
5:20 PM	0	1	0	5	0	0	0	0	0	5	18	0	0	0	14	1	44	
5:25 PM	0	0	0	9	0	0	0	0	0	3	20	0	0	0	16	0	48	
5:30 PM	0	0	0	3	0	0	0	0	0	4	19	0	0	0	11	1	38	
5:35 PM	0	1	0	8	0	0	0	0	0	7	15	0	0	0	11	0	42	
5:40 PM	0	0	0	6	0	0	0	0	0	5	21	0	0	0	7	2	41	
5:45 PM	0	0	0	7	0	0	0	0	0	6	15	0	0	0	15	1	44	
5:50 PM	0	0	0	5	0	0	0	0	0	5	10	0	0	0	14	1	35	
5:55 PM	0	0	0	5	0	0	0	0	0	1	15	0	0	0	13	0	34	
Count Total	0	8	0	152	0	0	0	0	0	114	381	0	0	0	326	11	992	
Peak Hour	0	5	0	81	0	0	0	0	0	62	195	0	0	0	179	3	525	

Location: 6 NE Everett St & NW Leadbetter Rd PM

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

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

Location: 7 NE 199th Ave & NE 58th St PM



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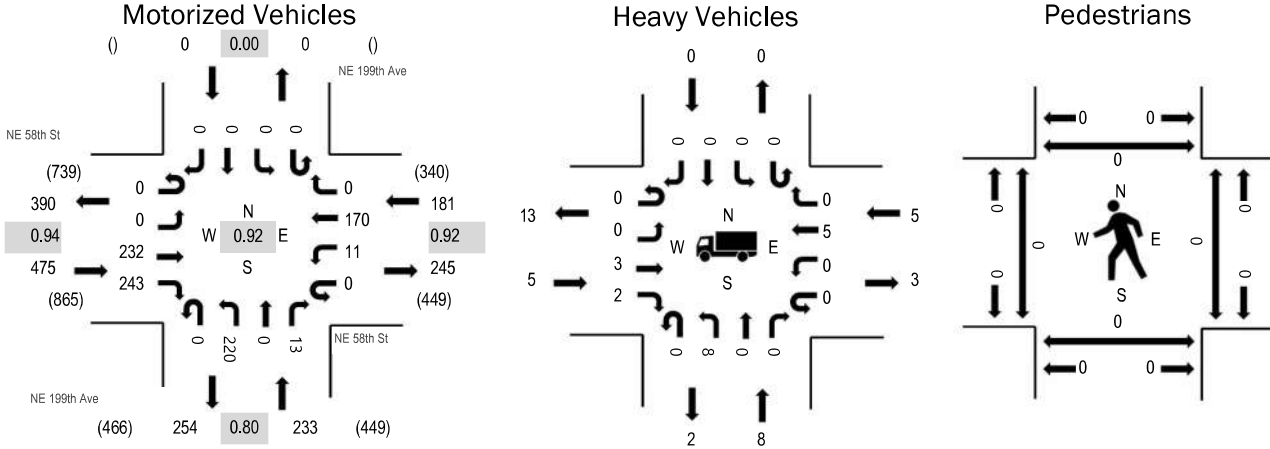
Location: 7 NE 199th Ave & NE 58th St PM

Date: Thursday, September 16, 2021

Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:10 PM - 05:25 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.1%	0.94
WB	2.8%	0.92
NB	3.4%	0.80
SB	0.0%	0.00
All	2.0%	0.92

Traffic Counts - Motorized Vehicles

Interval Start Time	NE 58th St Eastbound				NE 58th St Westbound				NE 199th Ave Northbound				NE 199th Ave Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	20	15	0	0	10	0	0	9	0	1	0	0	0	0	55	797
4:05 PM	0	0	19	8	0	1	12	0	0	18	0	0	0	0	0	0	58	801
4:10 PM	0	0	18	15	0	2	17	0	0	20	0	1	0	0	0	0	73	821
4:15 PM	0	0	11	13	0	0	12	0	0	22	0	1	0	0	0	0	59	823
4:20 PM	0	0	20	18	0	1	13	0	0	18	0	2	0	0	0	0	72	843
4:25 PM	0	0	17	25	0	2	11	0	0	15	0	0	0	0	0	0	70	858
4:30 PM	0	0	20	19	0	0	13	0	0	18	0	0	0	0	0	0	70	852
4:35 PM	0	0	10	18	0	2	9	0	0	16	0	2	0	0	0	0	57	869
4:40 PM	0	0	12	22	0	1	10	0	0	12	0	1	0	0	0	0	58	871
4:45 PM	0	0	24	27	0	0	8	0	0	19	0	2	0	0	0	0	80	889
4:50 PM	0	0	23	15	0	2	17	0	0	20	0	1	0	0	0	0	78	877
4:55 PM	0	0	14	19	0	0	13	0	0	21	0	0	0	0	0	0	67	867
5:00 PM	0	0	16	16	0	0	15	0	0	10	0	2	0	0	0	0	59	857
5:05 PM	0	0	20	25	0	1	19	0	0	13	0	0	0	0	0	0	78	
5:10 PM	0	0	20	18	0	1	11	0	0	24	0	1	0	0	0	0	75	
5:15 PM	0	0	20	20	0	1	18	0	0	19	0	1	0	0	0	0	79	
5:20 PM	0	0	20	22	0	2	16	0	0	25	0	2	0	0	0	0	87	
5:25 PM	0	0	21	15	0	0	11	0	0	17	0	0	0	0	0	0	64	
5:30 PM	0	0	21	28	0	1	22	0	0	13	0	2	0	0	0	0	87	
5:35 PM	0	0	15	15	0	1	12	0	0	14	0	2	0	0	0	0	59	
5:40 PM	0	0	18	23	0	2	8	0	0	25	0	0	0	0	0	0	76	
5:45 PM	0	0	12	12	0	1	18	0	0	22	0	3	0	0	0	0	68	
5:50 PM	0	0	16	20	0	2	5	0	0	23	0	2	0	0	0	0	68	
5:55 PM	0	0	15	15	0	0	17	0	0	9	0	1	0	0	0	0	57	
Count Total	0	0	422	443	0	23	317	0	0	422	0	27	0	0	0	0	1,654	
Peak Hour	0	0	232	243	0	11	170	0	0	220	0	13	0	0	0	0	889	

Location: 7 NE 199th Ave & NE 58th St PM

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

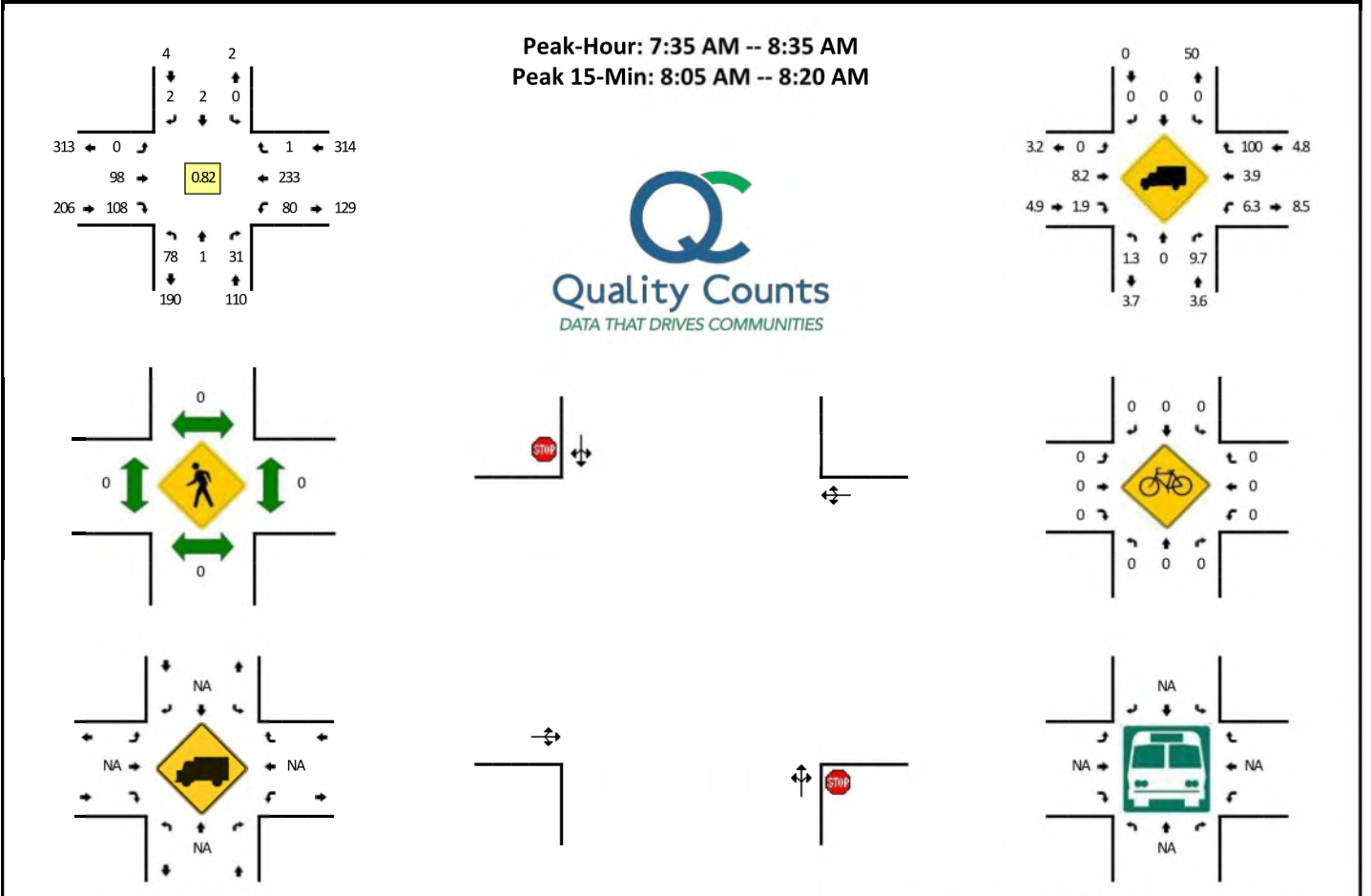
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	3	0	0	0	3	4:00 PM	0	0	1	0	1	4:00 PM	0	0	0	0	0
4:05 PM	1	0	0	0	1	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	2	0	0	0	2	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	1	2	0	3	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	3	1	0	0	4	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	1	1	0	2	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	2	0	3	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	2	2	0	4	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	2	0	0	0	2	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	1	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	1	0	0	1	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	2	1	0	0	3	4:55 PM	0	1	0	0	1	4:55 PM	0	0	0	0	0
5:00 PM	1	2	1	0	4	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	2	0	0	0	2	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	1	0	0	1	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	2	0	2	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	1	0	0	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	2	1	0	3	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	2	0	0	2	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	1	0	1	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	17	15	13	0	45	Count Total	0	1	1	0	2	Count Total	0	0	0	0	0
Peak Hour	5	8	5	0	18	Peak Hour	0	1	0	0	1	Peak Hour	0	0	0	0	0

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: IC03177 - NE 232nd Ave -- NE 28th St
CITY/STATE: Clark, WA

QC JOB #: 15060433
DATE: Tue, Sep 24 2019



5-Min Count Period Beginning At	IC03177 - NE 232nd Ave (Northbound)				IC03177 - NE 232nd Ave (Southbound)				NE 28th St (Eastbound)				NE 28th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	0	1	0	0	0	1	0	0	2	2	0	1	17	0	0	28	
7:05 AM	4	0	0	0	0	0	0	0	0	3	4	0	0	16	0	0	27	
7:10 AM	5	0	1	0	0	0	0	0	0	3	2	0	0	16	0	0	27	
7:15 AM	9	0	0	0	0	0	1	0	0	7	6	0	2	21	0	0	46	
7:20 AM	3	0	0	0	0	0	0	0	0	7	4	0	0	14	0	0	28	
7:25 AM	9	0	0	0	0	0	1	0	0	7	8	0	3	14	0	0	42	
7:30 AM	1	1	1	0	0	0	0	0	0	5	7	0	1	16	0	0	32	
7:35 AM	6	0	0	0	0	0	0	0	0	5	8	0	3	27	0	0	49	
7:40 AM	5	0	1	0	0	0	0	0	0	8	10	0	2	21	0	0	47	
7:45 AM	1	0	0	0	0	0	1	0	0	7	10	0	3	16	0	0	38	
7:50 AM	4	0	0	0	0	0	0	0	0	14	10	0	6	19	0	0	53	
7:55 AM	7	0	1	0	0	0	0	0	0	12	11	0	9	18	0	0	58	
8:00 AM	7	0	4	0	0	0	0	0	0	7	8	0	9	16	0	0	51	
8:05 AM	9	0	4	0	0	0	0	0	0	7	9	0	32	21	0	0	82	
8:10 AM	10	0	8	0	0	2	0	0	0	8	10	0	5	14	0	0	57	
8:15 AM	7	0	6	0	0	0	0	0	0	9	13	0	8	12	0	0	55	
8:20 AM	8	1	5	0	0	0	0	0	0	5	6	0	2	19	0	0	46	
8:25 AM	4	0	0	0	0	0	1	0	0	9	7	0	0	25	1	0	47	
8:30 AM	10	0	2	0	0	0	0	0	0	7	6	0	1	25	0	0	51	
8:35 AM	6	0	1	0	0	0	0	0	0	4	1	0	2	27	0	0	41	
8:40 AM	10	0	2	0	0	0	1	0	0	9	3	0	0	24	0	0	49	
8:45 AM	3	0	1	0	0	0	1	0	1	5	1	0	3	15	0	0	30	
8:50 AM	6	0	0	0	0	0	1	0	0	14	2	0	0	18	0	0	41	
8:55 AM	6	0	0	0	0	0	0	0	0	7	3	0	2	15	0	0	33	
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	104	0	72	0	0	8	0	0	0	0	96	128	0	180	188	0	0	776
Heavy Trucks	4	0	8		0	0	0		0	4	0		0	20	0	0	36	
Pedestrians																		0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		0
Stopped Buses																		0

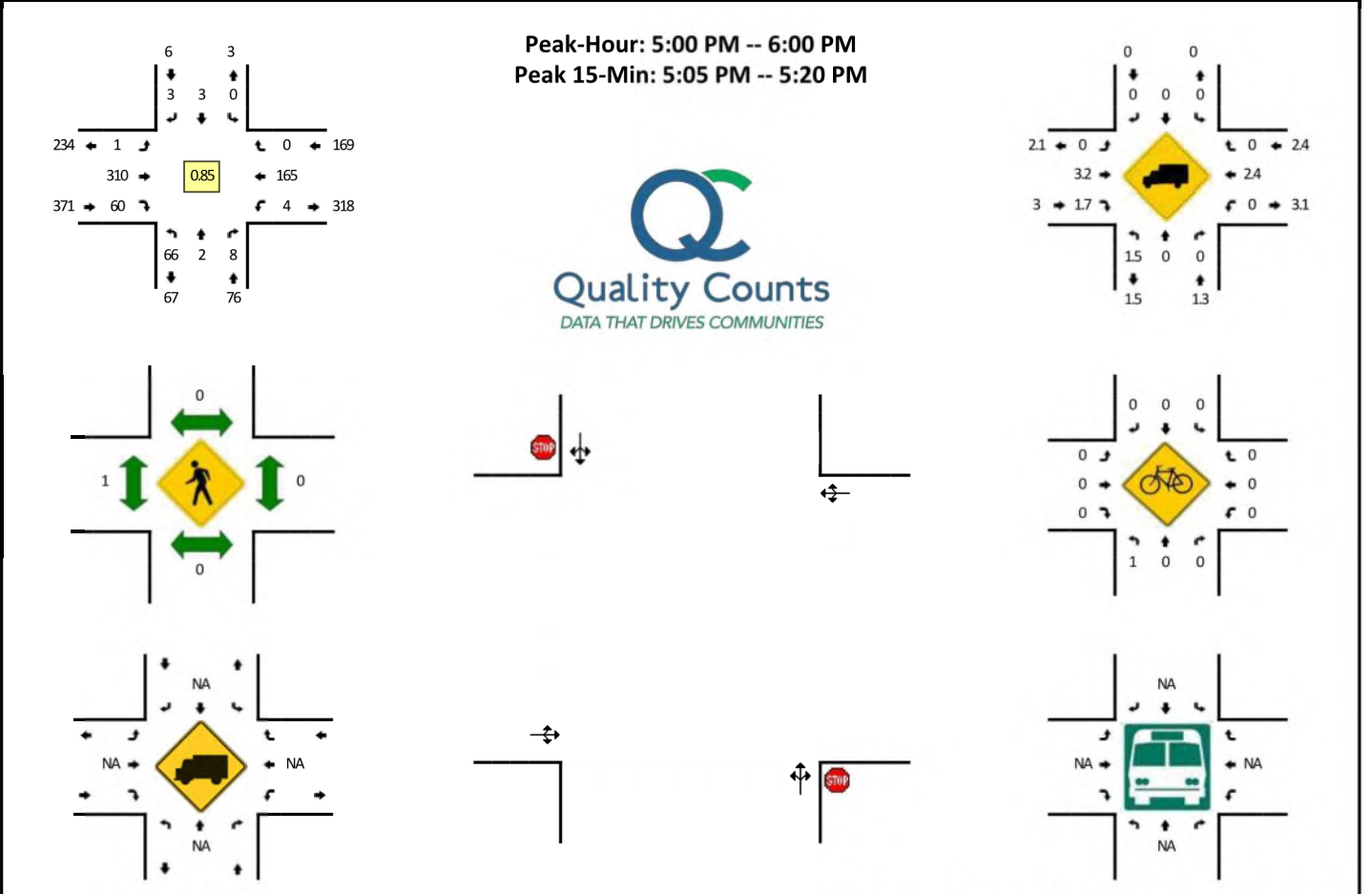
Comments:

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: IC03177 - NE 232nd Ave -- NE 28th St
CITY/STATE: Clark, WA

QC JOB #: 15060434
DATE: Tue, Sep 24 2019



5-Min Count Period Beginning At	IC03177 - NE 232nd Ave (Northbound)				IC03177 - NE 232nd Ave (Southbound)				NE 28th St (Eastbound)				NE 28th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	1	0	0	0	0	0	0	0	24	3	0	1	16	0	0	50	
4:05 PM	3	0	0	0	0	1	0	0	0	15	3	0	1	15	0	0	38	
4:10 PM	7	0	1	0	0	0	2	0	0	19	4	0	0	10	0	0	43	
4:15 PM	7	0	2	0	0	0	0	0	0	18	12	0	0	18	0	0	57	
4:20 PM	6	0	2	0	0	0	0	0	1	19	3	0	1	12	1	0	45	
4:25 PM	3	0	1	0	0	0	1	0	2	25	4	0	0	6	0	0	42	
4:30 PM	3	0	2	0	0	1	0	0	2	22	8	0	0	14	0	0	52	
4:35 PM	3	0	0	0	0	0	0	0	0	29	5	0	0	16	0	0	53	
4:40 PM	4	0	0	0	0	0	0	0	1	25	3	0	1	6	0	0	40	
4:45 PM	6	0	1	0	0	0	0	0	0	27	7	0	1	12	0	0	54	
4:50 PM	6	1	0	0	0	0	0	0	1	16	3	0	0	7	0	0	34	
4:55 PM	8	1	1	0	0	0	0	0	0	5	1	0	1	17	0	0	34	542
5:00 PM	7	0	0	0	0	0	0	0	0	35	6	0	1	9	0	0	58	550
5:05 PM	6	0	0	0	0	1	0	0	0	30	3	0	0	11	0	0	51	563
5:10 PM	7	1	0	0	0	1	0	0	0	34	5	0	0	24	0	0	72	592
5:15 PM	9	0	0	0	0	0	0	0	0	23	9	0	0	18	0	0	59	594
5:20 PM	7	1	1	0	0	0	0	0	0	29	5	0	0	8	0	0	51	600
5:25 PM	6	0	1	0	0	0	0	0	0	25	4	0	1	10	0	0	47	605
5:30 PM	3	0	0	0	0	0	0	0	0	33	3	0	0	15	0	0	54	607
5:35 PM	4	0	0	0	0	0	0	0	1	17	5	0	1	13	0	0	41	595
5:40 PM	4	0	2	0	0	0	2	0	0	15	6	0	1	18	0	0	48	603
5:45 PM	6	0	1	0	0	1	0	0	0	24	7	0	0	10	0	0	49	598
5:50 PM	3	0	1	0	0	0	1	0	0	19	2	0	0	12	0	0	38	602
5:55 PM	4	0	2	0	0	0	0	0	0	26	5	0	0	17	0	0	54	622
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	88	4	0	0	0	8	0	0	0	348	68	0	0	212	0	0	728	
Heavy Trucks	0	0	0	0	0	0	0	0	0	16	0	0	0	4	0	0	20	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

AM Peak Hour

(Sampled 7-9 AM for 3 weeks in September)

SR 14 east of 192nd

Year	EB	WB	Total
2021	559	944	1503
2020	429	810	1239
2019	551	1123	1674
2018	420	877	1297
2019+4% Adjustment	573	1168	1741
	1.025	1.237	1.158
2018+6% Adjustment	445	930	1375
	0.796	0.985	0.915
Average Adj.	0.911	1.111	1.037

SR 14 EB at 6th

Year	EB	WB	Total
2021	735	549	1284
2020	598	487	1085
2019	788	639	1427
2018	805	636	1441
2019+4% Adjustment	820	665	1484
	1.116	1.211	1.156
2018+6% Adjustment	853	674	1527
	1.161	1.228	1.189
Average Adj.	1.138	1.219	1.173

SR 500 EB at 79th

Year	EB	WB	Total
2021	311	247	558
2020	255	194	449
2019	416	281	697
2018	304	259	563
2019+4% Adjustment	433	292	725
	1.392	1.182	1.299
2018+6% Adjustment	322	275	597
	1.035	1.113	1.070
Average Adj.	1.214	1.148	1.185

Overall Average Adjustment	1.172
USE	1.17

PM Peak Hour

(Sampled 4-6 PM for 3 weeks in September)

SR 14 east of 192nd

Year	EB	WB	Total
2021	1077	883	1960
2020	959	799	1758
2019	1147	961	2108
2018	882	802	1684
2019+4% Adjustment	1193	999	2192
	1.108	1.131	1.118
2018+6% Adjustment	935	850	1785
	0.868	0.963	0.911
Average Adj.	0.988	1.047	1.015

SR 14 WB at 6th

Year	EB	WB	Total
2021	1400	527	1927
2020	1277	445	1722
2019	1488	534	2022
2018	1485	530	2015
2019+4% Adjustment	1548	555	2103
	1.106	1.053	1.091
2018+6% Adjustment	1574	562	2136
	1.124	1.066	1.108
Average Adj.	1.115	1.060	1.100

SR 500 EB at 79th

Year	EB	WB	Total
2021	317	492	809
2020	263	426	689
2019	325	566	891
2018	231	556	787
2019+4% Adjustment	338	589	927
	1.066	1.197	1.146
2018+6% Adjustment	245	589	834
	0.773	1.197	1.031
Average Adj.	0.920	1.197	1.088

Overall Average Adjustment	1.102
USE	1.11

SR 14 EB at 192nd

starttime	speed	volume	starttime	speed	volume	starttime	speed	volume	starttime	speed	volume
9/7/2021 7:00	58.07	536	9/8/2020 7:00	58.99	429	9/3/2019 7:00	57.82	513	9/4/2018 7:00	58.95	402
9/7/2021 8:00	58.08	531	9/8/2020 8:00	58.8	466	9/3/2019 8:00	57.85	556	9/4/2018 8:00	59.01	403
9/8/2021 7:00	57.87	547	9/9/2020 7:00	59.2	483	9/4/2019 7:00	59.3	522	9/5/2018 7:00	58.64	430
9/8/2021 8:00	57.86	619	9/9/2020 8:00	58.3	527	9/4/2019 8:00	58.23	592	9/5/2018 8:00	58.46	429
9/9/2021 7:00	58.92	525	9/10/2020 7:00	58.68	484	9/5/2019 7:00	57.74	510	9/6/2018 7:00	59.26	437
9/9/2021 8:00	58.09	567	9/10/2020 8:00	58.9	505	9/5/2019 8:00	56.85	589	9/6/2018 8:00	58.69	420
9/14/2021 7:00	59.04	523	9/15/2020 7:00	59.8	366	9/10/2019 7:00	58.88	530	9/11/2018 7:00	59.21	408
9/14/2021 8:00	58.64	569	9/15/2020 8:00	59.15	411	9/10/2019 8:00	57.53	577	9/11/2018 8:00	58.63	449
9/15/2021 7:00	58.51	538	9/16/2020 7:00	59.29	409	9/11/2019 7:00	58.35	562	9/12/2018 7:00	58.94	492
9/15/2021 8:00	57.93	567	9/16/2020 8:00	59.2	446	9/11/2019 8:00	57.21	637	9/12/2018 8:00	59.59	427
9/16/2021 7:00	58.75	547	9/17/2020 7:00	59.54	412	9/12/2019 7:00	58.37	544	9/13/2018 7:00	59.98	425
9/16/2021 8:00	58.94	592	9/17/2020 8:00	58.24	421	9/12/2019 8:00	57.83	586	9/13/2018 8:00	58.75	391
9/21/2021 7:00	59.19	544	9/22/2020 7:00	58.65	504	9/17/2019 7:00	58.89	510	9/18/2018 7:00	59.69	396
9/21/2021 8:00	58.56	574	9/22/2020 8:00	58.31	503	9/17/2019 8:00	57.42	498	9/18/2018 8:00	58.27	389
9/22/2021 7:00	59.48	543	9/23/2020 7:00	58.94	461	9/18/2019 7:00	58.41	509	9/19/2018 7:00	58.73	411
9/22/2021 8:00	57.83	592	9/23/2020 8:00	58.31	477	9/18/2019 8:00	58.19	570	9/19/2018 8:00	59.08	366
9/23/2021 7:00	58.62	548	9/24/2020 7:00	58.09	472	9/19/2019 7:00	59.16	542	9/20/2018 7:00	59.49	441
9/23/2021 8:00	58.28	598	9/24/2020 8:00	57.91	486	9/19/2019 8:00	58.38	569	9/20/2018 8:00	59.59	444
Average	58.48	559	Average	58.79	459	Average	58.13	551	Average	59.05	420

SR 14 WB at 192nd

starttime	speed	volume	starttime	speed	volume	starttime	speed	volume	starttime	speed	volume
9/7/2021 7:00	58.16	995	9/8/2020 7:00	57.88	841	9/3/2019 7:00	56.96	1177	9/4/2018 7:00	51.19	1182
9/7/2021 8:00	58.39	810	9/8/2020 8:00	57.95	765	9/3/2019 8:00	57.08	1060	9/4/2018 8:00	50.27	1300
9/8/2021 7:00	58.05	993	9/9/2020 7:00	58.22	916	9/4/2019 7:00	56.47	1197	9/5/2018 7:00	51.99	608
9/8/2021 8:00	58.55	933	9/9/2020 8:00	57.85	804	9/4/2019 8:00	56.54	1144	9/5/2018 8:00	52.03	625
9/9/2021 7:00	58.18	995	9/10/2020 7:00	58.69	865	9/5/2019 7:00	57.05	1235	9/6/2018 7:00	50.94	607
9/9/2021 8:00	57.98	902	9/10/2020 8:00	57.88	811	9/5/2019 8:00	31.25	948	9/6/2018 8:00	50.74	590
9/14/2021 7:00	58.07	965	9/15/2020 7:00	58.77	794	9/10/2019 7:00	57.44	1246	9/11/2018 7:00	51.38	1196
9/14/2021 8:00	58.39	844	9/15/2020 8:00	58.58	649	9/10/2019 8:00	57.14	1017	9/11/2018 8:00	50.9	600
9/15/2021 7:00	58.38	972	9/16/2020 7:00	58.57	799	9/11/2019 7:00	57.26	1232	9/12/2018 7:00	50.35	743
9/15/2021 8:00	57.82	924	9/16/2020 8:00	58.68	678	9/11/2019 8:00	55.86	1036	9/12/2018 8:00	50.03	1438
9/16/2021 7:00	58.66	970	9/17/2020 7:00	58.52	786	9/12/2019 7:00	57.25	1161	9/13/2018 7:00	51.64	660
9/16/2021 8:00	57.25	909	9/17/2020 8:00	58.07	712	9/12/2019 8:00	57.39	1076	9/13/2018 8:00	50.2	664
9/21/2021 7:00	58.44	1027	9/22/2020 7:00	58.53	883	9/17/2019 7:00	57.32	1171	9/18/2018 7:00	51.84	1230
9/21/2021 8:00	57.86	939	9/22/2020 8:00	56.91	814	9/17/2019 8:00	57.64	966	9/18/2018 8:00	51.55	1230
9/22/2021 7:00	59.35	1012	9/23/2020 7:00	57.6	889	9/18/2019 7:00	57.05	1220	9/19/2018 7:00	52.49	637
9/22/2021 8:00	58.08	907	9/23/2020 8:00	57.95	808	9/18/2019 8:00	56.04	1086	9/19/2018 8:00	51.37	1229
9/23/2021 7:00	58.14	988	9/24/2020 7:00	57.75	898	9/19/2019 7:00	57.02	1215	9/20/2018 7:00	52.24	637
9/23/2021 8:00	57.77	902	9/24/2020 8:00	57.32	862	9/19/2019 8:00	57.92	1025	9/20/2018 8:00	51.41	617
Average	58.2	944	Average	58.1	810	Average	55.59	1123	Average	51.25	877

SR 14 EB at 6th

starttime	speed	volume	starttime	speed	volume	starttime	speed	volume	starttime	speed	volume
9/7/2021 7:00	53.6	729	9/8/2020 7:00	54.55	598	9/3/2019 7:00	52.94	725	9/4/2018 7:00	52.82	705
9/7/2021 8:00	53.07	675	9/8/2020 8:00	53.88	604	9/3/2019 8:00	51.74	777	9/4/2018 8:00	51.78	767
9/8/2021 7:00	53.39	765	9/9/2020 7:00	54	680	9/4/2019 7:00	53.75	709	9/5/2018 7:00	51.87	715
9/8/2021 8:00	52.44	778	9/9/2020 8:00	55.06	733	9/4/2019 8:00	53.63	767	9/5/2018 8:00	50.94	806
9/9/2021 7:00	55.74	694	9/10/2020 7:00	55.12	682	9/5/2019 7:00	53.62	712	9/6/2018 7:00	53.14	771
9/9/2021 8:00	52.51	758	9/10/2020 8:00	54.93	635	9/5/2019 8:00	50.29	788	9/6/2018 8:00	51.47	818
9/14/2021 7:00	55.86	719	9/15/2020 7:00	57.06	515	9/10/2019 7:00	53.89	747	9/11/2018 7:00	52.47	728
9/14/2021 8:00	52.92	742	9/15/2020 8:00	55.6	523	9/10/2019 8:00	53.71	722	9/11/2018 8:00	50.8	769
9/15/2021 7:00	53.85	740	9/16/2020 7:00	56.47	577	9/11/2019 7:00	54.77	767	9/12/2018 7:00	52.11	1185
9/15/2021 8:00	55.33	723	9/16/2020 8:00	56.35	555	9/11/2019 8:00	51.05	882	9/12/2018 8:00	51.44	1019
9/16/2021 7:00	54.02	719	9/17/2020 7:00	57.59	582	9/12/2019 7:00	54.68	756	9/13/2018 7:00	53.26	786
9/16/2021 8:00	53.36	751	9/17/2020 8:00	55.33	554	9/12/2019 8:00	53.22	764	9/13/2018 8:00	50.28	760
9/21/2021 7:00	55.17	776	9/22/2020 7:00	52.78	725	9/17/2019 7:00	54.57	725	9/18/2018 7:00	53.65	778
9/21/2021 8:00	52.96	690	9/22/2020 8:00	54.66	644	9/17/2019 8:00	52.58	696	9/18/2018 8:00	51.72	769
9/22/2021 7:00	56.09	729	9/23/2020 7:00	54.62	689	9/18/2019 7:00	52.06	1101	9/19/2018 7:00	54.18	803
9/22/2021 8:00	52.66	739	9/23/2020 8:00	52.19	635	9/18/2019 8:00	53.68	1027	9/19/2018 8:00	52.01	768
9/23/2021 7:00	54.2	741	9/24/2020 7:00	54.38	714	9/19/2019 7:00	55.34	748	9/20/2018 7:00	53.83	761
9/23/2021 8:00	52.83	755	9/24/2020 8:00	54.23	688	9/19/2019 8:00	52.43	766	9/20/2018 8:00	52.67	784
Average	53.89	735	Average	54.93	630	Average	53.22	788	Average	52.25	805

SR 14 WB at 6th

starttime	speed	volume	starttime	speed	volume	starttime	speed	volume	starttime	speed	volume
9/7/2021 7:00	58	595	9/8/2020 7:00	57.61	523	9/3/2019 7:00	57.01	723	9/4/2018 7:00	56.74	689
9/7/2021 8:00	58.26	476	9/8/2020 8:00	58.21	457	9/3/2019 8:00	57.79	556	9/4/2018 8:00	57.48	614
9/8/2021 7:00	58.28	632	9/9/2020 7:00	58.06	570	9/4/2019 7:00	56.95	707	9/5/2018 7:00	56.68	698
9/8/2021 8:00	58.17	514	9/9/2020 8:00	58.89	501	9/4/2019 8:00	57.18	639	9/5/2018 8:00	57.34	584
9/9/2021 7:00	58.26	618	9/10/2020 7:00	58.43	519	9/5/2019 7:00	56.55	735	9/6/2018 7:00	56.32	712
9/9/2021 8:00	57.25	498	9/10/2020 8:00	57.97	487	9/5/2019 8:00	57.78	544	9/6/2018 8:00	56.79	568
9/14/2021 7:00	57.89	579	9/15/2020 7:00	58.16	512	9/10/2019 7:00	57.26	717	9/11/2018 7:00	57.5	670
9/14/2021 8:00	59.4	461	9/15/2020 8:00	59.28	383	9/10/2019 8:00	57.8	556	9/11/2018 8:00	57.46	547
9/15/2021 7:00	58.33	577	9/16/2020 7:00	58.53	499	9/11/2019 7:00	57.15	720	9/12/2018 7:00	58.03	676
9/15/2021 8:00	57.44	524	9/16/2020 8:00	58.67	416	9/11/2019 8:00	57.2	557	9/12/2018 8:00	58.15	532
9/16/2021 7:00	58.36	585	9/17/2020 7:00	58.35	484	9/12/2019 7:00	57.27	698	9/13/2018 7:00	57.81	690
9/16/2021 8:00	58.01	482	9/17/2020 8:00	57.95	413	9/12/2019 8:00	58.04	587	9/13/2018 8:00	58.14	563
9/21/2021 7:00	58.58	622	9/22/2020 7:00	58.35	561	9/17/2019 7:00	57.73	688	9/18/2018 7:00	57.77	723
9/21/2021 8:00	58.03	523	9/22/2020 8:00	57.39	479	9/17/2019 8:00	58.46	525	9/18/2018 8:00	58.44	564
9/22/2021 7:00	58.62	607	9/23/2020 7:00	58.25	523	9/18/2019 7:00	57.76	663	9/19/2018 7:00	57.36	750
9/22/2021 8:00	57.91	505	9/23/2020 8:00	58.67	461	9/18/2019 8:00	58.58	579	9/19/2018 8:00	58.14	557
9/23/2021 7:00	57.18	601	9/24/2020 7:00	58.54	517	9/19/2019 7:00	57.49	729	9/20/2018 7:00	58.3	710
9/23/2021 8:00	58.26	488	9/24/2020 8:00	58.04	462	9/19/2019 8:00	58.02	587	9/20/2018 8:00	57.77	605
Average	58.12	549	Average	58.3	487	Average	57.56	639	Average	57.57	636

SR 500 EB at 79th

starttime	speed	volume	starttime	speed	volume	starttime	speed	volume	starttime	speed	volume
9/7/2021 7:00	49.95	300	9/8/2020 7:00	53.6	255	9/3/2019 7:00	44.43	457	9/4/2018 7:00	51.22	241
9/7/2021 8:00	48.82	283	9/8/2020 8:00	51.6	224	9/3/2019 8:00	47.35	412	9/4/2018 8:00	49.47	237
9/8/2021 7:00	49.17	326	9/9/2020 7:00	52.4	243	9/4/2019 7:00	44.98	428	9/5/2018 7:00	49.96	270
9/8/2021 8:00	49.61	296	9/9/2020 8:00	51.07	268	9/4/2019 8:00	51.11	325	9/5/2018 8:00	49.48	243
9/9/2021 7:00	48.24	318	9/10/2020 7:00	51.23	255	9/5/2019 7:00	41.36	527	9/6/2018 7:00	50.1	276
9/9/2021 8:00	48.71	311	9/10/2020 8:00	52.47	248	9/5/2019 8:00	44.81	426	9/6/2018 8:00	50.75	274
9/14/2021 7:00	47.25	317	9/15/2020 7:00	53.25	203	9/10/2019 7:00	44.03	487	9/11/2018 7:00	45.79	381
9/14/2021 8:00	50.08	304	9/15/2020 8:00	53.79	198	9/10/2019 8:00	51.25	351	9/11/2018 8:00	49.25	292
9/15/2021 7:00	48.88	318	9/16/2020 7:00	52.88	203	9/11/2019 7:00	44.23	462	9/12/2018 7:00	45.94	363
9/15/2021 8:00	51.86	335	9/16/2020 8:00	52.95	214	9/11/2019 8:00	49.08	332	9/12/2018 8:00	50.09	266
9/16/2021 7:00	48.24	315	9/17/2020 7:00	52.42	215	9/12/2019 7:00	41.06	473	9/13/2018 7:00	45.47	377
9/16/2021 8:00	51.69	284	9/17/2020 8:00	53.3	207	9/12/2019 8:00	48.68	343	9/13/2018 8:00	50.9	284
9/21/2021 7:00	49.09	348	9/22/2020 7:00	52.23	256	9/17/2019 7:00	44.76	484	9/18/2018 7:00	46.64	365
9/21/2021 8:00	50.3	313	9/22/2020 8:00	51.78	264	9/17/2019 8:00	46.39	333	9/18/2018 8:00	50.65	301
9/22/2021 7:00	50.41	318	9/23/2020 7:00	51.67	257	9/18/2019 7:00	44.26	460	9/19/2018 7:00	47.32	374
9/22/2021 8:00	51.21	290	9/23/2020 8:00	49.89	248	9/18/2019 8:00	45.33	393	9/19/2018 8:00	50.47	287
9/23/2021 7:00	48.06	301	9/24/2020 7:00	51.01	252	9/19/2019 7:00	45.7	441	9/20/2018 7:00	44.98	354
9/23/2021 8:00	49.12	317	9/24/2020 8:00	50.46	267	9/19/2019 8:00	48.56	350	9/20/2018 8:00	48.66	291
Average	49.48	311	Average	52.11	238	Average	45.97	416	Average	48.73	304

SR 500 WB at 79th

starttime	speed	volume	starttime	speed	volume	starttime	speed	volume	starttime	speed	volume
9/7/2021 7:00	46.82	249	9/8/2020 7:00	50	203	9/3/2019 7:00	45.99	288	9/4/2018 7:00	46.95	243
9/7/2021 8:00	48.61	241	9/8/2020 8:00	51.91	184	9/3/2019 8:00	46.34	288	9/4/2018 8:00	48.19	242
9/8/2021 7:00	45.64	276	9/9/2020 7:00	48.73	222	9/4/2019 7:00	47.05	317	9/5/2018 7:00	45.65	267
9/8/2021 8:00	47.81	240	9/9/2020 8:00	51.08	189	9/4/2019 8:00	49.69	281	9/5/2018 8:00	49.8	240
9/9/2021 7:00	47.54	263	9/10/2020 7:00	47.62	206	9/5/2019 7:00	43.54	303	9/6/2018 7:00	47.13	255
9/9/2021 8:00	46.86	258	9/10/2020 8:00	50.84	197	9/5/2019 8:00	43.55	290	9/6/2018 8:00	47.26	238
9/14/2021 7:00	47.38	239	9/15/2020 7:00	52.62	177	9/10/2019 7:00	42.65	314	9/11/2018 7:00	46.27	271
9/14/2021 8:00	49.07	240	9/15/2020 8:00	51.78	170	9/10/2019 8:00	47.06	249	9/11/2018 8:00	47.22	250
9/15/2021 7:00	48.18	267	9/16/2020 7:00	52.27	189	9/11/2019 7:00	46.88	291	9/12/2018 7:00	45.82	272
9/15/2021 8:00	48.15	244	9/16/2020 8:00	52.75	165	9/11/2019 8:00	48.8	251	9/12/2018 8:00	47.8	252
9/16/2021 7:00	47.57	252	9/17/2020 7:00	50.1	218	9/12/2019 7:00	44.96	285	9/13/2018 7:00	45.04	284
9/16/2021 8:00	47.61	249	9/17/2020 8:00	52.52	175	9/12/2019 8:00	46.57	268	9/13/2018 8:00	49.41	235
9/21/2021 7:00	48.66	254	9/22/2020 7:00	50.07	207	9/17/2019 7:00	43.9	279	9/18/2018 7:00	45.16	302
9/21/2021 8:00	46.7	233	9/22/2020 8:00	49	191	9/17/2019 8:00	48.69	258	9/18/2018 8:00	48.64	244
9/22/2021 7:00	48.89	229	9/23/2020 7:00	52.14	206	9/18/2019 7:00	45.27	286	9/19/2018 7:00	44.66	280
9/22/2021 8:00	47.99	225	9/23/2020 8:00	50.38	186	9/18/2019 8:00	44.68	263	9/19/2018 8:00	46.88	262
9/23/2021 7:00	45.88	237	9/24/2020 7:00	50.87	207	9/19/2019 7:00	46.9	305	9/20/2018 7:00	43.78	289
9/23/2021 8:00	47.49	244	9/24/2020 8:00	50.34	196	9/19/2019 8:00	45.32	249	9/20/2018 8:00	47.71	238
Average	47.6	247	Average	50.83	194	Average	45.99	281	Average	46.85	259

SR 14 EB at 192nd

starttime	speed	volume	starttime	speed	volume	starttime	speed	volume	starttime	speed	volume
9/7/2021 16:00	58.79	1105	9/8/2020 16:00	59.75	959	9/3/2019 16:00	59.08	1126	9/4/2018 16:00	58.26	835
9/7/2021 17:00	59.55	1095	9/8/2020 17:00	59.19	909	9/3/2019 17:00	59.23	1123	9/4/2018 17:00	59.22	826
9/8/2021 16:00	58.94	1062	9/9/2020 16:00	58.57	1013	9/4/2019 16:00	59.26	1132	9/5/2018 16:00	58.64	908
9/8/2021 17:00	59.48	1025	9/9/2020 17:00	59.05	1033	9/4/2019 17:00	59.24	1154	9/5/2018 17:00	58.98	930
9/9/2021 16:00	58.57	1157	9/10/2020 16:00	58.29	1018	9/5/2019 16:00	59.05	1152	9/6/2018 16:00	58.62	764
9/9/2021 17:00	59.65	1034	9/10/2020 17:00	59.2	959	9/5/2019 17:00	59.15	1174	9/6/2018 17:00	58.95	923
9/14/2021 16:00	59.81	1162	9/15/2020 16:00	59.06	897	9/10/2019 16:00	58.57	1149	9/11/2018 16:00	58.15	896
9/14/2021 17:00	58.86	1040	9/15/2020 17:00	60.11	929	9/10/2019 17:00	59.02	1102	9/11/2018 17:00	57.87	867
9/15/2021 16:00	58.92	1107	9/16/2020 16:00	59.29	941	9/11/2019 16:00	58.61	1137	9/12/2018 16:00	58	887
9/15/2021 17:00	59.23	1026	9/16/2020 17:00	59.1	919	9/11/2019 17:00	58.71	1209	9/12/2018 17:00	54.45	910
9/16/2021 16:00	59.49	1101	9/17/2020 16:00	58.85	932	9/12/2019 16:00	58.53	1121	9/13/2018 16:00	58.15	882
9/16/2021 17:00	58.82	1095	9/17/2020 17:00	59.73	891	9/12/2019 17:00	58.58	1217	9/13/2018 17:00	58.16	915
9/21/2021 16:00	58.73	1088	9/22/2020 16:00	59.63	985	9/17/2019 16:00	59.2	1085	9/18/2018 16:00	58.91	867
9/21/2021 17:00	59.72	1057	9/22/2020 17:00	58.58	1008	9/17/2019 17:00	58.74	1114	9/18/2018 17:00	58.76	912
9/22/2021 16:00	58.86	1079	9/23/2020 16:00	56.33	887	9/18/2019 16:00	59.02	1130	9/19/2018 16:00	58.84	848
9/22/2021 17:00	59.26	1001	9/23/2020 17:00	54.47	903	9/18/2019 17:00	59.73	1169	9/19/2018 17:00	58.04	899
9/23/2021 16:00	58.89	1065	9/24/2020 16:00	58.93	971	9/19/2019 16:00	59.04	1165	9/20/2018 16:00	57.69	918
9/23/2021 17:00	59.41	1094	9/24/2020 17:00	59.05	979	9/19/2019 17:00	58.98	1188	9/20/2018 17:00	58.7	882
Average	59.17	1077	Average	58.73	952	Average	58.99	1147	Average	58.24	882

SR 14 WB at 192nd

starttime	speed	volume	starttime	speed	volume	starttime	speed	volume	starttime	speed	volume
9/7/2021 16:00	58	863	9/8/2020 16:00	57.21	754	9/3/2019 16:00	56.84	982	9/4/2018 16:00	51.62	683
9/7/2021 17:00	58.89	839	9/8/2020 17:00	58.27	729	9/3/2019 17:00	57.34	900	9/4/2018 17:00	53.85	645
9/8/2021 16:00	57.57	927	9/9/2020 16:00	57.09	860	9/4/2019 16:00	55.56	1024	9/5/2018 16:00	51.27	664
9/8/2021 17:00	58.65	809	9/9/2020 17:00	58.46	788	9/4/2019 17:00	57.05	925	9/5/2018 17:00	53.32	685
9/9/2021 16:00	57.91	957	9/10/2020 16:00	58.03	857	9/5/2019 16:00	56.41	971	9/6/2018 16:00	52.92	1171
9/9/2021 17:00	58.03	815	9/10/2020 17:00	57.69	751	9/5/2019 17:00	56.41	951	9/6/2018 17:00	52.5	1219
9/14/2021 16:00	57.64	918	9/15/2020 16:00	57.69	736	9/10/2019 16:00	57.01	996	9/11/2018 16:00	53.19	589
9/14/2021 17:00	58.32	857	9/15/2020 17:00	59.31	679	9/10/2019 17:00	56.9	949	9/11/2018 17:00	53.16	564
9/15/2021 16:00	58.07	894	9/16/2020 16:00	57.8	806	9/11/2019 16:00	56.61	999	9/12/2018 16:00	50.45	714
9/15/2021 17:00	58	891	9/16/2020 17:00	58.16	743	9/11/2019 17:00	56.91	952	9/12/2018 17:00	48.35	748
9/16/2021 16:00	57.28	944	9/17/2020 16:00	57.77	788	9/12/2019 16:00	56.38	1012	9/12/2018 16:00	50.69	626
9/16/2021 17:00	58.35	821	9/17/2020 17:00	59.29	720	9/12/2019 17:00	57.94	922	9/13/2018 16:00	53.7	1201
9/21/2021 16:00	57.35	926	9/22/2020 16:00	58.07	885	9/12/2019 16:00	56.66	983	9/18/2018 16:00	52.16	625
9/21/2021 17:00	58.67	860	9/22/2020 17:00	57.77	793	9/17/2019 16:00	57.1	916	9/18/2018 17:00	54.05	1181
9/22/2021 16:00	57.1	934	9/23/2020 16:00	37.09	904	9/17/2019 17:00	57.31	945	9/19/2018 16:00	52.32	631
9/22/2021 17:00	58.12	849	9/23/2020 17:00	56.03	893	9/18/2019 16:00	56.48	917	9/19/2018 17:00	52.94	1210
9/23/2021 16:00	57.74	911	9/24/2020 16:00	57.29	898	9/19/2019 16:00	56.11	1048	9/20/2018 16:00	52.12	661
9/23/2021 17:00	58.5	881	9/24/2020 17:00	57.51	795	9/19/2019 17:00	56.57	900	9/20/2018 17:00	53.73	619
Average	58.01	883	Average	56.7	799	Average	56.76	961	Average	52.35	802

SR 14 EB at 6th

starttime	speed	volume	starttime	speed	volume	starttime	speed	volume	starttime	speed	volume
9/7/2021 16:00	51.55	1494	9/8/2020 16:00	51.4	1277	9/3/2019 16:00	50.04	1501	9/4/2018 16:00	51.38	1473
9/7/2021 17:00	50.73	1469	9/8/2020 17:00	53.02	1157	9/3/2019 17:00	51.22	1428	9/4/2018 17:00	50.48	1495
9/8/2021 16:00	51.52	1449	9/9/2020 16:00	50.89	1371	9/4/2019 16:00	50.24	1466	9/5/2018 16:00	50.14	1537
9/8/2021 17:00	52.05	1312	9/9/2020 17:00	51.63	1407	9/4/2019 17:00	50.7	1451	9/5/2018 17:00	50.54	1536
9/9/2021 16:00	50.91	1515	9/10/2020 16:00	49.88	1354	9/5/2019 16:00	50.51	1530	9/6/2018 16:00	49.81	1272
9/9/2021 17:00	53.07	1322	9/10/2020 17:00	51.43	1262	9/5/2019 17:00	50.07	1545	9/6/2018 17:00	49.37	1531
9/14/2021 16:00	50.03	1500	9/15/2020 16:00	53.24	1190	9/10/2019 16:00	49.8	1548	9/11/2018 16:00	50.51	1509
9/14/2021 17:00	52.38	1336	9/15/2020 17:00	53.27	1246	9/10/2019 17:00	51.33	1450	9/11/2018 17:00	52.09	1422
9/15/2021 16:00	50.88	1418	9/16/2020 16:00	52.96	1267	9/11/2019 16:00	50.46	1482	9/12/2018 16:00	48.9	1322
9/15/2021 17:00	51.27	1327	9/16/2020 17:00	52.38	1215	9/11/2019 17:00	50.02	1529	9/12/2018 17:00	48.09	1629
9/16/2021 16:00	49.98	1476	9/17/2020 16:00	52.36	1240	9/12/2019 16:00	50.01	1456	9/13/2018 16:00	51.68	1457
9/16/2021 17:00	50.5	1392	9/17/2020 17:00	53.67	1186	9/12/2019 17:00	49.77	1551	9/13/2018 17:00	51.21	1543
9/21/2021 16:00	50.38	1435	9/22/2020 16:00	52.76	1329	9/17/2019 16:00	50.18	1427	9/18/2018 16:00	50.78	1503
9/21/2021 17:00	53.38	1351	9/22/2020 17:00	50.77	1313	9/17/2019 17:00	50.83	1454	9/18/2018 17:00	50.53	1499
9/22/2021 16:00	51.76	1356	9/23/2020 16:00	48.38	1518	9/18/2019 16:00	50.37	1462	9/19/2018 16:00	49.58	1443
9/22/2021 17:00	53.38	1256	9/23/2020 17:00	47.07	1409	9/18/2019 17:00	51.81	1495	9/19/2018 17:00	50.4	1479
9/23/2021 16:00	50.34	1407	9/24/2020 16:00	51.68	1303	9/19/2019 16:00	50.52	1480	9/20/2018 16:00	49.58	1585
9/23/2021 17:00	52.14	1382	9/24/2020 17:00	52.46	1216	9/19/2019 17:00	50.91	1536	9/20/2018 17:00	49.56	1494
Average	51.46	1400	Average	51.63	1292	Average	50.49	1488	Average	50.26	1485

SR 14 WB at 6th

starttime	speed	volume	starttime	speed	volume	starttime	speed	volume	starttime	speed	volume
9/7/2021 16:00	58.2	518	9/8/2020 16:00	58.63	439	9/3/2019 16:00	58.1	580	9/4/2018 16:00	56.97	565
9/7/2021 17:00	58.32	491	9/8/2020 17:00	58.3	402	9/3/2019 17:00	58.26	528	9/4/2018 17:00	57.55	502
9/8/2021 16:00	57.53	559	9/9/2020 16:00	58.28	496	9/4/2019 16:00	57.71	577	9/5/2018 16:00	57.33	564
9/8/2021 17:00	58.62	499	9/9/2020 17:00	58.64	444	9/4/2019 17:00	58.37	514	9/5/2018 17:00	57.9	562
9/9/2021 16:00	58.62	575	9/10/2020 16:00	58.26	511	9/5/2019 16:00	58.07	569	9/6/2018 16:00	57.9	508
9/9/2021 17:00	59.06	481	9/10/2020 17:00	58.39	422	9/5/2019 17:00	58.33	544	9/6/2018 17:00	58.12	528
9/14/2021 16:00	57.92	551	9/15/2020 16:00	59.18	442	9/10/2019 16:00	57.97	521	9/11/2018 16:00	58.35	484
9/14/2021 17:00	58.67	510	9/15/2020 17:00	59.57	379	9/10/2019 17:00	58.43	476	9/11/2018 17:00	58.55	485
9/15/2021 16:00	58.21	552	9/16/2020 16:00	58.87	468	9/11/2019 16:00	57.11	567	9/12/2018 16:00	57.48	532
9/15/2021 17:00	57.98	536	9/16/2020 17:00	59.74	409	9/11/2019 17:00	58.38	504	9/12/2018 17:00	57.52	483
9/16/2021 16:00	58.09	591	9/17/2020 16:00	58.01	455	9/12/2019 16:00	57.27	622	9/13/2018 16:00	57.51	546
9/16/2021 17:00	59.06	473	9/17/2020 17:00	59.45	389	9/12/2019 17:00	58.73	531	9/13/2018 17:00	58.81	497
9/21/2021 16:00	57.37	545	9/22/2020 16:00	58.7	510	9/17/2019 16:00	56.54	524	9/18/2018 16:00	57.17	566
9/21/2021 17:00	58.83	496	9/22/2020 17:00	58.45	438	9/17/2019 17:00	58.66	453	9/18/2018 17:00	58.55	527
9/22/2021 16:00	57.67	553	9/23/2020 16:00	56.59	495	9/18/2019 16:00	56.64	541	9/19/2018 16:00	57.51	540
9/22/2021 17:00	58.34	489	9/23/2020 17:00	56.69	400	9/18/2019 17:00	57.38	489	9/19/2018 17:00	58.32	539
9/23/2021 16:00	57.92	555	9/24/2020 16:00	57.99	505	9/19/2019 16:00	56.87	588	9/20/2018 16:00	58.03	580
9/23/2021 17:00	58.58	512	9/24/2020 17:00	59.01	405	9/19/2019 17:00	58.43	489	9/20/2018 17:00	59.07	535
Average	58.28	527	Average	58.49	445	Average	57.85	534	Average	57.92	530

SR 500 EB at 79th

starttime	speed	volume	starttime	speed	volume	starttime	speed	volume	starttime	speed	volume
9/7/2021 16:00	50.91	326	9/8/2020 16:00	52.96	263	9/3/2019 16:00	51.99	282	9/4/2018 16:00	50.92	202
9/7/2021 17:00	50.76	340	9/8/2020 17:00	52.95	285	9/3/2019 17:00	52.83	333	9/4/2018 17:00	51.74	204
9/8/2021 16:00	50.39	311	9/9/2020 16:00	50.45	278	9/4/2019 16:00	51.55	293	9/5/2018 16:00	51.78	180
9/8/2021 17:00	51.46	283	9/9/2020 17:00	51.91	284	9/4/2019 17:00	51.06	339	9/5/2018 17:00	51.65	210
9/9/2021 16:00	49.65	312	9/10/2020 16:00	53.16	266	9/5/2019 16:00	51.02	311	9/6/2018 16:00	53.18	189
9/9/2021 17:00	50.56	314	9/10/2020 17:00	52.11	284	9/5/2019 17:00	49.83	389	9/6/2018 17:00	49	235
9/14/2021 16:00	50.41	319	9/15/2020 16:00	51.67	261	9/10/2019 16:00	51.9	317	9/11/2018 16:00	49.81	227
9/14/2021 17:00	51.34	324	9/15/2020 17:00	53.17	274	9/10/2019 17:00	51	343	9/11/2018 17:00	52.71	243
9/15/2021 16:00	51.08	308	9/16/2020 16:00	52.79	243	9/11/2019 16:00	51.73	310	9/12/2018 16:00	51.88	207
9/15/2021 17:00	51.32	332	9/16/2020 17:00	53.33	268	9/11/2019 17:00	50.4	348	9/12/2018 17:00	52.78	262
9/16/2021 16:00	50.44	330	9/17/2020 16:00	51.72	296	9/12/2019 16:00	50.68	314	9/13/2018 16:00	52.2	251
9/16/2021 17:00	50.9	325	9/17/2020 17:00	52.1	276	9/12/2019 17:00	52.33	334	9/13/2018 17:00	51.3	263
9/21/2021 16:00	50.76	318	9/22/2020 16:00	50.19	315	9/17/2019 16:00	50.17	291	9/18/2018 16:00	50.34	252
9/21/2021 17:00	51.14	312	9/22/2020 17:00	51.29	325	9/17/2019 17:00	50.04	331	9/18/2018 17:00	52.31	242
9/22/2021 16:00	51.51	276	9/23/2020 16:00	45.51	339	9/18/2019 16:00	51.71	304	9/19/2018 16:00	51.7	234
9/22/2021 17:00	51.07	324	9/23/2020 17:00	47.74	309	9/18/2019 17:00	50.88	342	9/19/2018 17:00	51.69	254
9/23/2021 16:00	50.89	320	9/24/2020 16:00	48.9	342	9/19/2019 16:00	50.55	318	9/20/2018 16:00	51.37	228
9/23/2021 17:00	50.98	328	9/24/2020 17:00	51.33	334	9/19/2019 17:00	51.17	357	9/20/2018 17:00	47.81	273
Average	50.87	317	Average	51.29	291	Average	51.16	325	Average	51.34	231

SR 500 WB at 79th

starttime	speed	volume	starttime	speed	volume	starttime	speed	volume	starttime	speed	volume
9/7/2021 16:00	41.24	488	9/8/2020 16:00	43.7	447	9/3/2019 16:00	41.15	541	9/4/2018 16:00	41.72	507
9/7/2021 17:00	44.19	483	9/8/2020 17:00	43.31	445	9/3/2019 17:00	40.25	616	9/4/2018 17:00	40.93	587
9/8/2021 16:00	43.32	450	9/9/2020 16:00	42.02	461	9/4/2019 16:00	41.13	560	9/5/2018 16:00	42.41	503
9/8/2021 17:00	43.65	472	9/9/2020 17:00	44.38	413	9/4/2019 17:00	40.87	579	9/5/2018 17:00	41.15	565
9/9/2021 16:00	41.07	506	9/10/2020 16:00	42.94	430	9/5/2019 16:00	40.84	575	9/6/2018 16:00	39.05	476
9/9/2021 17:00	41.54	516	9/10/2020 17:00	44.79	429	9/5/2019 17:00	41.86	568	9/6/2018 17:00	42.02	537
9/14/2021 16:00	40.51	511	9/15/2020 16:00	44.9	389	9/10/2019 16:00	40.89	551	9/11/2018 16:00	39.84	547
9/14/2021 17:00	42.09	496	9/15/2020 17:00	46.15	409	9/10/2019 17:00	40.55	599	9/11/2018 17:00	41.15	604
9/15/2021 16:00	42.65	436	9/16/2020 16:00	46.15	373	9/11/2019 16:00	40.42	546	9/12/2018 16:00	41.73	565
9/15/2021 17:00	42.06	506	9/16/2020 17:00	46.32	385	9/11/2019 17:00	40.31	596	9/12/2018 17:00	41.4	566
9/16/2021 16:00	39.6	493	9/17/2020 16:00	44.33	404	9/12/2019 16:00	39.98	560	9/13/2018 16:00	41.63	556
9/16/2021 17:00	42.21	494	9/17/2020 17:00	45.68	396	9/12/2019 17:00	39.48	551	9/13/2018 17:00	41.7	591
9/21/2021 16:00	41.37	512	9/22/2020 16:00	43.93	463	9/17/2019 16:00	41.95	527	9/18/2018 16:00	41.14	528
9/21/2021 17:00	41.46	526	9/22/2020 17:00	44.05	449	9/17/2019 17:00	41.19	572	9/18/2018 17:00	40.65	631
9/22/2021 16:00	41.98	504	9/23/2020 16:00	43.92	442	9/18/2019 16:00	41.36	506	9/19/2018 16:00	41.49	522
9/22/2021 17:00	43.12	466	9/23/2020 17:00	42.98	424	9/18/2019 17:00	42.37	584	9/19/2018 17:00	41.2	583
9/23/2021 16:00	43.32	483	9/24/2020 16:00	41.35	458	9/19/2019 16:00	39.69	560	9/20/2018 16:00	40.48	551
9/23/2021 17:00	39.77	520	9/24/2020 17:00	42.36	459	9/19/2019 17:00	41.26	590	9/20/2018 17:00	39.56	594
Average	41.95	492	Average	44.07	426	Average	40.86	566	Average	41.07	556

Approved
Subdivision

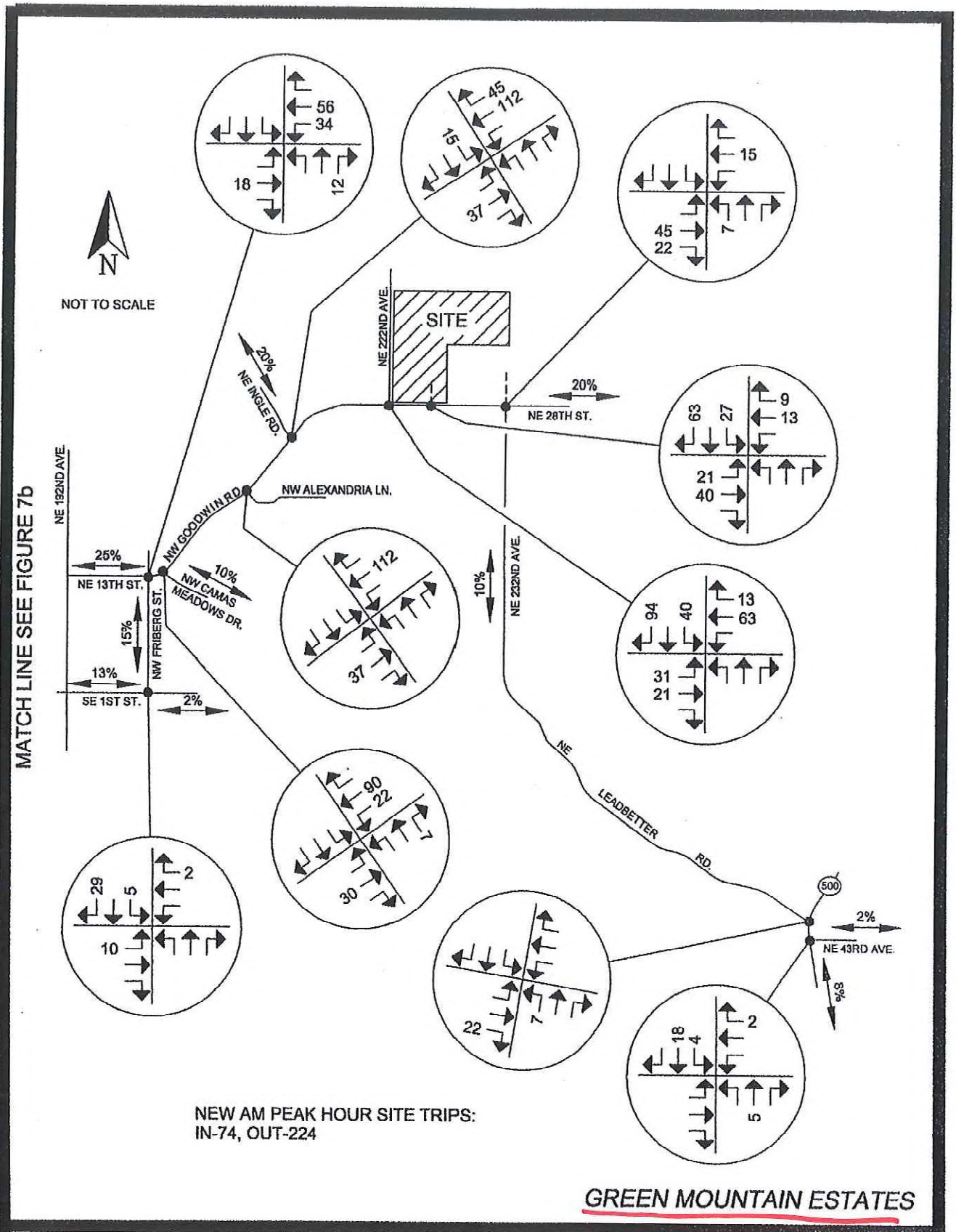


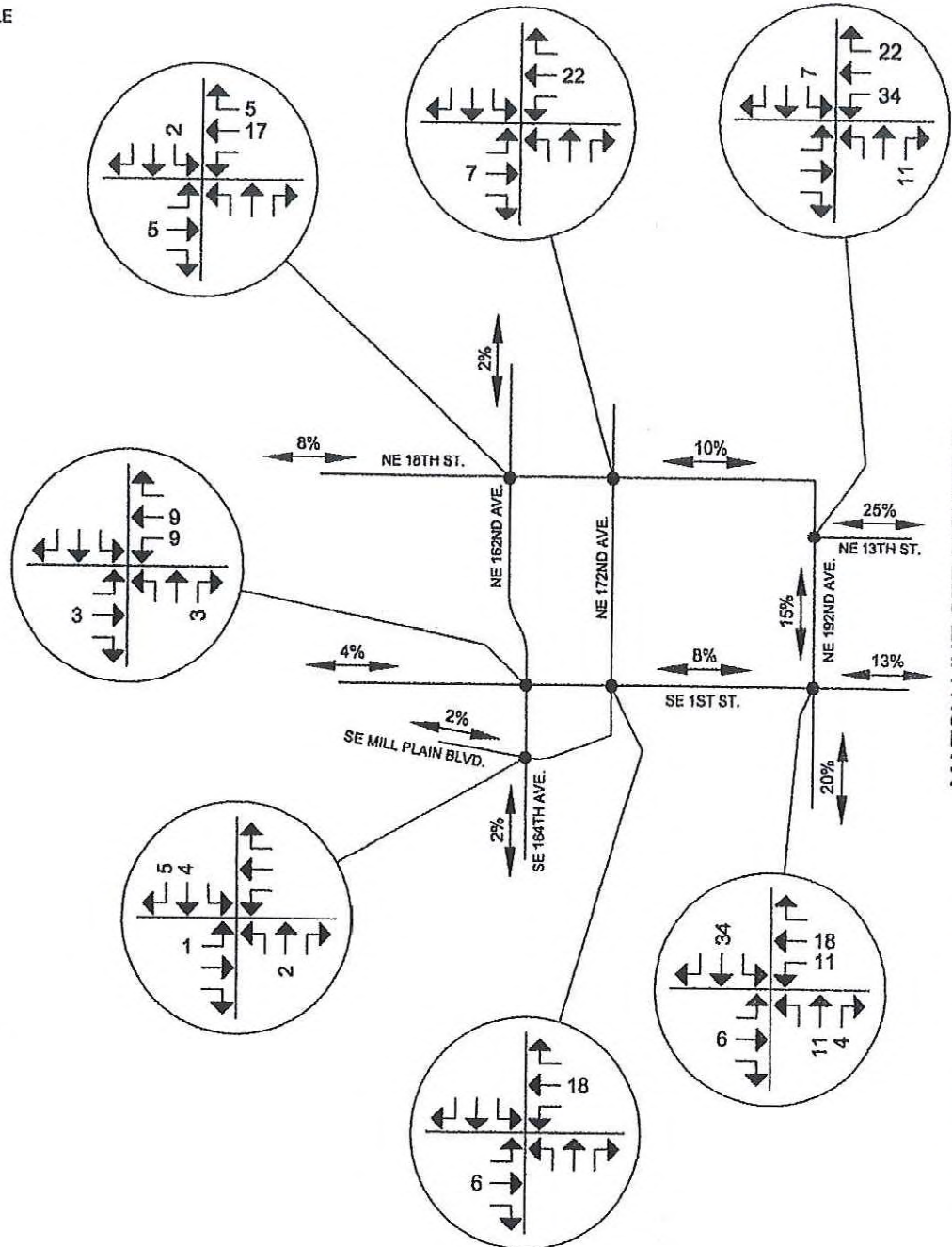
FIGURE 7a
SITE TRAFFIC DISTRIBUTION/
ASSIGNMENT, AM PEAK HOUR

KELLY ENGINEERING
316 E. Fourth Plain, A-2, Vancouver, WA 98663
Phone: 360-433-7530

Approved
Subdivision



NOT TO SCALE



MATCH LINE SEE FIGURE 7a

GREEN MOUNTAIN ESTATES

FIGURE 7b
SITE TRAFFIC DISTRIBUTION/
ASSIGNMENT, AM PEAK HOUR

KELLY ENGINEERING

316 E. Fourth Plain, A-2, Vancouver, WA 98663

Phone: 360-433-7530

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Subdivision

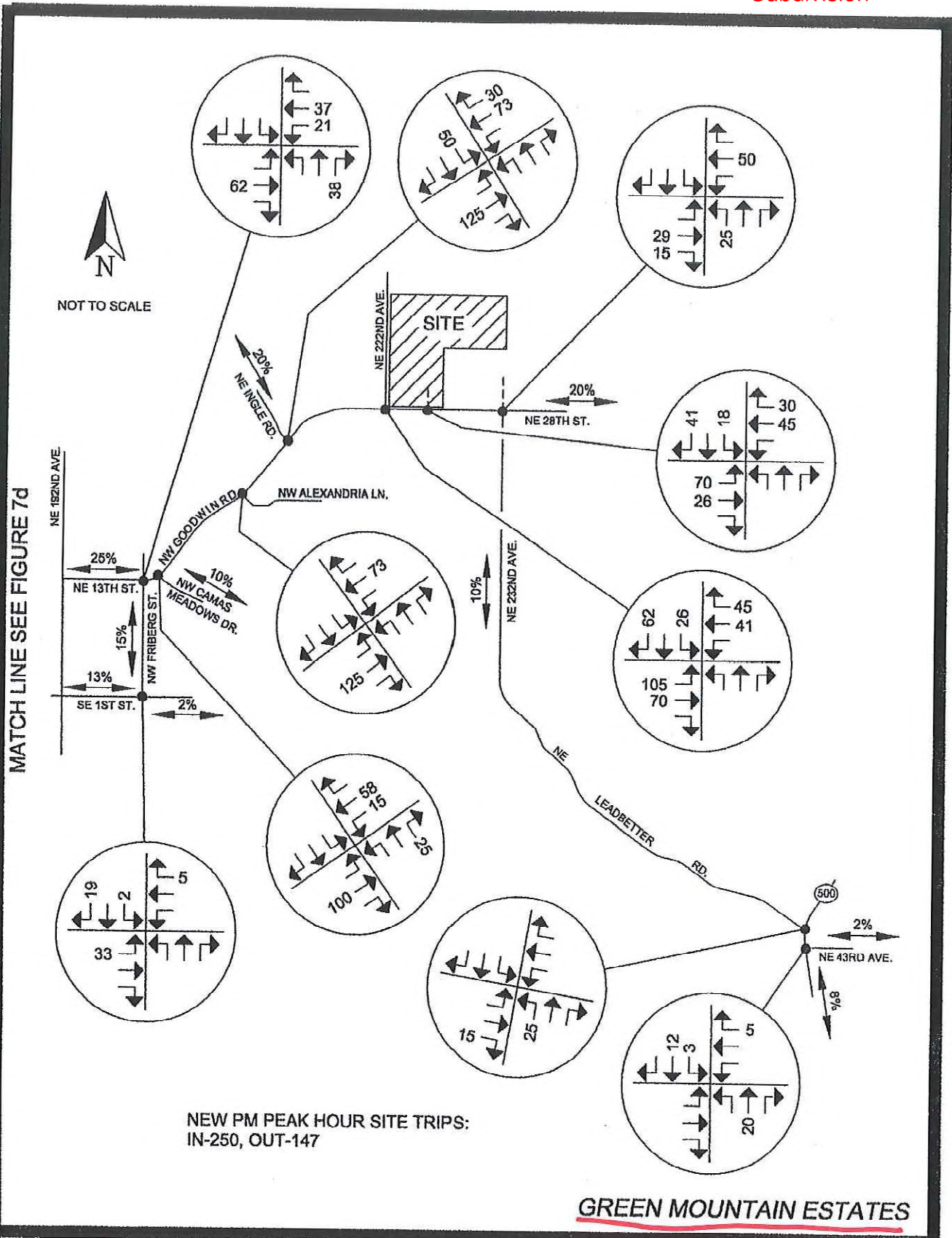
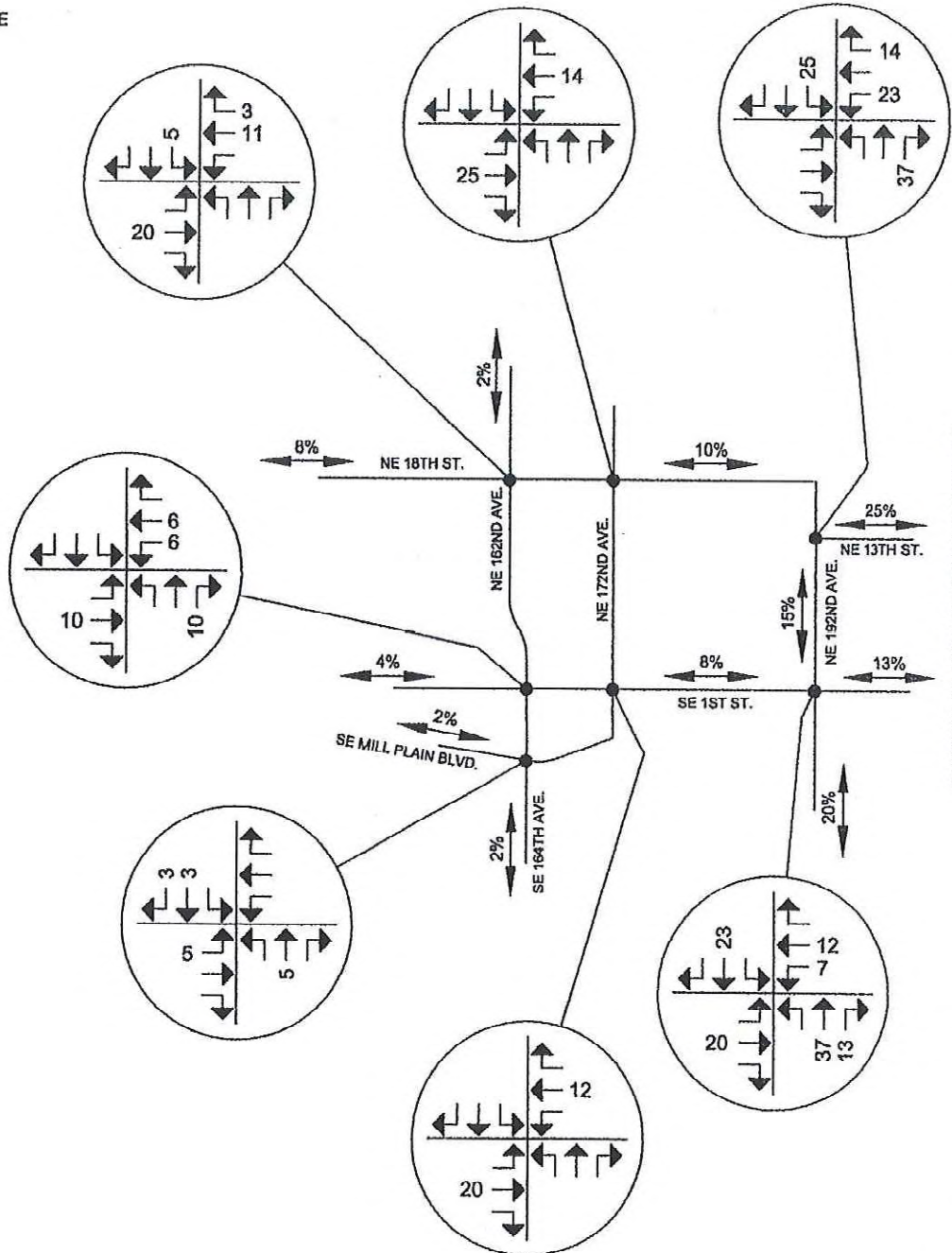


FIGURE 7c
SITE TRAFFIC DISTRIBUTION/
ASSIGNMENT, PM PEAK HOUR

KELLY ENGINEERING
316 E. Fourth Plain, A-2, Vancouver, WA 98663
Phone: 360-433-7530

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Subdivision

N
NOT TO SCALE



MATCH LINE SEE FIGURE 7c

GREEN MOUNTAIN ESTATES

FIGURE 7d
SITE TRAFFIC DISTRIBUTION/
ASSIGNMENT, PM PEAK HOUR

KELLY ENGINEERING
316 E. Fourth Plain, A-2, Vancouver, WA 98663
Phone: 360-433-7530

Summary Based on Master Plan,
Phases 1-3, & B1 South

Table 2: Master Plan Trip Generation and Build-out Debiting (Includes Phase 1, 2 and 3)

Land Use	ITE Code	Size	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out
Apartment	220	536 units	3,570	275	55	220	330	215	115
Single-Family Detached Housing	210	764 units	7,270	575	145	430	765	480	285
Total Residential (1,300 units)			10,840	850	200	650	1,095	695	400
<i>Internalization (6% Daily, 54% PM)</i>			630	0	0	0	60	30	30
Shopping Center	820	90,000 square feet	6,340	145	90	55	560	270	290
<i>Internalization (10% Daily, 11% PM)</i>			630	0	0	0	60	30	30
<i>Pass-By Trips (34%)</i>			1,940	50	25	25	170	85	85
Total Vested Trips			17,180	995	290	705	1,655	965	690
<i>Less Internalization</i>			1,260	0	0	0	120	60	60
<i>Less Pass-by trips</i>			1,940	50	25	25	170	85	85
Vested Net New Trips for Full Build-out			13,980	945	265	680	1,365	820	545
<i>Deduct for Net New Trips for Phase 1</i>			1,914	150	40	110	200	125	75
<i>Deduct for Net New Trips for Phase 2</i>			2,170	170	40	130	230	145	85
<i>Deduct for Net New Trips for Phase 3</i>			1,514	120	30	90	160	100	60
<i>Deduct for Net New Trips for B1 South Phase</i>			740	55	10	45	70	45	25
Remaining Trips			7,642	450	145	305	705	405	300

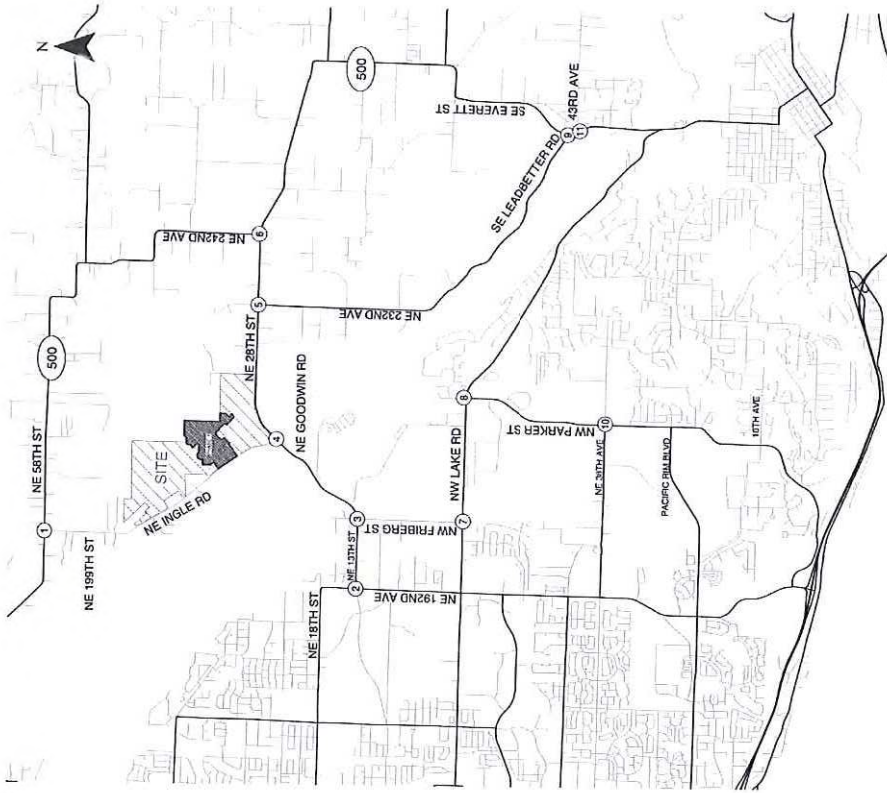
UPDATE 10/21/21

Vested Net New Trips for Full Build-out	13,980	945	265	680	1,365	820	545
<i>Phase 3 Deleted from Project</i>	1,514	120	30	90	160	100	60
Revised Vesting	12,466	825	235	590	1,205	720	485
<i>Phase 1 - 95% Constructed</i>	1,818	143	38	105	190	119	71
<i>Phase 2 - 80% Constructed</i>	1,736	136	32	104	184	116	68
<i>POD B1 - 0% Constructed</i>	0	0	0	0	0	0	0
Remaining Vested Trips Not Constructed as of 8/16/21	8,912	547	165	382	831	485	346
Percentage of Vested Trips not Constructed	64%	58%	62%	56%	61%	59%	63%
				60%			
Percentage of Vested Trips Approved without Phase 3	39%	45%	38%	48%	41%	44%	38%
				42%			

50% Build-out 8-16-21
40% (See attached)

Full Master Plan

Master Plan Trip Generation:
270 In/680 Out/950 Total



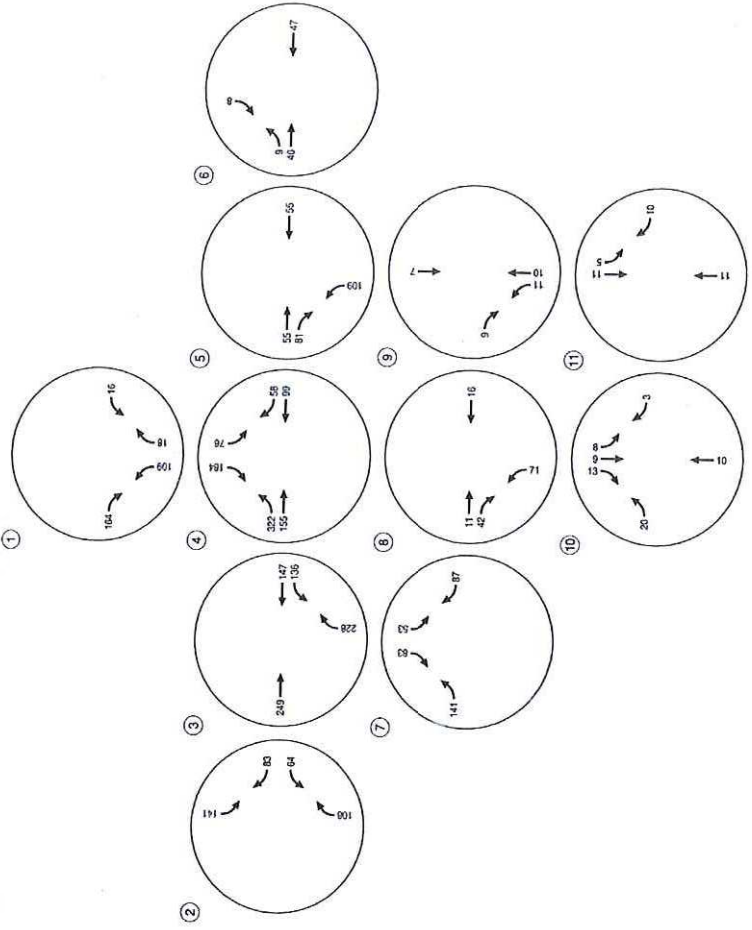
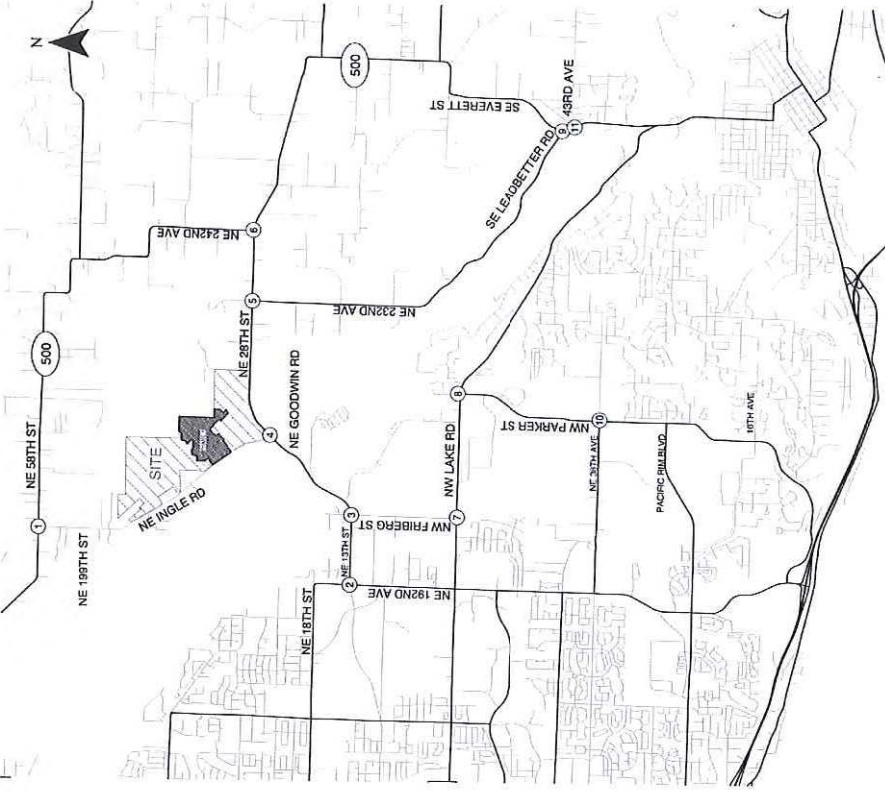
Total Estimated Trip Assignment - Full Build-Out
Weekday AM Peak Hour
Camas, Washington
Figure 9

~~Self-Build-out 8-16-21~~

Full Master Plan

40% (See attached)

Master Plan Trip Generation:
820 In/545 Out/1365 Total



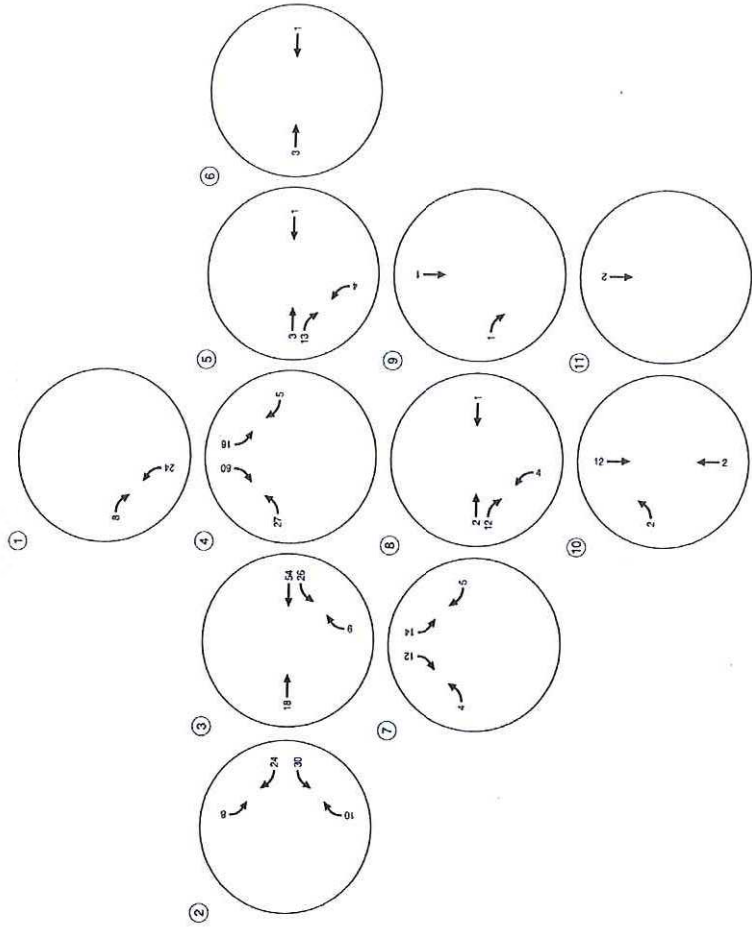
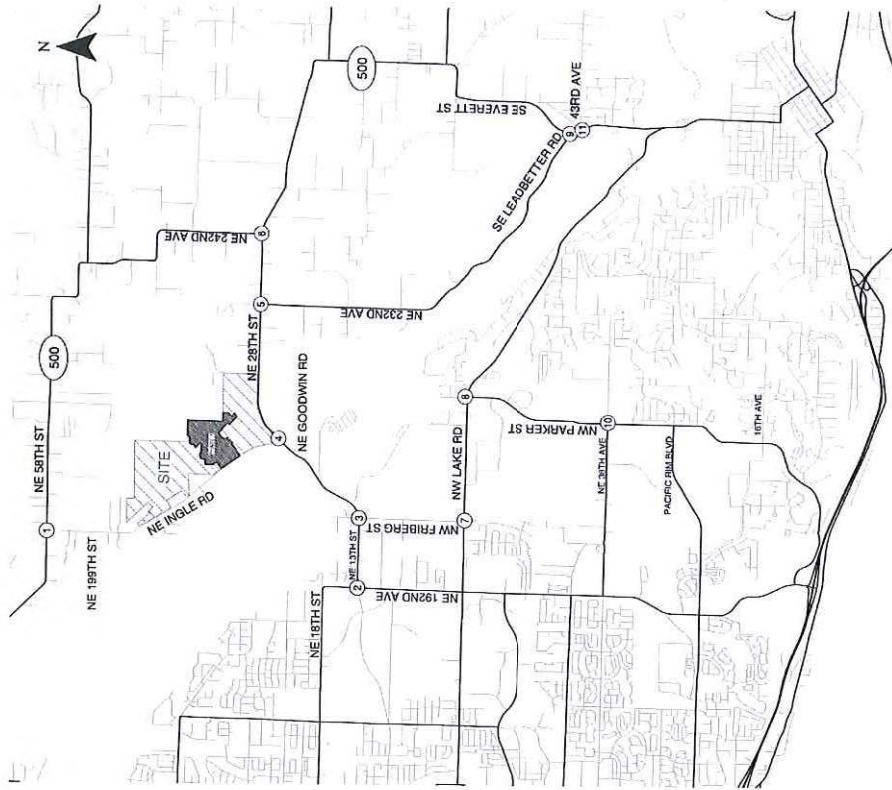
Total Estimated Trip Assignment - Full Build-Out
Weekday PM Peak Hour
Camas, Washington Figure 10

95% Build-Out 8-16-21

Approved
Subdivision

November 2014

Phase 1 Trip Generation:
40 In/120 Out/160 Total



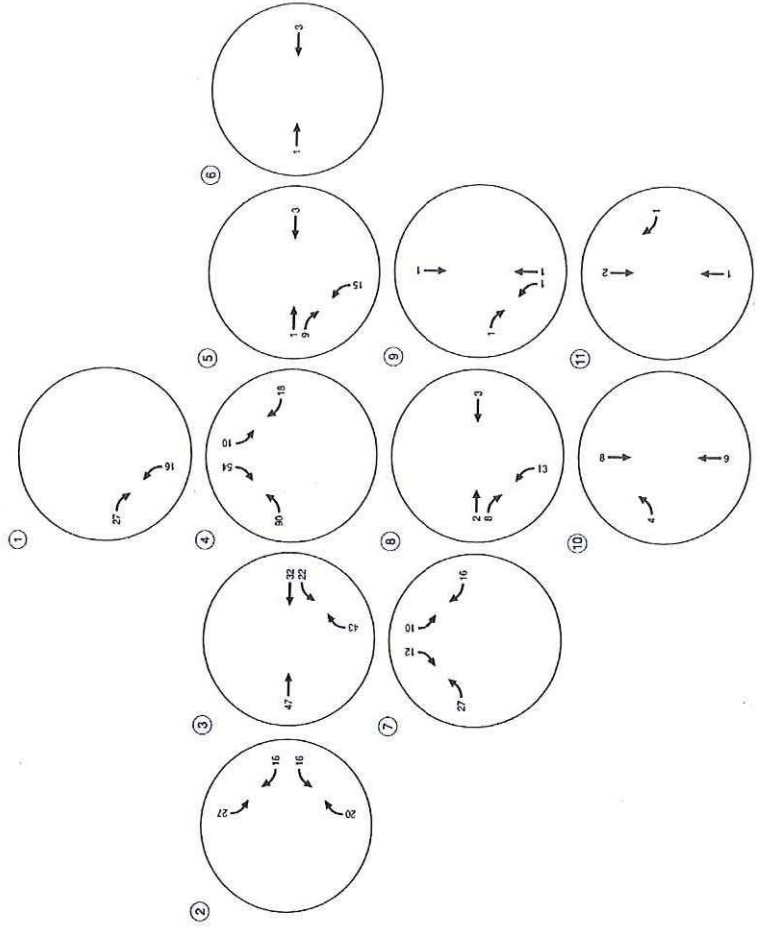
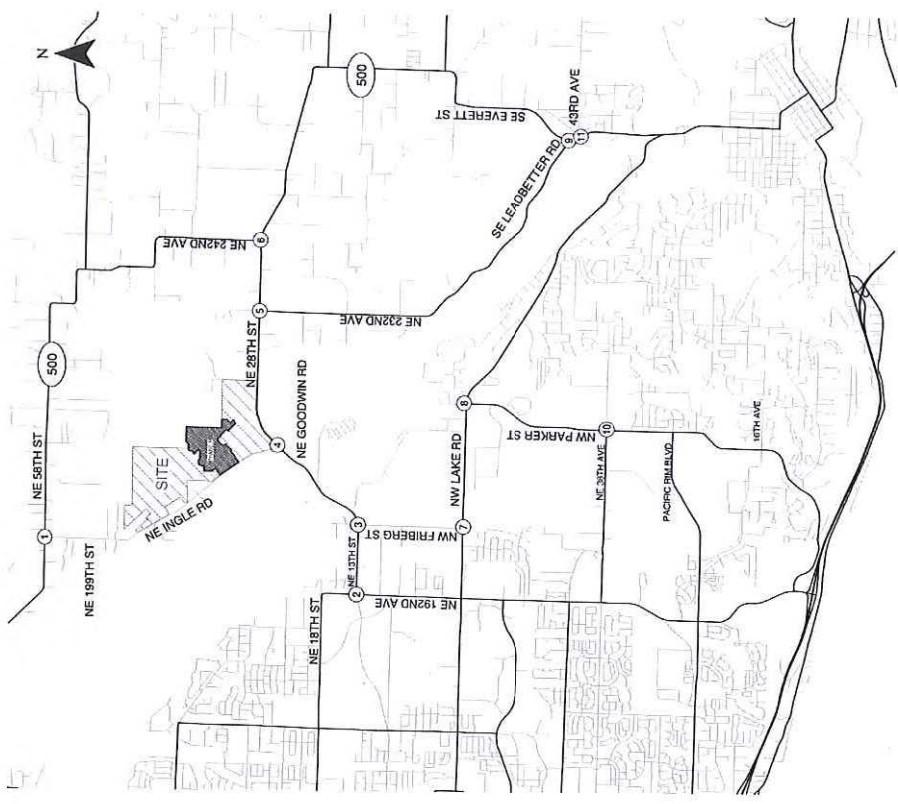
Total Estimated Trip Assignment - Phase 1
Weekday AM Peak Hour
Camas, Washington
Figure 7

95% Build-Out 8-16-21

Approved
Subdivision

November 2014

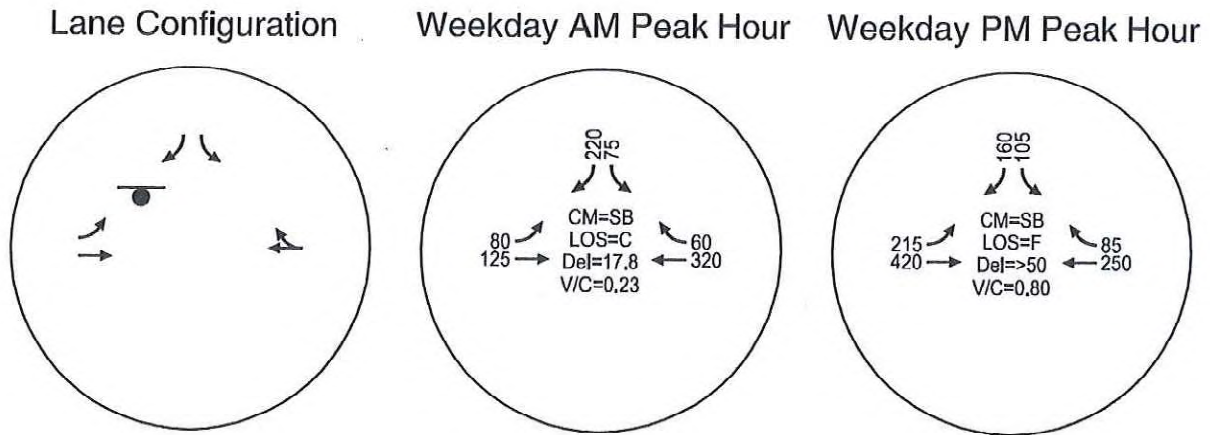
Phase 1 Trip Generation:
135 In/80 Out/215 Total



Total Estimated Trip Assignment - Phase 1
Weekday PM Peak Hour
Camas, Washington
Figure 8

Operations of the intersection as a stop-controlled intersection are provided in Exhibit 2 assuming Phase 1 and 2 site development as well as approved background traffic. Appendix G contains the 2018 total traffic conditions traffic operations worksheets.

Exhibit 2: NE Ingle Road/NE Goodwin Road 2018 Total Traffic Lane Configuration and Operations



As seen in Exhibit 2, the southbound left-turn at NE Ingle/NE Goodwin Road is projected to operate at a LOS F during the weekday p.m. peak hour with buildout of Phase 2 but operates under capacity with a v/c ratio of 0.80. Installation of a westbound right-turn lane (previously recommended with development of the 203rd home) is recommended with Phase 2 site development and will improve intersection operations compared to those reported in Exhibit 2. Further, to meet City of Camas standards, provision of a center two-way left-turn lane is recommended on NE Goodwin Road east of NE Ingle Road to accommodate two stage southbound left-turns. Operations with these mitigations are shown in Table 4. Appendix H contains the supporting traffic operations worksheets.

Table 4: NE Ingle Road/NE Goodwin Road 2018 Total Traffic Operations

Scenario	Weekday AM Peak Hour		Weekday PM Peak Hour	
	Delay	v/c	Delay	v/c
Current Intersection Configuration (refer to Exhibit 2)	17.8 (LOS C)	0.23	87.9 (LOS F)	0.80
Provision of a westbound right-turn lane	17.1 (LOS C)	0.22	75.1 (LOS F)	0.74
Provision of a TWLTL on NE Goodwin Road	12.5 (LOS B)	0.15	25.8 (LOS D)	0.41

Note: Operations shown are for the critical movement (southbound left-turn)
TWLTL = Two-way left-turn lane

Recognizing that the intersection satisfies City of Camas performance standards with these recommended mitigations, installation of a traffic signal is not recommended with Phase 2 development. Per the Master Plan conditions of approval, the developer shall monitor the need for installation of a traffic signal with future subdivision applications.

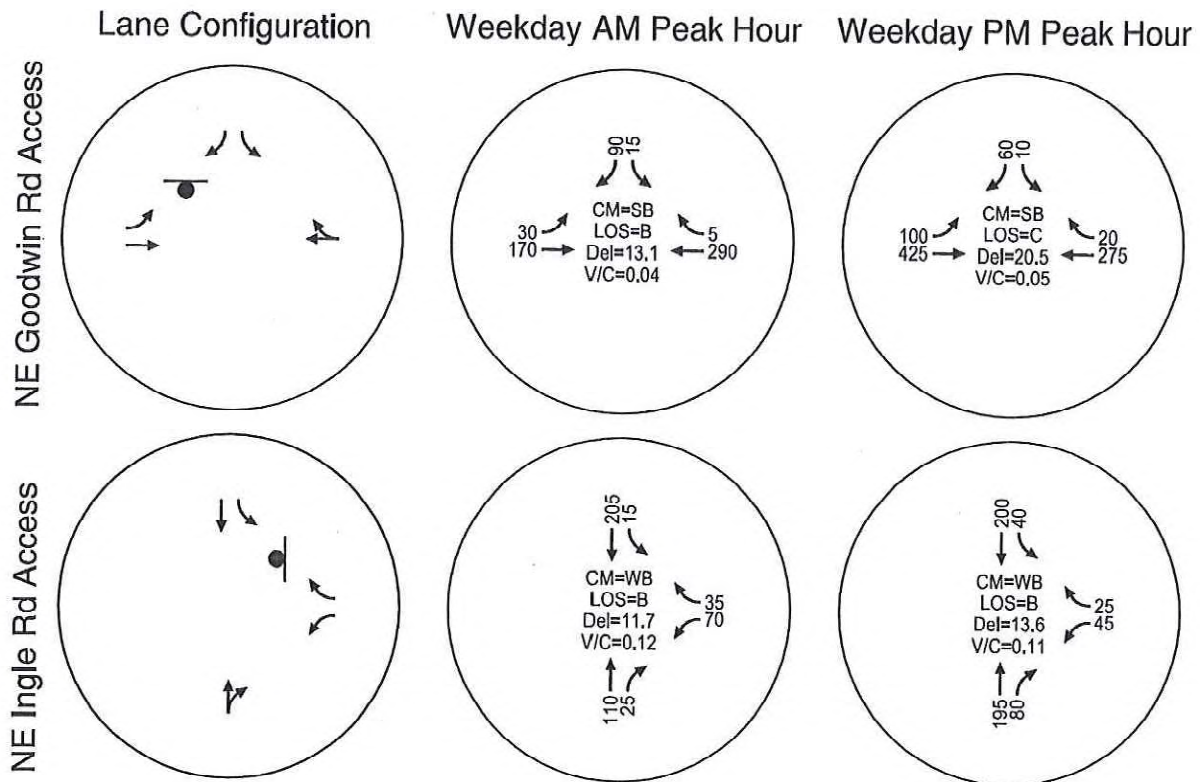
NE 192nd Avenue/NE 13th Street

The Master Plan TIA identified a proposed proportionate cost sharing methodology to fund future construction of a northbound right-turn lane and a westbound right-turn lane on NE 13th Avenue at NE 192nd Avenue, provided in *Appendix I*. Under this methodology, each weekday p.m. peak hour trip would be assessed a fee of \$319. Based on the Phase 2 trip assignment (refer to *Appendix D*), Phase 2 adds 103 trips to the intersection of NE 192nd Avenue/NE 13th Street and therefore should be responsible for contributing \$32,857 towards future improvements at the intersection.

ON-SITE CIRCULATION AND OPERATIONS

As seen in Figure 2, Phase 2 is located in the southeast portion of the overall site, with access anticipated on NE 28th Street (NE Goodwin Road) via a neighborhood circulator. Phase 2 will be connected to Phase 1 via the extension of N. Boxwood Street, as shown in the site plan in Figure 1. Therefore, some trips were assumed to utilize the neighborhood circulator access on NE Ingle Road developed with Phase 1. The proposed lane configuration for the access on NE 28th Street (NE Goodwin Road) and weekday a.m. and p.m. peak hour operations are shown in Exhibit 3. The operations for the access on NE Ingle Road developed with Phase 1 are also shown. *Appendix J* contains the traffic operations worksheets for the Phase 2 access operations.

Exhibit 3: Site Accesses – 2018 Total Traffic Lane Configuration and Operations



As seen in the exhibit, both accesses are projected to operate acceptably during both the weekday a.m. and p.m. peak hours. Anticipated queueing is provided in Table 4.

Table 5: Site Access Queueing – 2018 Total Traffic Conditions

Location	Movement	95 th Percentile Queue	
		Weekday AM Peak Hour	Weekday PM Peak Hour
NE Goodwin Road/ Site Access	Eastbound left-turn	25	25
	Westbound right-turn	<25	<25
	Southbound left-turn	25	25
	Southbound right-turn	25	25
NE Ingle Road/ Site Access	Westbound left-turn	25	25
	Westbound right-turn	25	25
	Southbound left-turn	25	25

As seen in table three, 95th percentile queues are anticipated to be one vehicle or less.

On-site landscaping, signage and any above-ground utilities should be provided appropriately to ensure that adequate sight distance is provided and maintained.

FINDINGS AND RECOMMENDATIONS

Based on the results of the transportation impact analysis, Phase 2 of the Green Mountain Master Plan can be developed while maintaining acceptable levels of service and safety at the study intersections without any required off-site mitigations. The primary findings and recommendations of this study are summarized below.

Phase 2 Trip Generation:
45 In/130 Out/175 Total AM
145 In/85 Out/230 Total PM

Trip Generation

- Phase 2 includes 230 single family homes and is estimated to generate 2,190 daily trips, 175 net new a.m. peak hour trips, and 230 net new p.m. peak hour trips.
- After accounting for Phase 1 and Phase 2; 9,885 daily; 620 weekday a.m. peak hour; and 935 weekday p.m. peak hour trips remain in the master plan approval.

NE 199th Avenue/NE 58th Street (SR 500)

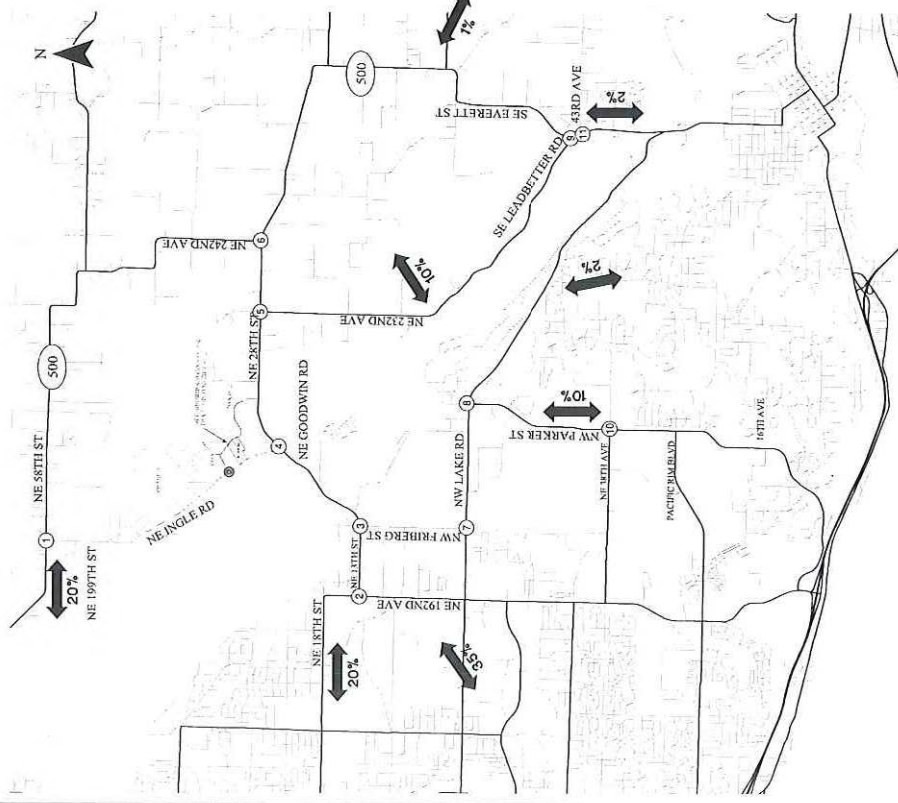
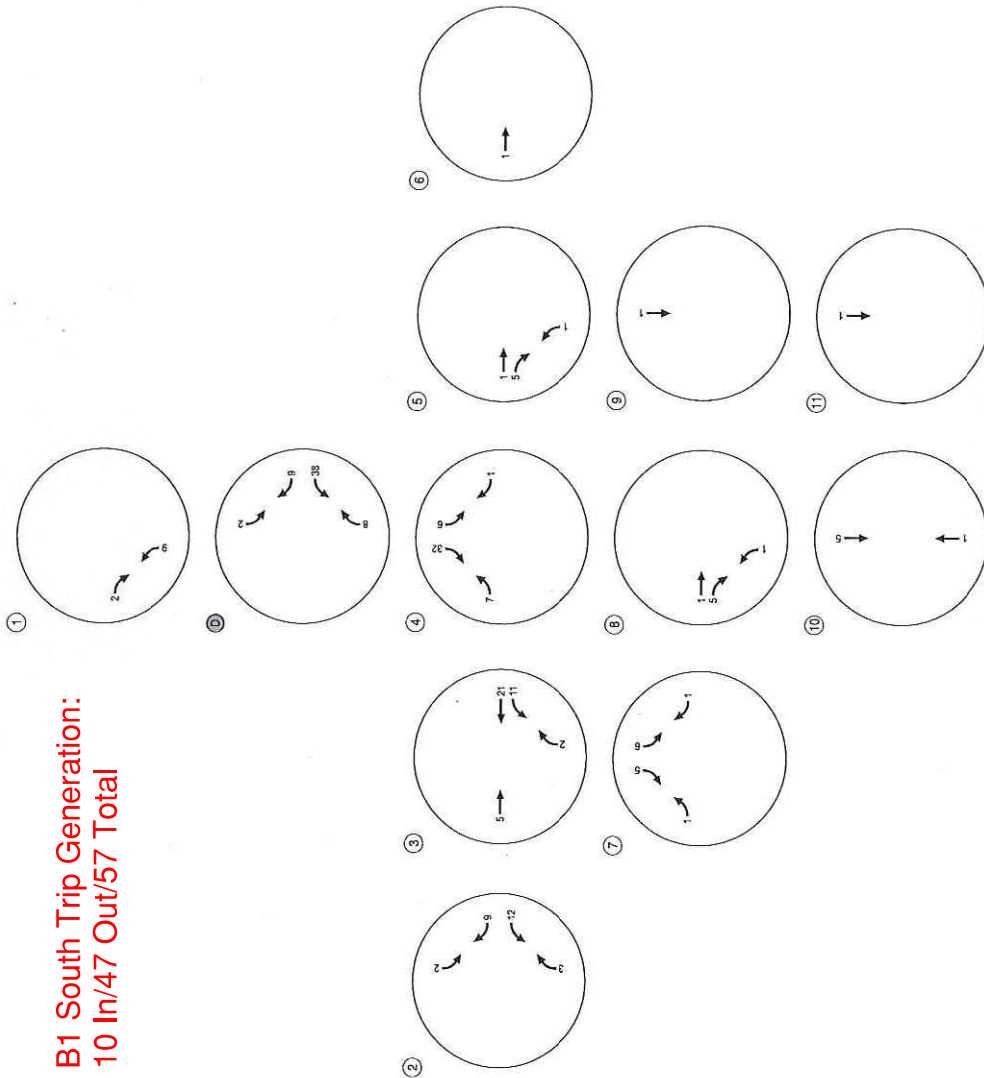
- Consistent with prior analysis, the intersection of NE 199th Avenue/NE 58th Street (SR 500) continues to satisfy WSDOT's guidelines for a right-turn lane on the eastbound approach under existing conditions and all future scenarios during both the weekday a.m. and p.m. peak hours.
 - Given the lack of crash history related to eastbound right-turns and the relatively small impact of Phase 2 (nine eastbound right-turn trips during the weekday a.m.

0% Build-Out 8-17-21

Approved Subdivision

September 2018

B1 South Trip Generation:
10 In/47 Out/57 Total



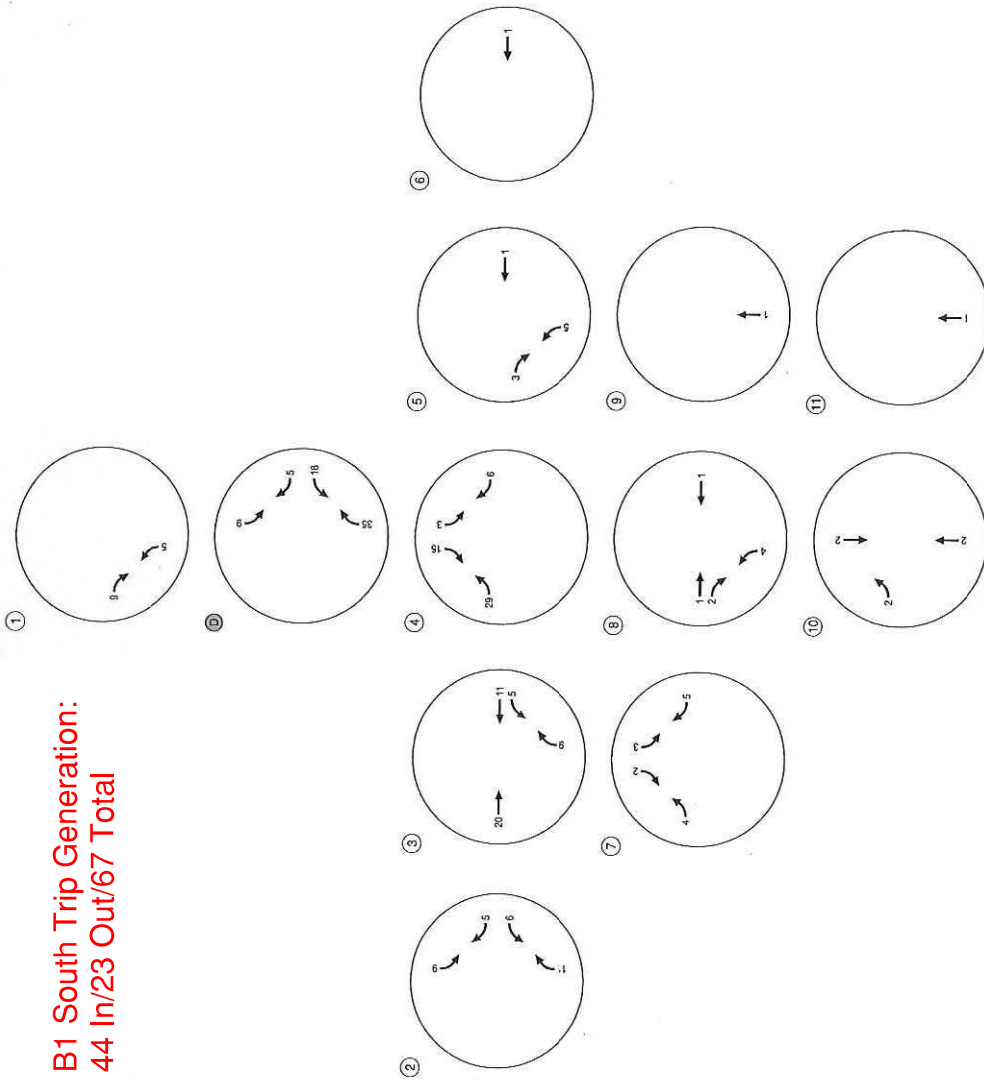
Total Estimated Trip Assignment - B1 South Phase
Weekday AM Peak Hour
Camas, Washington
Figure C-1

0% Build-out 8-17-21

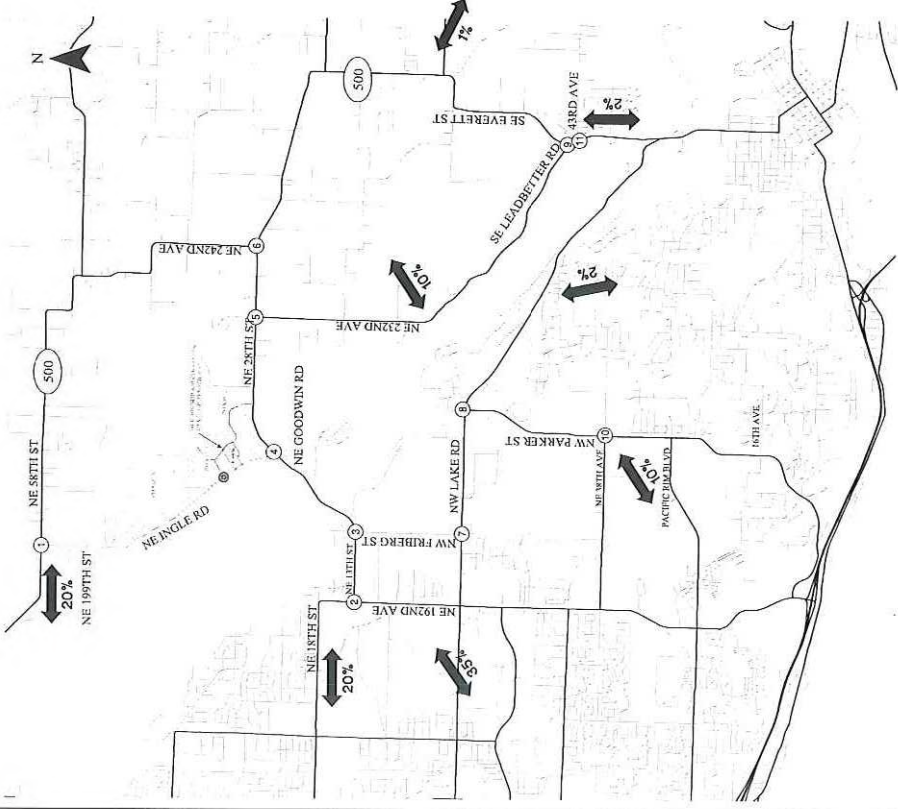
Approved Subdivision

September 2018

B1 South Trip Generation:
44 In/23 Out/67 Total



Green Mountain B1 South Phase



Total Estimated Trip Assignment - B1 South Phase
Weekday PM Peak Hour
Camas, Washington

Figure C-2

Appendix C - Safety

Crash History Data

Right-Turn Lane Warrant Analysis

Preliminary Signal Warrant Analysis



Collision Report Number	Collision Date	County	City	Jurisdiction	Agency	Primary Trafficway	Secondary Trafficway	Block Number	Mile Post	School Zone	Intersection Related	Weather Condition	Lighting Condition	Injury Severity	Assumed Collision Type	Object Struck	Damage Threshold Met	Hit and Run	Motor Vehicles Involved	Passengers Involved	Commercial Carrier Involved	School Bus Involved	Pedestrians Involved	Pedalcyclists Involved
E455116	8/14/2015 12:45	Clark	Vancouver	State Road	State Patrol	SR 500	NE 199TH AVENUE	10.27	N	Y	Overcast	Daylight	No Injury Collision	Turn		Y	N	2	Y	N	N	0	0	
E487087	11/24/2015 16:32	Clark	Vancouver	State Road	State Patrol	SR 500	NE 199TH ST		N	Y	Overcast	Dark-No Street Lights	Minor Injury Collision	Turn		Y	N	2	N	N	N	0	0	
E576106	8/15/2016 17:43	Clark	Vancouver	State Road	State Patrol	SR 500	NE 199 AVE	10.3	N	Y	Clear	Daylight	Minor Injury Collision	Turn		Y	N	2	Y	N	N	0	0	
E577918	8/26/2016 19:40	Clark	Vancouver	State Road	State Patrol	E/B SR-500	NE 199TH AVE	10.27	N	Y	Clear	Daylight	No Injury Collision	Turn		Y	N	2	Y	N	N	0	0	
E577918	8/26/2016 19:40	Clark	Vancouver	State Road	State Patrol	E/B SR-500	NE 199TH AVE	10.27	N	Y	Clear	Daylight	No Injury Collision	0		N	N	2	Y	N	N	0	0	
E666028	4/21/2017 09:20	Clark	Vancouver	State Road	State Patrol	EB SR 500	NE 199TH AVE	10.6	N	Y	Clear	Daylight	Minor Injury Collision	Turn		Y	N	2	Y	N	N	0	0	
E871892	12/18/2018 09:25	Clark	Vancouver	State Road	State Patrol	WB SR-500	NE 199TH AVE	10.27	N	Y	Overcast	Daylight	Minor Injury Collision	Turn	Earth Bank or Ledge	Y	N	2	N	N	N	0	0	
E888887	2/1/2019 22:30	Clark	Vancouver	State Road	State Patrol	W SR 500	NE 199TH STREET	10	N	Y	Raining	Dark-No Street Lights	No Injury Collision	Fixed	Dirt Ditch	Y	N	1	N	N	N	0	0	
E995183	12/17/2019 19:03	Clark	Vancouver	State Road	State Patrol	SR 500	199TH AVE	10	N	Y	Clear	Dark-No Street Lights	No Injury Collision	Turn		Y	N	2	Y	N	N	0	0	
E997762	12/18/2019 06:49	Clark	Vancouver	State Road	State Patrol	SR 500	NE 199 AVE	10.3	N	Y	Overcast	Dawn	Minor Injury Collision	Turn		Y	N	2	N	N	N	0	0	
E430885	6/4/2015 20:15	Clark	Vancouver	County Road	County Sheriff	NE 58TH ST	NE 199TH AV	19900	N	Y	Clear	Daylight	No Injury Collision	Turn		Y	N	2	N	N	N	0	0	
E541367	5/7/2016 19:51	Clark	Battle Ground	County Road	County Sheriff	NE 199TH ST	NE 58TH AVE		N	Y	Clear	Daylight	Minor Injury Collision	Fixed		Y	N	1	N	N	N	0	0	

5	No Injury Collision	Angle	0
6	Minor Injury Collision	Turn	9
0	Serious Injury Collision	Fixed	2
0	Unknown Injury Collision	Sideswipe	0
11		Other	0
		Rear	0
		Ped	0
AADT	9870		11
Crash Rate	0.61		

Collision Report Number	Collision Date	County	City	Jurisdiction	Agency	Primary Trafficway	Secondary Trafficway	Block Number	Mile Post	School Zone	Intersection Related	Weather Condition	Lighting Condition	Injury Severity	Collision Type	Object Struck	Damage Threshold Met	Hit and Run	Motor Vehicles Involved	Passengers Involved	Commercial Carrier Involved	School Bus Involved	Pedestrians Involved	Pedalcyclists Involved
E397774	1/27/2015 15:17	Clark	Vancouver	City Street	Municipal/City	NE 192ND AVE	NE 13TH ST			N	Y	Raining	Daylight	No Injury Collision	Turn		N	N	2	N	N	N	0	0
E397774	1/27/2015 15:17	Clark	Vancouver	City Street	Municipal/City	NE 192ND AVE	NE 13TH ST			N	Y	Raining	Daylight	No Injury Collision	0		Y	N	2	N	N	N	0	0
E414042	4/5/2015 11:25	Clark	Vancouver	City Street	Municipal/City	NE 192ND AVE	NE 13TH ST	1300		N	Y	Clear	Daylight	No Injury Collision	Sideswipe		N	Y	2	N	N	N	0	0
E414042	4/5/2015 11:25	Clark	Vancouver	City Street	Municipal/City	NE 192ND AVE	NE 13TH ST	1300		N	Y	Clear	Daylight	No Injury Collision	0		Y	Y	2	N	N	N	0	0
E602417	10/29/2016 13:14	Clark	Vancouver	City Street	Municipal/City	NE 192ND AVE	NE 13TH ST	1300		N	Y	Overcast	Daylight	No Injury Collision	Turn		Y	Y	2	N	N	N	0	0
E604519	11/4/2016 08:10	Clark	Vancouver	City Street	Police	NE192ND AVE	NE 13TH ST			N	Y	Clear	Daylight	Minor Injury Collision	Turn		Y	N	2	Y	N	N	0	0
E938605	7/9/2019 17:05	Clark	Vancouver	City Street	Municipal/City	NE 192ND AVE	NE 13TH ST			N	Y	Clear	Daylight	No Injury Collision	Rear		N	N	2	Y	N	N	0	0
E543867	3/11/2016 14:31	Clark	Vancouver	City Street	Municipal/City	NE 13TH ST	NE 192ND AVE	**		N	Y	Clear	Daylight	No Injury Collision	Turn		Y	N	2	N	N	N	0	0

5	No Injury Collision	Angle	0
1	Minor Injury Collision	Turn	4
0	Serious Injury Collision	Fixed	0
0	Unknown Injury Collision	Sideswipe	1
6		Other	0
		Rear	1
		Ped	0
AADT	18830		
Crash Rate	0.17		

Collision Report Number	Collision Date	County	City	Jurisdiction	Agency	Primary Trafficway	Secondary Trafficway	Block Number	Mile Post	School Zone	Intersection Related	Weather Condition	Lighting Condition	Injury Severity	Assumed Collision Type	Collision Type	Object Struck	Damage Threshold Met	Hit and Run	Motor Vehicles Involved	Passengers Involved	Commercial Carrier Involved	School Bus Involved	Pedestrians Involved	Pedalcyclists Involved
3720273	4/27/2016 14:47	Clark	Camas	City Street	Municipal/City Police	NE GOODWIN RD	NW FRIBERG-STRUNK ST			N	Y	Clear	Daylight	No Injury	Turn	PEDESTRIAN		Y	N	2	N	N	N	0	0
3766663	9/25/2016 10:35	Clark	Camas	City Street	Municipal/City Police	NE GOODWIN RD	FRIBERG STRUNK ST	20200		N	Y	Clear	Daylight	Minor Injury	Ped	AN		N	N	1	N	N	N	1	0

1	No Injury Collision	Angle	0
1	Minor Injury Collision	Turn	1
0	Serious Injury Collision	Fixed	0
0	Unknown Injury Collision	Sideswipe	0
2		Other	0
		Rear	0
		Ped	1
AADT			11710
Crash Rate			0.09

Collision Report Number	Collision Date	County	City	Jurisdiction	Agency	Primary Trafficway	Secondary Trafficway	Block Number	Mile Post	School Zone	Intersection Related	Weather Condition	Lighting Condition	Injury Severity	Assumed Collision Type	Object Struck	Damage Threshold Met	Hit and Run	Motor Vehicles Involved	Passengers Involved	Commercial Carrier Involved	School Bus Involved	Pedestrians Involved	Pedalcyclists Involved
E767950	2/6/2018 19:25	Clark	Camas	City Street	Municipal/City Police	NW CAMAS MEADOWS DR	NE GOODWIN RD	20300		N	Y	Clear	Dark-Street Lights On	No Injury Collision	Turn		Y	N	2	Y	N	N	0	0
E955382	8/30/2019 14:52	Clark	Camas	City Street	Municipal/City Police	NW CAMAS MEADOWS DR	NE GOODWIN ROAD	4600		N	Y	Clear	Daylight	Minor Injury Collision	Turn		Y	N	2	N	N	N	0	0
E955382	8/30/2019 14:52	Clark	Camas	City Street	Municipal/City Police	NW CAMAS MEADOWS DR	NE GOODWIN ROAD	4600		N	Y	Clear	Daylight	Minor Injury Collision	0		N	N	2	N	N	N	0	0
E526118	3/16/2016 17:50	Clark	Camas	City Street	Municipal/City Police	NW CAMAS NE GOODWIN RD	MEADOWS DR			N	Y	Clear	Daylight	No Injury Collision	Fixed		Y	N	1	N	N	N	0	0
E930592	6/13/2019 17:55	Clark	Camas	City Street	Municipal/City Police	NE GOODWIN RD	MEADOWS DR			N	Y	Clear	Daylight	Minor Injury Collision	Turn		Y	N	2	N	N	N	0	0

2	No Injury Collision	Angle	0
2	Minor Injury Collision	Turn	3
0	Serious Injury Collision	Fixed	1
0	Unknown Injury Collision	Sideswipe	0
4		Other	0
		Rear	0
		Ped	0
AADT			11230
Crash Rate			0.20

Collision Report Number	Collision Date	County	City	Jurisdiction	Agency	Primary Trafficway	Secondary Trafficway	Block Number	Mile Post	School Zone	Intersection Related	Weather Condition	Lighting Condition	Injury Severity	Collision Type	Object Struck	Damage Threshold Met	Hit and Run	Motor Vehicles Involved	Passengers Involved	Commercial Carrier Involved	School Bus Involved	Pedestrians Involved	Pedalcyclists Involved
3677212	1/16/2015 17:23	Clark	Camas	City Street	Municipal/City Police	NE GOODWIN RD	NE INGLE RD			N	Y	Clear	Dark-No Street Lights	No Injury Collision	Rear		Y	N	3	Y	N	N	0	0
3677212	1/16/2015 17:23	Clark	Camas	City Street	Municipal/City Police	NE GOODWIN RD	NE INGLE RD			N	Y	Clear	Dark-No Street Lights	No Injury Collision	0		N	N	3	Y	N	N	0	0
3767109	3/15/2016 09:00	Clark	Camas	City Street	Municipal/City Police	NE GOODWIN RD	NE INGLE RD			N	Y	Raining	Daylight	No Injury Collision	Rear		Y	N	2	Y	N	N	0	0
E594456	8/23/2016 20:35	Clark	Camas	City Street	Municipal/City Police	NE GOODWIN RD	NE INGLE RD	2500		N	Y	Clear	Dark-No Street Lights	No Injury Collision	Rear		Y	N	2	N	N	N	0	0
E657541	3/12/2017 05:30	Clark	Camas	City Street	Municipal/City Police	NE GOODWIN RD	NE INGLE RD			N	Y	Overcast	Dark-No Street Lights	Minor Injury Collision	Fixed	Rock Bank or	Y	N	1	Y	N	N	0	0
E848921	10/13/2018 12:58	Clark	Camas	City Street	Municipal/City Police	NW GOODWIN	NW INGLE RD			N	Y	Clear	Daylight	No Injury Collision	Turn		Y	N	2	Y	N	N	0	0
E853677	10/19/2018 08:47	Clark	Camas	City Street	Municipal/City Police	NE GOODWIN ROAD	NE INGLE ROAD			N	Y	Clear	Daylight	Minor Injury Collision	Turn		Y	N	2	Y	N	N	0	0
E778099	3/12/2018 10:25	Clark	Camas	City Street	Municipal/City Police	NE INGLE RD	NE GOODWIN RD			N	Y	Clear	Daylight	Minor Injury Collision	Turn		Y	N	2	N	N	N	0	0
E966064	9/20/2019 16:58	Clark	Camas	City Street	Municipal/City Police	NE INGLE ROAD	NE GOODWIN ROAD			N	Y	Overcast	Daylight	Minor Injury Collision	Turn		Y	N	2	Y	N	N	0	0

4	No Injury Collision	Angle	0
4	Minor Injury Collision	Turn	4
0	Serious Injury Collision	Fixed	1
0	Unknown Injury Collision	Sideswipe	0
8		Other	0
		Rear	3
		Ped	0
AADT			11750
Crash Rate			0.37

Collision Report Number	Collision Date	County	City	Jurisdiction	Agency	Primary Trafficway	Secondary Trafficway	Block Number	Mile Post	School Zone	Intersection Related	Weather Condition	Lighting Condition	Injury Severity	Assumed Collision Type	Collision Object Struck	Damage Threshold Met	Hit and Run	Motor Vehicles Involved	Passengers Involved	Commercial Carrier Involved	School Bus Involved	Pedestrians Involved	Pedalcyclists Involved
E452382	8/7/2015 18:42	Clark	Camas	County Road	County Sheriff	NE 28TH ST	NE 232ND AV	23200		N	Y	Clear	Dusk	No Injury	Rear	N	N	2	Y	N	N	0	0	
E452382	8/7/2015 18:42	Clark	Camas	County Road	County Sheriff	NE 28TH ST	NE 232ND AV	23200		N	Y	Clear	Dusk	No Injury	0	N	N	2	Y	N	N	0	0	
E545707	5/20/2016 16:01	Clark	Camas	County Road	County Sheriff	NE 28TH ST	NE 232ND AVENUE	23200		N	Y	Overcast	Daylight	Unknown Injury	Fixed	Y	Y	1	N	N	N	0	0	
E681299	6/11/2017 15:58	Clark	Camas	County Road	County Sheriff	NE 28TH ST	NE 232ND AVE	23200		N	Y	Clear	Daylight	Minor Injury	Rear	Y	Y	3	Y	N	N	0	0	
E707129	8/31/2017 07:43	Clark	Camas	County Road	County Sheriff	NE 28TH ST	232ND AV	23200		N	Y	Clear	Daylight	No Injury	Sideswipe	Y	N	2	N	N	N	0	0	
E923671	5/23/2019 16:54	Clark	Camas	City Street	Municipal/City	NE 28TH ST	NE 232ND AVE	23200		N	Y	Clear	Daylight	No Injury	Rear	Y	Y	2	N	N	N	0	0	
EA02765	12/20/2019 09:12	Clark	Camas	County Road	County Sheriff	NE 28TH ST	NE 232ND AV	23200		N	Y	Raining	Daylight	No Injury	Turn	Y	N	2	Y	N	N	0	0	

4	No Injury Collision	Angle	0
1	Minor Injury Collision	Turn	1
0	Serious Injury Collision	Fixed	1
1	Unknown Injury Collision	Sideswipe	1
6		Other	0
		Rear	3
		Ped	0
AADT	6880		
Crash Rate	0.48		

Collision Report Number	Collision Date	County	City	Jurisdiction	Agency	Primary Trafficway	Secondary Trafficway	Block Number	Mile Post	School Zone	Intersection Related	Weather Condition	Lighting Condition	Injury Severity	Assumed Collision Type	Object Struck	Damage Threshold Met	Hit and Run	Motor Vehicles Involved	Passengers Involved	Commercial Carrier Involved	School Bus Involved	Pedestrians Involved	Pedalcyclists Involved
E890891	2/1/2019 16:07	Clark	Camas	City Street	Municipal/City	SE EVERETT RD	SE LEADBETTER ST			N	Y	Raining	Daylight	No Injury Collision	Turn		Y	N	2	Y	N	N	0	0
E932712	6/18/2019 16:05	Clark	Camas	City Street	Police	NE EVERETT ST	SE LEADBETTER RD			N	Y	Clear	Daylight	Serious Injury Collision	Fixed		Y	N	1	N	N	N	0	0

1	No Injury Collision	Angle	0
0	Minor Injury Collision	Turn	1
1	Serious Injury Collision	Fixed	1
0	Unknown Injury Collision	Sideswipe	0
2		Other	0
		Rear	0
		Ped	0
AADT			5830
Crash Rate			0.19

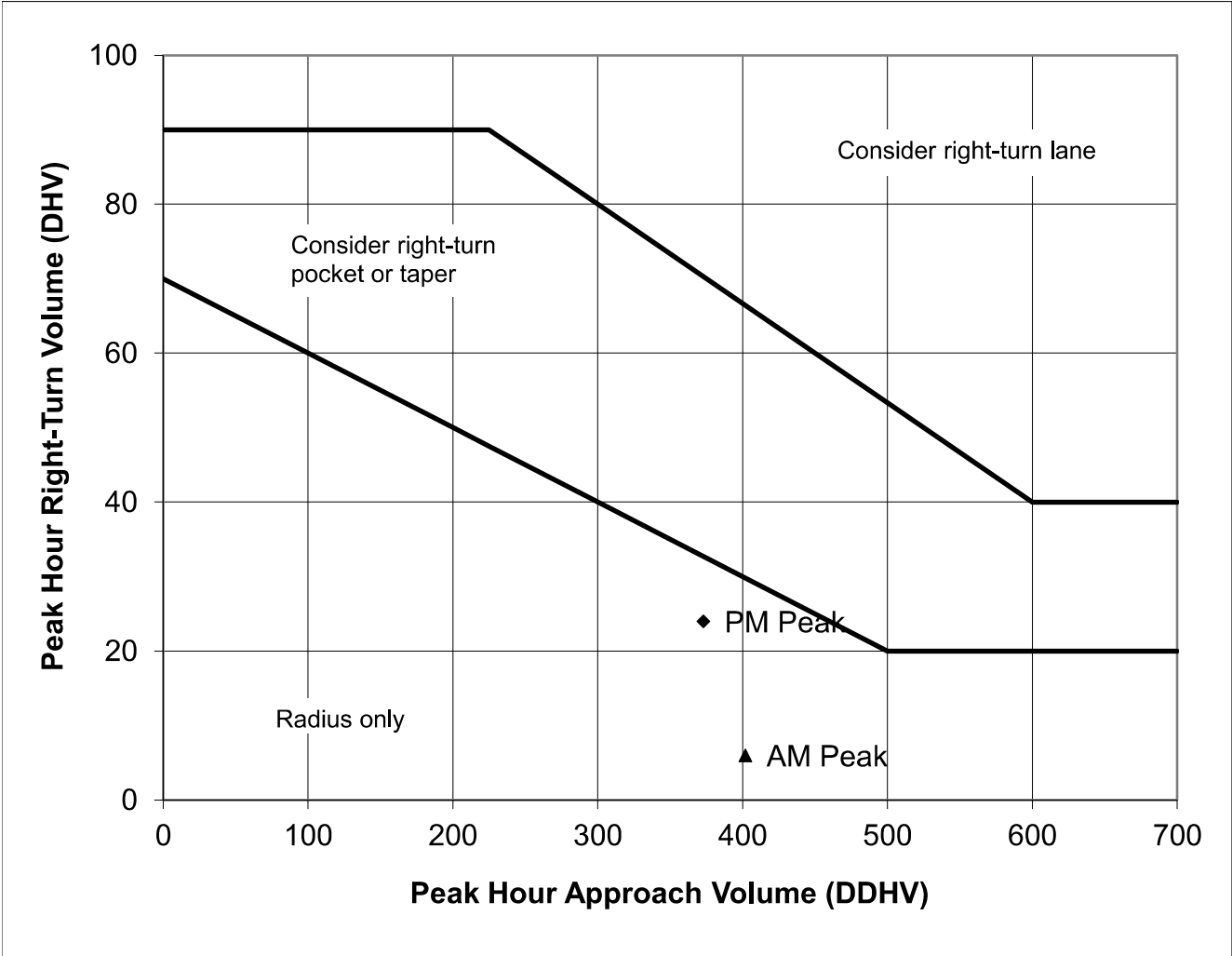


Preliminary Right-Turn Lane Warrant Analysis

Project: 21129 - Camas Heights
Date: 10/18/2021
Scenario: 2023 Buildout PM Peak Hour

Speed 50 mph

AM Peak Hour		PM Peak Hour	
DHV	6	DHV	24
DDHV	402	DDHV	373
Lane Needed?	No	Lane Needed?	No





Preliminary Traffic Signal Warrant Analysis

Project: 21129 - Camas Heights
 Date: 10/25/2021
 Scenario: 2023 Background PM Peak Hour

Major Street:	NE 58th Street (SR 500)	Minor Street:	NE 199th Avenue	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	891	1	PM Peak Hour Volumes:	360 26 0%
				Total Rights RT Discount

Warrant Used:

<u> </u>	100 percent of standard warrants used
<u> X </u>	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)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
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
<u>WARRANT 1, CONDITION B</u>					
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	8,910	6,200	
Minor Street*	3,600	1,850	Yes
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	8,910	9,300	
Minor Street*	3,600	950	No
<i>Combination Warrant (Not met until after adequate trial of other measures)</i>			
Major Street	8,910	7,440	
Minor Street*	3,600	1,480	Yes

* Minor street right-turning traffic volumes reduced by 00%.



Preliminary Traffic Signal Warrant Analysis

Project: 21129 - Camas Heights
 Date: 10/25/2021
 Scenario: 2023 Buildout PM Peak Hour

Major Street:	NE 58th Street (SR 500) with RT Lane	Minor Street:	NE 199th Avenue	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	904	PM Peak Hour Volumes:	366	Total Rights RT Discount
			26	
			0%	

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)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
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
<u>WARRANT 1, CONDITION B</u>					
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	9,040	6,200	
Minor Street*	3,660	1,850	Yes
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	9,040	9,300	
Minor Street*	3,660	950	No
<i>Combination Warrant (Not met until after adequate trial of other measures)</i>			
Major Street	9,040	7,440	
Minor Street*	3,660	1,480	Yes

* Minor street right-turning traffic volumes reduced by 00%.



Preliminary Traffic Signal Warrant Analysis

Project: 21129 - Camas Heights
 Date: 10/25/2021
 Scenario: 2023 Buildout PM Peak Hour

Major Street:	NE Goodwin Road	Minor Street:	NE Camas Heights Road	
Number of Lanes:	1	Number of Lanes:	1	
			177	Total
PM Peak		PM Peak	114	Rights
Hour Volumes:	1610	Hour Volumes:	100%	RT Discount

Warrant Used:

<u> </u>	100 percent of standard warrants used
<u> X </u>	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)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
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
<u>WARRANT 1, CONDITION B</u>					
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	16,100	6,200	
Minor Street*	630	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	16,100	9,300	
Minor Street*	630	950	No
<i>Combination Warrant (Not met until after adequate trial of other measures)</i>			
Major Street	16,100	7,440	
Minor Street*	630	1,480	No

* Minor street right-turning traffic volumes reduced by 100%.



Preliminary Traffic Signal Warrant Analysis

Project: 21129 - Camas Heights
 Date: 10/25/2021
 Scenario: 2023 Background PM Peak Hour

Major Street:	NE Goodwin/NE 28th Street	Minor Street:	NE Ingle Road	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	1282	PM Peak Hour Volumes:	492	Total Rights RT Discount
			242	
			100%	

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)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
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
<u>WARRANT 1, CONDITION B</u>					
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	12,820	6,200	
Minor Street*	2,500	1,850	Yes
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	12,820	9,300	
Minor Street*	2,500	950	Yes
<i>Combination Warrant (Not met until after adequate trial of other measures)</i>			
Major Street	12,820	7,440	
Minor Street*	2,500	1,480	Yes

* Minor street right-turning traffic volumes reduced by 100%.



Preliminary Traffic Signal Warrant Analysis

Project: 21129 - Camas Heights
 Date: 10/25/2021
 Scenario: 2023 Buildout PM Peak Hour

Major Street:	NE Goodwin/NE 28th Street	Minor Street:	NE Ingle Road	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	1345	PM Peak Hour Volumes:	505	Total Rights RT Discount
			242	
			100%	

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)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
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
<u>WARRANT 1, CONDITION B</u>					
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	13,450	6,200	
Minor Street*	2,630	1,850	Yes
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	13,450	9,300	
Minor Street*	2,630	950	Yes
<i>Combination Warrant (Not met until after adequate trial of other measures)</i>			
Major Street	13,450	7,440	
Minor Street*	2,630	1,480	Yes

* Minor street right-turning traffic volumes reduced by 100%.



Preliminary Traffic Signal Warrant Analysis

Project: 21129 - Camas Heights
 Date: 10/25/2021
 Scenario: 2023 Buildout PM Peak Hour

Major Street:	NE 28th Avenue	Minor Street:	N Juniper Street	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	1016	PM Peak Hour Volumes:	76 58	Total Rights RT Discount
			50%	

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)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
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
<u>WARRANT 1, CONDITION B</u>					
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	10,160	6,200	
Minor Street*	470	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	10,160	9,300	
Minor Street*	470	950	No
<i>Combination Warrant (Not met until after adequate trial of other measures)</i>			
Major Street	10,160	7,440	
Minor Street*	470	1,480	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: 21129 - Camas Heights
 Date: 10/25/2021
 Scenario: 2023 Buildout PM Peak Hour

Major Street:	NE 28th Street	Minor Street:	Site Access	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	946	PM Peak Hour Volumes:	30	Total Rights RT Discount
			15	
			50%	

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)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
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
<u>WARRANT 1, CONDITION B</u>					
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	9,460	6,200	
Minor Street*	230	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	9,460	9,300	
Minor Street*	230	950	No
<i>Combination Warrant (Not met until after adequate trial of other measures)</i>			
Major Street	9,460	7,440	
Minor Street*	230	1,480	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: 21129 - Camas Heights
 Date: 10/25/2021
 Scenario: 2023 Buildout PM Peak Hour

Major Street:	NE 28th Street	Minor Street:	NE 232nd Avenue	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	824	PM Peak Hour Volumes:	166	Total Rights RT Discount
			9	
			50%	

Warrant Used:

<u> </u>	100 percent of standard warrants used
<u> X </u>	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)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
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
<u>WARRANT 1, CONDITION B</u>					
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	8,240	6,200	
Minor Street*	1,620	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	8,240	9,300	
Minor Street*	1,620	950	No
<i>Combination Warrant (Not met until after adequate trial of other measures)</i>			
Major Street	8,240	7,440	
Minor Street*	1,620	1,480	Yes

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: 21129 - Camas Heights
 Date: 10/25/2021
 Scenario: 2023 Buildout PM Peak Hour

Major Street:	NE/SE Everett Street	Minor Street:	NE Leadbetter Street	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	558	PM Peak Hour Volumes:	118	Total Rights RT Discount
			112	
			50%	

Warrant Used:
 X 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)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
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
<u>WARRANT 1, CONDITION B</u>					
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	5,580	8,850	
Minor Street*	620	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	5,580	13,300	
Minor Street*	620	1,350	No
<i>Combination Warrant (Not met until after adequate trial of other measures)</i>			
Major Street	5,580	10,640	
Minor Street*	620	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.

Appendix D - Operations

LOS Definitions

Synchro Reports





Level of Service Definitions

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 (LOS)	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 (LOS)	Control Delay per Vehicle (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

HCM 6th TWSC
 1: NE 199th Ave & NE 58th St

10/18/2021

Intersection						
Int Delay, s/veh	5.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	142	379	21	179	207	5
Future Vol, veh/h	142	379	21	179	207	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	9	9	5	5	7	7
Mvmt Flow	163	436	24	206	238	6











Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	599	0	635 381
Stage 1	-	-	-	-	381 -
Stage 2	-	-	-	-	254 -
Critical Hdwy	-	-	4.15	-	6.47 6.27
Critical Hdwy Stg 1	-	-	-	-	5.47 -
Critical Hdwy Stg 2	-	-	-	-	5.47 -
Follow-up Hdwy	-	-	2.245	-	3.563 3.363
Pot Cap-1 Maneuver	-	-	963	-	435 655
Stage 1	-	-	-	-	680 -
Stage 2	-	-	-	-	777 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	963	-	423 655
Mov Cap-2 Maneuver	-	-	-	-	423 -
Stage 1	-	-	-	-	680 -
Stage 2	-	-	-	-	755 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	24.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	427	-	-	963	-
HCM Lane V/C Ratio	0.571	-	-	0.025	-
HCM Control Delay (s)	24.1	-	-	8.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	3.5	-	-	0.1	-











HCM Signalized Intersection Capacity Analysis
 2: NE 192nd Ave & NE 13th Ave

10/18/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	242	181	263	144	384	302
Future Volume (vph)	242	181	263	144	384	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00		1.00		1.00	1.00
Frt	0.94		0.95		1.00	1.00
Flt Protected	0.97		1.00		0.95	1.00
Satd. Flow (prot)	1706		1691		1687	1776
Flt Permitted	0.97		1.00		0.14	1.00
Satd. Flow (perm)	1706		1691		254	1776
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	281	210	306	167	447	351
RTOR Reduction (vph)	23	0	16	0	0	0
Lane Group Flow (vph)	468	0	457	0	447	351
Heavy Vehicles (%)	2%	2%	7%	7%	7%	7%
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Actuated Green, G (s)	33.6		32.3		63.4	63.4
Effective Green, g (s)	34.1		32.8		63.9	63.9
Actuated g/C Ratio	0.32		0.31		0.60	0.60
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	548		523		519	1070
v/s Ratio Prot	c0.27		0.27		c0.22	0.20
v/s Ratio Perm					c0.30	
v/c Ratio	0.85		0.87		0.86	0.33
Uniform Delay, d1	33.6		34.6		25.7	10.4
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	12.3		15.0		13.7	0.2
Delay (s)	45.9		49.6		39.4	10.6
Level of Service	D		D		D	B
Approach Delay (s)	45.9		49.6			26.7
Approach LOS	D		D			C
Intersection Summary						
HCM 2000 Control Delay			38.2		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.88			
Actuated Cycle Length (s)			106.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			78.4%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Summary
 2: NE 192nd Ave & NE 13th Ave

10/18/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	242	181	263	144	384	302
Future Volume (veh/h)	242	181	263	144	384	302
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1796	1796	1796	1796
Adj Flow Rate, veh/h	281	175	306	144	447	351
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	7	7	7	7
Cap, veh/h	323	201	364	171	520	1043
Arrive On Green	0.31	0.30	0.31	0.31	0.21	0.58
Sat Flow, veh/h	1046	651	1155	543	1711	1796
Grp Volume(v), veh/h	457	0	0	450	447	351
Grp Sat Flow(s),veh/h/ln	1701	0	0	1698	1711	1796
Q Serve(g_s), s	18.4	0.0	0.0	17.9	11.5	7.4
Cycle Q Clear(g_c), s	18.4	0.0	0.0	17.9	11.5	7.4
Prop In Lane	0.61	0.38		0.32	1.00	
Lane Grp Cap(c), veh/h	526	0	0	535	520	1043
V/C Ratio(X)	0.87	0.00	0.00	0.84	0.86	0.34
Avail Cap(c_a), veh/h	962	0	0	843	892	1759
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	0.0	23.2	13.7	7.9
Incr Delay (d2), s/veh	4.6	0.0	0.0	4.5	4.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	0.0	0.0	7.1	4.0	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.3	0.0	0.0	27.7	18.0	8.1
LnGrp LOS	C	A	A	C	B	A
Approach Vol, veh/h	457		450			798
Approach Delay, s/veh	28.3		27.7			13.7
Approach LOS	C		C			B
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	19.2	26.8			46.1	26.4
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	30.5	35.5			70.5	40.5
Max Q Clear Time (g_c+I1), s	13.5	19.9			9.4	20.4
Green Ext Time (p_c), s	1.3	2.4			2.2	1.5

Intersection Summary





















HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM Signalized Intersection Capacity Analysis
 3: NW Friberg-Strunk St/NE 202nd Ave & NE 13th Ave/NE Goodwin Rd

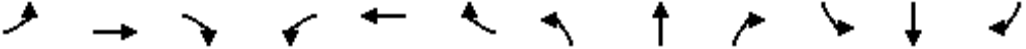
10/18/2021

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	2	204	298	235	352	6	78	4	115	2	6	2	
Future Volume (vph)	2	204	298	235	352	6	78	4	115	2	6	2	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0	4.0	4.0	4.0			4.0	4.0		4.0		
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00		
Frbp, ped/bikes		1.00	0.98	1.00	1.00			1.00	1.00		1.00		
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00		
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.97		
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.99		
Satd. Flow (prot)		1791	1491	1719	1804			1679	1495		1645		
Flt Permitted		0.99	1.00	0.95	1.00			0.95	1.00		0.54		
Satd. Flow (perm)		1783	1491	1719	1804			1679	1495		897		
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	
Adj. Flow (vph)	3	258	377	297	446	8	99	5	146	3	8	3	
RTOR Reduction (vph)	0	0	277	0	0	0	0	0	122	0	3	0	
Lane Group Flow (vph)	0	261	100	297	454	0	0	104	24	0	11	0	
Confl. Peds. (#/hr)	1					1							
Confl. Bikes (#/hr)			1										
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	8%	8%	8%	11%	11%	11%	
Turn Type	Perm	NA	Perm	Prot	NA		Split	NA	Prot	Perm	NA		
Protected Phases		2		1	6		8	8	8		4		
Permitted Phases	2		2							4			
Actuated Green, G (s)		18.0	18.0	18.6	41.1			11.2	11.2		4.0		
Effective Green, g (s)		18.5	18.5	19.1	41.6			11.7	11.7		4.5		
Actuated g/C Ratio		0.27	0.27	0.27	0.60			0.17	0.17		0.06		
Clearance Time (s)		4.5	4.5	4.5	4.5			4.5	4.5		4.5		
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)		472	395	470	1075			281	250		57		
v/s Ratio Prot				c0.17	0.25			c0.06	0.02				
v/s Ratio Perm		c0.15	0.07								c0.01		
v/c Ratio		0.55	0.25	0.63	0.42			0.37	0.10		0.20		
Uniform Delay, d1		22.1	20.2	22.3	7.6			25.8	24.6		30.9		
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00		
Incremental Delay, d2		1.4	0.3	2.8	0.3			0.8	0.2		1.7		
Delay (s)		23.5	20.5	25.0	7.9			26.6	24.8		32.6		
Level of Service		C	C	C	A			C	C		C		
Approach Delay (s)		21.8			14.7			25.5			32.6		
Approach LOS		C			B			C			C		
Intersection Summary													
HCM 2000 Control Delay			19.2									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.52										
Actuated Cycle Length (s)			69.8									Sum of lost time (s)	16.5
Intersection Capacity Utilization			51.5%									ICU Level of Service	A
Analysis Period (min)			15										
c	Critical Lane Group												

HCM 6th Signalized Intersection Summary

3: NW Friberg-Strunk St/NE 202nd Ave & NE 13th Ave/NE Goodwin Rd

10/18/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗			↖	↗		↕	
Traffic Volume (veh/h)	2	204	298	235	352	6	78	4	115	2	6	2
Future Volume (veh/h)	2	204	298	235	352	6	78	4	115	2	6	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1826	1826	1826	1781	1781	1781	1737	1737	1737
Adj Flow Rate, veh/h	3	258	187	297	446	8	99	5	76	3	8	3
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	6	6	6	5	5	5	8	8	8	11	11	11
Cap, veh/h	87	447	372	398	1021	18	192	10	179	11	28	11
Arrive On Green	0.24	0.25	0.25	0.23	0.57	0.56	0.11	0.12	0.12	0.02	0.03	0.02
Sat Flow, veh/h	6	1800	1499	1739	1788	32	1619	82	1510	355	946	355
Grp Volume(v), veh/h	261	0	187	297	0	454	104	0	76	14	0	0
Grp Sat Flow(s),veh/h/ln	1805	0	1499	1739	0	1820	1701	0	1510	1655	0	0
Q Serve(g_s), s	0.0	0.0	4.6	6.8	0.0	6.1	2.5	0.0	2.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	5.5	0.0	4.6	6.8	0.0	6.1	2.5	0.0	2.0	0.4	0.0	0.0
Prop In Lane	0.01		1.00	1.00		0.02	0.95		1.00	0.21		0.21
Lane Grp Cap(c), veh/h	513	0	372	398	0	1040	201	0	179	49	0	0
V/C Ratio(X)	0.51	0.00	0.50	0.75	0.00	0.44	0.52	0.00	0.43	0.29	0.00	0.00
Avail Cap(c_a), veh/h	1157	0	912	1058	0	2385	1035	0	919	1007	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.1	0.0	13.8	15.3	0.0	5.2	17.9	0.0	17.5	20.4	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	1.0	2.8	0.0	0.3	2.0	0.0	1.6	3.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	1.3	2.5	0.0	1.3	0.9	0.0	0.6	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.9	0.0	14.8	18.1	0.0	5.5	20.0	0.0	19.1	23.5	0.0	0.0
LnGrp LOS	B	A	B	B	A	A	B	A	B	C	A	A
Approach Vol, veh/h		448			751			180				14
Approach Delay, s/veh		14.9			10.5			19.6				23.5
Approach LOS		B			B			B				C
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.8	14.6		5.3		28.4		9.1				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	25.5	25.5		25.5		55.5		25.5				
Max Q Clear Time (g_c+I1), s	8.8	7.5		2.4		8.1		4.5				
Green Ext Time (p_c), s	0.8	2.0		0.0		3.1		0.7				

Intersection Summary

HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th TWSC
 4: NE Camas Meadows Dr & NE Goodwin Rd

10/18/2021

Intersection						
Int Delay, s/veh	1.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	277	36	102	576	19	55
Future Vol, veh/h	277	36	102	576	19	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	50	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	9	4	4	2	2
Mvmt Flow	292	38	107	606	20	58

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	330	0	1112
Stage 1	-	-	-	-	292
Stage 2	-	-	-	-	820
Critical Hdwy	-	-	4.14	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.236	-	3.518
Pot Cap-1 Maneuver	-	-	1218	-	231
Stage 1	-	-	-	-	758
Stage 2	-	-	-	-	433
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1218	-	211
Mov Cap-2 Maneuver	-	-	-	-	211
Stage 1	-	-	-	-	758
Stage 2	-	-	-	-	395

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	13.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	211	747	-	-	1218	-
HCM Lane V/C Ratio	0.095	0.078	-	-	0.088	-
HCM Control Delay (s)	23.8	10.2	-	-	8.2	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.3	-	-	0.3	-

HCM 6th TWSC
 5: NE Goodwin Rd /NE 28th St & NE Ingle Rd

10/18/2021

Intersection						
Int Delay, s/veh	7.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗	↘	↘	↘
Traffic Vol, veh/h	133	186	311	109	98	346
Future Vol, veh/h	133	186	311	109	98	346
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	130	-	-	100	0	80
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	8	3	3	7	7
Mvmt Flow	140	196	327	115	103	364

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	442	0	-	0	803 327
Stage 1	-	-	-	-	327 -
Stage 2	-	-	-	-	476 -
Critical Hdwy	4.18	-	-	-	6.47 6.27
Critical Hdwy Stg 1	-	-	-	-	5.47 -
Critical Hdwy Stg 2	-	-	-	-	5.47 -
Follow-up Hdwy	2.272	-	-	-	3.563 3.363
Pot Cap-1 Maneuver	1087	-	-	-	346 703
Stage 1	-	-	-	-	720 -
Stage 2	-	-	-	-	615 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1087	-	-	-	301 703
Mov Cap-2 Maneuver	-	-	-	-	301 -
Stage 1	-	-	-	-	627 -
Stage 2	-	-	-	-	615 -

Approach	EB	WB	SB
HCM Control Delay, s	3.7	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1087	-	-	-	301	703
HCM Lane V/C Ratio	0.129	-	-	-	0.343	0.518
HCM Control Delay (s)	8.8	-	-	-	23.1	15.5
HCM Lane LOS	A	-	-	-	C	C
HCM 95th %tile Q(veh)	0.4	-	-	-	1.5	3

HCM 6th TWSC
6: NE 28th St & N Juniper St

10/18/2021

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	215	363	5	14	32
Future Vol, veh/h	11	215	363	5	14	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	1	1
Mvmt Flow	13	250	422	6	16	37

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	428	0	-	0	701 425
Stage 1	-	-	-	-	425 -
Stage 2	-	-	-	-	276 -
Critical Hdwy	4.13	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.227	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1126	-	-	-	406 631
Stage 1	-	-	-	-	662 -
Stage 2	-	-	-	-	773 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1126	-	-	-	401 631
Mov Cap-2 Maneuver	-	-	-	-	503 -
Stage 1	-	-	-	-	654 -
Stage 2	-	-	-	-	773 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1126	-	-	-	586
HCM Lane V/C Ratio	0.011	-	-	-	0.091
HCM Control Delay (s)	8.2	-	-	-	11.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

HCM 6th TWSC
 8: NE 232nd Ave & NE 28th St/NE 28th

10/18/2021

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	1	117	111	62	273	0	94	0	29	0	1	1
Future Vol, veh/h	1	117	111	62	273	0	94	0	29	0	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3	5	5	5	0	0	0
Mvmt Flow	1	139	132	74	325	0	112	0	35	0	1	1
Major/Minor	Major1	Major2			Minor1			Minor2				
Conflicting Flow All	325	0	0	271	0	0	681	680	205	698	746	325
Stage 1	-	-	-	-	-	-	207	207	-	473	473	-
Stage 2	-	-	-	-	-	-	474	473	-	225	273	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.15	6.55	6.25	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.1	5.5	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.545	4.045	3.345	3.5	4	3.3
Pot Cap-1 Maneuver	1229	-	-	1287	-	-	360	369	828	358	344	721
Stage 1	-	-	-	-	-	-	788	725	-	576	562	-
Stage 2	-	-	-	-	-	-	566	553	-	782	688	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1229	-	-	1287	-	-	339	343	828	324	320	721
Mov Cap-2 Maneuver	-	-	-	-	-	-	339	343	-	324	320	-
Stage 1	-	-	-	-	-	-	787	724	-	575	523	-
Stage 2	-	-	-	-	-	-	524	514	-	749	687	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1.5			19.4			13.2		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	394	1229	-	-	1287	-	-	443				
HCM Lane V/C Ratio	0.372	0.001	-	-	0.057	-	-	0.005				
HCM Control Delay (s)	19.4	7.9	0	-	8	0	-	13.2				
HCM Lane LOS	C	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	1.7	0	-	-	0.2	-	-	0				

HCM 6th TWSC
 9: SE Everett St & SE Leadbetter Rd

10/18/2021

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	41	132	80	337	400	16
Future Vol, veh/h	41	132	80	337	400	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	115	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	7	7	2	2	3	3
Mvmt Flow	45	145	88	370	440	18

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	995	449	458	0	-	0
Stage 1	449	-	-	-	-	-
Stage 2	546	-	-	-	-	-
Critical Hdwy	6.47	6.27	4.12	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.363	2.218	-	-	-
Pot Cap-1 Maneuver	266	600	1103	-	-	-
Stage 1	633	-	-	-	-	-
Stage 2	571	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	245	600	1103	-	-	-
Mov Cap-2 Maneuver	245	-	-	-	-	-
Stage 1	582	-	-	-	-	-
Stage 2	571	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.9	1.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1103	-	447	-	-
HCM Lane V/C Ratio	0.08	-	0.425	-	-
HCM Control Delay (s)	8.5	-	18.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	2.1	-	-

HCM 6th TWSC
1: NE 199th Ave & NE 58th St

10/18/2021

Intersection						
Int Delay, s/veh	7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	258	270	12	189	244	14
Future Vol, veh/h	258	270	12	189	244	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	1	1	3	3	3	3
Mvmt Flow	274	287	13	201	260	15











Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	561	0	645 418
Stage 1	-	-	-	-	418 -
Stage 2	-	-	-	-	227 -
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	-	-	1005	-	435 633
Stage 1	-	-	-	-	662 -
Stage 2	-	-	-	-	808 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1005	-	428 633
Mov Cap-2 Maneuver	-	-	-	-	428 -
Stage 1	-	-	-	-	662 -
Stage 2	-	-	-	-	796 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	26.3
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	436	-	-	1005	-
HCM Lane V/C Ratio	0.63	-	-	0.013	-
HCM Control Delay (s)	26.3	-	-	8.6	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	4.2	-	-	0	-

HCM Signalized Intersection Capacity Analysis
 2: NE 192nd Ave & NE 13th Ave

10/18/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	186	251	598	176	215	457
Future Volume (vph)	186	251	598	176	215	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00		1.00		1.00	1.00
Frt	0.92		0.97		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1716		1823		1805	1900
Flt Permitted	0.98		1.00		0.07	1.00
Satd. Flow (perm)	1716		1823		131	1900
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	200	270	643	189	231	491
RTOR Reduction (vph)	41	0	9	0	0	0
Lane Group Flow (vph)	429	0	823	0	231	491
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Actuated Green, G (s)	30.4		53.5		70.7	70.7
Effective Green, g (s)	30.9		54.0		71.2	71.2
Actuated g/C Ratio	0.28		0.49		0.65	0.65
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	481		894		285	1228
v/s Ratio Prot	c0.25		c0.45		c0.10	0.26
v/s Ratio Perm					0.43	
v/c Ratio	0.89		0.92		0.81	0.40
Uniform Delay, d1	38.0		26.1		32.3	9.3
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	18.4		14.5		15.9	0.2
Delay (s)	56.4		40.5		48.1	9.5
Level of Service	E		D		D	A
Approach Delay (s)	56.4		40.5			21.9
Approach LOS	E		D			C
Intersection Summary						
HCM 2000 Control Delay			37.6		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.90			
Actuated Cycle Length (s)			110.1		Sum of lost time (s)	12.0
Intersection Capacity Utilization			89.8%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Summary
 2: NE 192nd Ave & NE 13th Ave

10/18/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	186	251	598	176	215	457
Future Volume (veh/h)	186	251	598	176	215	457
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1885	1885	1900	1900
Adj Flow Rate, veh/h	200	227	643	178	231	491
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	1	1	0	0
Cap, veh/h	223	253	713	197	297	1202
Arrive On Green	0.28	0.28	0.50	0.50	0.09	0.63
Sat Flow, veh/h	794	901	1421	393	1810	1900
Grp Volume(v), veh/h	428	0	0	821	231	491
Grp Sat Flow(s),veh/h/ln	1698	0	0	1814	1810	1900
Q Serve(g_s), s	22.4	0.0	0.0	38.0	5.3	11.8
Cycle Q Clear(g_c), s	22.4	0.0	0.0	38.0	5.3	11.8
Prop In Lane	0.47	0.53		0.22	1.00	
Lane Grp Cap(c), veh/h	477	0	0	910	297	1202
V/C Ratio(X)	0.90	0.00	0.00	0.90	0.78	0.41
Avail Cap(c_a), veh/h	626	0	0	1180	413	1606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.0	0.0	0.0	21.0	19.6	8.4
Incr Delay (d2), s/veh	13.0	0.0	0.0	8.1	6.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	0.0	0.0	16.2	2.8	4.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.0	0.0	0.0	29.0	25.7	8.6
LnGrp LOS	D	A	A	C	C	A
Approach Vol, veh/h	428		821			722
Approach Delay, s/veh	45.0		29.0			14.1
Approach LOS	D		C			B
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.1	50.3			62.4	29.9
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	13.5	59.5			77.5	33.5
Max Q Clear Time (g_c+I1), s	7.3	40.0			13.8	24.4
Green Ext Time (p_c), s	0.3	5.8			3.2	1.0

Intersection Summary

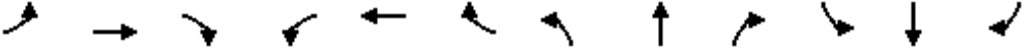
HCM 6th Ctrl Delay			27.0			
HCM 6th LOS			C			

Notes

User approved volume balancing among the lanes for turning movement.

HCM Signalized Intersection Capacity Analysis
 3: NW Friberg-Strunk St/NE 202nd Ave & NE 13th Ave/NE Goodwin Rd

10/18/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗			↖	↗		↕	
Traffic Volume (vph)	4	276	77	121	294	1	115	2	272	3	4	2
Future Volume (vph)	4	276	77	121	294	1	115	2	272	3	4	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frbp, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.96		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.97	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)		1880	1561	1805	1899			1793	1542		1813	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.95	
Satd. Flow (perm)		1872	1561	1805	1899			1793	1542		1755	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	4	294	82	129	313	1	122	2	289	3	4	2
RTOR Reduction (vph)	0	0	57	0	0	0	0	0	229	0	2	0
Lane Group Flow (vph)	0	298	25	129	314	0	0	124	60	0	7	0
Confl. Peds. (#/hr)	2					2						
Confl. Bikes (#/hr)			3			4			9			
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases		2		1	6		8	8			4	
Permitted Phases	2		2						8	4		
Actuated Green, G (s)		17.4	17.4	8.6	30.5			11.6	11.6		2.3	
Effective Green, g (s)		17.9	17.9	9.1	31.0			12.1	12.1		2.8	
Actuated g/C Ratio		0.31	0.31	0.16	0.54			0.21	0.21		0.05	
Clearance Time (s)		4.5	4.5	4.5	4.5			4.5	4.5		4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		578	482	283	1016			374	322		84	
v/s Ratio Prot				c0.07	0.17			c0.07				
v/s Ratio Perm		c0.16	0.02						0.04		c0.00	
v/c Ratio		0.52	0.05	0.46	0.31			0.33	0.19		0.08	
Uniform Delay, d1		16.4	14.0	22.2	7.5			19.5	18.9		26.3	
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.8	0.0	1.2	0.2			0.5	0.3		0.4	
Delay (s)		17.2	14.1	23.3	7.7			20.0	19.1		26.8	
Level of Service		B	B	C	A			B	B		C	
Approach Delay (s)		16.5			12.2			19.4			26.8	
Approach LOS		B			B			B			C	

Intersection Summary		
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.42	B
Actuated Cycle Length (s)	57.9	Sum of lost time (s)
Intersection Capacity Utilization	53.5%	16.5
Analysis Period (min)	15	ICU Level of Service
		A
c Critical Lane Group		

HCM 6th Signalized Intersection Summary

3: NW Friberg-Strunk St/NE 202nd Ave & NE 13th Ave/NE Goodwin Rd

10/18/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗			↖	↗		↕	
Traffic Volume (veh/h)	4	276	77	121	294	1	115	2	272	3	4	2
Future Volume (veh/h)	4	276	77	121	294	1	115	2	272	3	4	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	4	294	39	129	313	1	122	2	145	3	4	2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	0	0	0
Cap, veh/h	97	521	433	199	932	3	302	5	262	15	20	10
Arrive On Green	0.27	0.28	0.28	0.11	0.49	0.48	0.16	0.17	0.17	0.01	0.02	0.01
Sat Flow, veh/h	7	1873	1554	1810	1893	6	1768	29	1534	599	799	400
Grp Volume(v), veh/h	298	0	39	129	0	314	124	0	145	9	0	0
Grp Sat Flow(s),veh/h/ln	1880	0	1554	1810	0	1899	1797	0	1534	1798	0	0
Q Serve(g_s), s	0.0	0.0	0.7	2.6	0.0	3.9	2.4	0.0	3.3	0.2	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	0.7	2.6	0.0	3.9	2.4	0.0	3.3	0.2	0.0	0.0
Prop In Lane	0.01		1.00	1.00		0.00	0.98		1.00	0.33		0.22
Lane Grp Cap(c), veh/h	594	0	433	199	0	935	307	0	262	45	0	0
V/C Ratio(X)	0.50	0.00	0.09	0.65	0.00	0.34	0.40	0.00	0.55	0.20	0.00	0.00
Avail Cap(c_a), veh/h	2207	0	1776	987	0	3404	1400	0	1196	420	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.9	0.0	10.3	16.4	0.0	5.9	14.4	0.0	14.6	18.5	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.1	3.5	0.0	0.2	0.9	0.0	1.8	2.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.2	1.1	0.0	0.9	0.8	0.0	1.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	0.0	10.4	19.9	0.0	6.1	15.3	0.0	16.4	20.7	0.0	0.0
LnGrp LOS	B	A	B	B	A	A	B	A	B	C	A	A
Approach Vol, veh/h		337			443			269				9
Approach Delay, s/veh		12.3			10.2			15.9				20.7
Approach LOS		B			B			B				C
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.2	14.7		5.0		23.0		10.6				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	20.5	43.5		8.5		68.5		29.5				
Max Q Clear Time (g_c+I1), s	4.6	7.3		2.2		5.9		5.3				
Green Ext Time (p_c), s	0.3	2.0		0.0		2.0		1.1				

Intersection Summary

HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved changes to right turn type.

HCM 6th TWSC
 4: NE Camas Meadows Dr & NE Goodwin Rd

10/18/2021

Intersection						
Int Delay, s/veh	3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	517	33	71	352	61	89
Future Vol, veh/h	517	33	71	352	61	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	50	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	544	35	75	371	64	94

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	579	0	1065	544
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	521	-
Critical Hdwy	-	-	4.1	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.2	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1005	-	248	541
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	598	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1005	-	229	541
Mov Cap-2 Maneuver	-	-	-	-	229	-
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	553	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	18.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	229	541	-	-	1005	-
HCM Lane V/C Ratio	0.28	0.173	-	-	0.074	-
HCM Control Delay (s)	26.7	13	-	-	8.9	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	1.1	0.6	-	-	0.2	-

HCM 6th TWSC
 5: NE Goodwin Rd /NE 28th St & NE Ingle Rd

10/18/2021

Intersection

Int Delay, s/veh 8.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗	↘	↘	↘
Traffic Vol, veh/h	248	329	228	71	111	188
Future Vol, veh/h	248	329	228	71	111	188
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	130	-	-	100	0	80
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	261	346	240	75	117	198

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	315	0	0
Stage 1	-	-	240
Stage 2	-	-	868
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1257	-	234
Stage 1	-	-	805
Stage 2	-	-	414
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1257	-	185
Mov Cap-2 Maneuver	-	-	185
Stage 1	-	-	638
Stage 2	-	-	414

Approach	EB	WB	SB
HCM Control Delay, s	3.7	0	26.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1257	-	-	-	185	804
HCM Lane V/C Ratio	0.208	-	-	-	0.632	0.246
HCM Control Delay (s)	8.6	-	-	-	52.9	10.9
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.8	-	-	-	3.6	1

HCM 6th TWSC
6: NE 28th St & N Juniper St

10/18/2021

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	367	273	15	9	21
Future Vol, veh/h	35	367	273	15	9	21
Conflicting Peds, #/hr	0	0	0	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	39	408	303	17	10	23

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	320	0	-	0	800 312
Stage 1	-	-	-	-	312 -
Stage 2	-	-	-	-	488 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1246	-	-	-	356 731
Stage 1	-	-	-	-	744 -
Stage 2	-	-	-	-	619 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1246	-	-	-	345 731
Mov Cap-2 Maneuver	-	-	-	-	460 -
Stage 1	-	-	-	-	721 -
Stage 2	-	-	-	-	619 -

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1246	-	-	-	621
HCM Lane V/C Ratio	0.031	-	-	-	0.054
HCM Control Delay (s)	8	-	-	-	11.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

HCM 6th TWSC
 8: NE 232nd Ave & NE 28th St/NE 28th

10/18/2021

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	299	73	14	214	1	68	0	9	0	0	6
Future Vol, veh/h	4	299	73	14	214	1	68	0	9	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	311	76	15	223	1	71	0	9	0	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	224	0	0	387	0	0	614	611	351	618	649	224
Stage 1	-	-	-	-	-	-	357	357	-	254	254	-
Stage 2	-	-	-	-	-	-	257	254	-	364	395	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1351	-	-	1183	-	-	407	411	697	404	391	820
Stage 1	-	-	-	-	-	-	665	632	-	755	701	-
Stage 2	-	-	-	-	-	-	752	701	-	659	608	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1351	-	-	1183	-	-	398	404	696	392	384	820
Mov Cap-2 Maneuver	-	-	-	-	-	-	398	404	-	392	384	-
Stage 1	-	-	-	-	-	-	662	629	-	752	691	-
Stage 2	-	-	-	-	-	-	736	691	-	646	606	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.5			15.6			9.4		
HCM LOS							C			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	419	1351	-	-	1183	-	-	820
HCM Lane V/C Ratio	0.191	0.003	-	-	0.012	-	-	0.008
HCM Control Delay (s)	15.6	7.7	0	-	8.1	0	-	9.4
HCM Lane LOS	C	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.7	0	-	-	0	-	-	0

HCM 6th TWSC
 9: SE Everett St & SE Leadbetter Rd

10/18/2021

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	90	69	216	199	3
Future Vol, veh/h	6	90	69	216	199	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	115	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	1	1	1
Mvmt Flow	7	98	75	235	216	3

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	603	218	219	0	0
Stage 1	218	-	-	-	-
Stage 2	385	-	-	-	-
Critical Hdwy	6.4	6.2	4.11	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.209	-	-
Pot Cap-1 Maneuver	465	827	1356	-	-
Stage 1	823	-	-	-	-
Stage 2	692	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	439	827	1356	-	-
Mov Cap-2 Maneuver	439	-	-	-	-
Stage 1	778	-	-	-	-
Stage 2	692	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	1.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1356	-	784	-	-
HCM Lane V/C Ratio	0.055	-	0.133	-	-
HCM Control Delay (s)	7.8	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-

HCM 6th TWSC
 1: NE 199th Ave & NE 58th St

10/25/2021

Intersection						
Int Delay, s/veh	25.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	153	449	27	193	329	7
Future Vol, veh/h	153	449	27	193	329	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	9	9	5	5	7	7
Mvmt Flow	176	516	31	222	378	8

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	692	0	718 434
Stage 1	-	-	-	-	434 -
Stage 2	-	-	-	-	284 -
Critical Hdwy	-	-	4.15	-	6.47 6.27
Critical Hdwy Stg 1	-	-	-	-	5.47 -
Critical Hdwy Stg 2	-	-	-	-	5.47 -
Follow-up Hdwy	-	-	2.245	-	3.563 3.363
Pot Cap-1 Maneuver	-	-	889	-	388 611
Stage 1	-	-	-	-	643 -
Stage 2	-	-	-	-	753 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	889	-	~ 372 611
Mov Cap-2 Maneuver	-	-	-	-	~ 372 -
Stage 1	-	-	-	-	643 -
Stage 2	-	-	-	-	723 -











Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	88.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	375	-	-	889	-
HCM Lane V/C Ratio	1.03	-	-	0.035	-
HCM Control Delay (s)	88.4	-	-	9.2	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	12.8	-	-	0.1	-

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

HCM Signalized Intersection Capacity Analysis
 2: NE 192nd Ave & NE 13th Ave

10/25/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	376	285	284	194	445	326
Future Volume (vph)	376	285	284	194	445	326
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00		1.00		1.00	1.00
Frt	0.94		0.95		1.00	1.00
Flt Protected	0.97		1.00		0.95	1.00
Satd. Flow (prot)	1706		1678		1687	1776
Flt Permitted	0.97		1.00		0.10	1.00
Satd. Flow (perm)	1706		1678		178	1776
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	437	331	330	226	517	379
RTOR Reduction (vph)	23	0	20	0	0	0
Lane Group Flow (vph)	745	0	536	0	517	379
Heavy Vehicles (%)	2%	2%	7%	7%	7%	7%
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Actuated Green, G (s)	40.5		35.5		70.5	70.5
Effective Green, g (s)	41.0		36.0		71.0	71.0
Actuated g/C Ratio	0.34		0.30		0.59	0.59
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	582		503		495	1050
v/s Ratio Prot	c0.44		0.32		c0.27	0.21
v/s Ratio Perm					c0.35	
v/c Ratio	1.28		1.07		1.04	0.36
Uniform Delay, d1	39.5		42.0		36.5	12.7
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	138.8		58.5		52.5	0.2
Delay (s)	178.3		100.5		89.1	12.9
Level of Service	F		F		F	B
Approach Delay (s)	178.3		100.5			56.9
Approach LOS	F		F			E
Intersection Summary						
HCM 2000 Control Delay			109.8		HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.16			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			99.7%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Summary
 2: NE 192nd Ave & NE 13th Ave

10/25/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	376	285	284	194	445	326
Future Volume (veh/h)	376	285	284	194	445	326
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1796	1796	1796	1796
Adj Flow Rate, veh/h	437	296	330	203	517	379
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	7	7	7	7
Cap, veh/h	345	234	312	192	502	1063
Arrive On Green	0.34	0.34	0.30	0.30	0.26	0.59
Sat Flow, veh/h	1010	684	1041	640	1711	1796
Grp Volume(v), veh/h	734	0	0	533	517	379
Grp Sat Flow(s),veh/h/ln	1697	0	0	1681	1711	1796
Q Serve(g_s), s	41.0	0.0	0.0	36.0	31.0	13.1
Cycle Q Clear(g_c), s	41.0	0.0	0.0	36.0	31.0	13.1
Prop In Lane	0.60	0.40		0.38	1.00	
Lane Grp Cap(c), veh/h	580	0	0	504	502	1063
V/C Ratio(X)	1.27	0.00	0.00	1.06	1.03	0.36
Avail Cap(c_a), veh/h	580	0	0	504	502	1063
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	0.0	0.0	42.1	36.6	12.7
Incr Delay (d2), s/veh	133.1	0.0	0.0	55.9	48.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	38.2	0.0	0.0	22.2	16.2	5.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	172.7	0.0	0.0	98.0	84.6	12.9
LnGrp LOS	F	A	A	F	F	B
Approach Vol, veh/h	734		533			896
Approach Delay, s/veh	172.7		98.0			54.3
Approach LOS	F		F			D
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	35.0	40.0			75.0	45.0
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	30.5	35.5			70.5	40.5
Max Q Clear Time (g_c+I1), s	33.0	38.0			15.1	43.0
Green Ext Time (p_c), s	0.0	0.0			2.4	0.0

Intersection Summary





















HCM 6th Ctrl Delay	105.2
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

HCM Signalized Intersection Capacity Analysis
 3: NW Friberg-Strunk St/NE 202nd Ave & NE 13th Ave/NE Goodwin Rd

10/25/2021

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	2	287	322	359	586	6	84	4	161	2	6	2		
Future Volume (vph)	2	287	322	359	586	6	84	4	161	2	6	2		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		4.0	4.0	4.0	4.0			4.0	4.0		4.0			
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00			
Frbp, ped/bikes		1.00	0.98	1.00	1.00			1.00	1.00		1.00			
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00			
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.97			
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.99			
Satd. Flow (prot)		1792	1491	1719	1806			1679	1495		1645			
Flt Permitted		0.99	1.00	0.95	1.00			0.95	1.00		0.47			
Satd. Flow (perm)		1783	1491	1719	1806			1679	1495		776			
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79		
Adj. Flow (vph)	3	363	408	454	742	8	106	5	204	3	8	3		
RTOR Reduction (vph)	0	0	212	0	0	0	0	0	176	0	3	0		
Lane Group Flow (vph)	0	366	196	454	750	0	0	111	28	0	11	0		
Confl. Peds. (#/hr)	1					1								
Confl. Bikes (#/hr)			1											
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	8%	8%	8%	11%	11%	11%		
Turn Type	Perm	NA	Perm	Prot	NA		Split	NA	Prot	Perm	NA			
Protected Phases		2		1	6		8	8	8		4			
Permitted Phases	2		2							4				
Actuated Green, G (s)		24.1	24.1	26.5	55.1			11.3	11.3		4.7			
Effective Green, g (s)		24.6	24.6	27.0	55.6			11.8	11.8		5.2			
Actuated g/C Ratio		0.29	0.29	0.32	0.66			0.14	0.14		0.06			
Clearance Time (s)		4.5	4.5	4.5	4.5			4.5	4.5		4.5			
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0	3.0		3.0			
Lane Grp Cap (vph)		518	433	548	1186			234	208		47			
v/s Ratio Prot				c0.26	0.42			c0.07	0.02					
v/s Ratio Perm		c0.21	0.13								c0.01			
v/c Ratio		0.71	0.45	0.83	0.63			0.47	0.14		0.24			
Uniform Delay, d1		26.8	24.5	26.7	8.5			33.5	31.9		37.8			
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00			
Incremental Delay, d2		4.4	0.8	10.0	1.1			1.5	0.3		2.6			
Delay (s)		31.2	25.3	36.7	9.6			35.1	32.2		40.4			
Level of Service		C	C	D	A			D	C		D			
Approach Delay (s)		28.0			19.8			33.2			40.4			
Approach LOS		C			B			C			D			
Intersection Summary														
HCM 2000 Control Delay			24.5									HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio			0.68											
Actuated Cycle Length (s)			84.6								16.5			
Intersection Capacity Utilization			68.0%										ICU Level of Service	C
Analysis Period (min)			15											
c Critical Lane Group														

HCM 6th Signalized Intersection Summary

3: NW Friberg-Strunk St/NE 202nd Ave & NE 13th Ave/NE Goodwin Rd

10/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗			↖	↗		↕	
Traffic Volume (veh/h)	2	287	322	359	586	6	84	4	161	2	6	2
Future Volume (veh/h)	2	287	322	359	586	6	84	4	161	2	6	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1826	1826	1826	1781	1781	1781	1737	1737	1737
Adj Flow Rate, veh/h	3	363	218	454	742	8	106	5	134	3	8	3
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	6	6	6	5	5	5	8	8	8	11	11	11
Cap, veh/h	61	484	403	528	1151	12	224	11	208	9	24	9
Arrive On Green	0.26	0.27	0.27	0.30	0.64	0.63	0.13	0.14	0.14	0.02	0.03	0.02
Sat Flow, veh/h	3	1802	1499	1739	1803	19	1624	77	1510	355	946	355
Grp Volume(v), veh/h	366	0	218	454	0	750	111	0	134	14	0	0
Grp Sat Flow(s),veh/h/ln	1806	0	1499	1739	0	1822	1700	0	1510	1655	0	0
Q Serve(g_s), s	0.0	0.0	7.5	14.9	0.0	15.3	3.7	0.0	5.1	0.5	0.0	0.0
Cycle Q Clear(g_c), s	11.3	0.0	7.5	14.9	0.0	15.3	3.7	0.0	5.1	0.5	0.0	0.0
Prop In Lane	0.01		1.00	1.00		0.01	0.95		1.00	0.21		0.21
Lane Grp Cap(c), veh/h	530	0	403	528	0	1163	235	0	208	42	0	0
V/C Ratio(X)	0.69	0.00	0.54	0.86	0.00	0.64	0.47	0.00	0.64	0.33	0.00	0.00
Avail Cap(c_a), veh/h	817	0	643	746	0	1684	730	0	648	710	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.3	0.0	19.0	19.9	0.0	6.7	24.3	0.0	24.7	29.1	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	1.1	7.2	0.0	0.6	1.5	0.0	3.3	4.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	2.5	6.3	0.0	4.0	1.4	0.0	1.8	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.0	0.0	20.1	27.1	0.0	7.3	25.8	0.0	28.0	33.6	0.0	0.0
LnGrp LOS	C	A	C	C	A	A	C	A	C	C	A	A
Approach Vol, veh/h		584			1204			245				14
Approach Delay, s/veh		21.3			14.8			27.0				33.6
Approach LOS		C			B			C				C
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	22.4	20.3		5.5		42.7		12.4				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	25.5	25.5		25.5		55.5		25.5				
Max Q Clear Time (g_c+I1), s	16.9	13.3		2.5		17.3		7.1				
Green Ext Time (p_c), s	1.0	2.4		0.0		6.2		0.9				

Intersection Summary

HCM 6th Ctrl Delay	18.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th TWSC
 4: NE Camas Meadows Dr & NE Goodwin Rd

10/25/2021

Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	402	39	121	932	21	63
Future Vol, veh/h	402	39	121	932	21	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	50	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	9	4	4	2	2
Mvmt Flow	423	41	127	981	22	66

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	464	0	1658	423
Stage 1	-	-	-	-	423	-
Stage 2	-	-	-	-	1235	-
Critical Hdwy	-	-	4.14	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.236	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1087	-	107	631
Stage 1	-	-	-	-	661	-
Stage 2	-	-	-	-	274	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1087	-	94	631
Mov Cap-2 Maneuver	-	-	-	-	94	-
Stage 1	-	-	-	-	661	-
Stage 2	-	-	-	-	242	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	22.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	94	631	-	-	1087	-
HCM Lane V/C Ratio	0.235	0.105	-	-	0.117	-
HCM Control Delay (s)	54.7	11.4	-	-	8.8	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	0.4	-	-	0.4	-

HCM 6th TWSC
 5: NE Goodwin Rd /NE 28th St & NE Ingle Rd

10/25/2021

Intersection

Int Delay, s/veh	37.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗	↘	↘	↘
Traffic Vol, veh/h	204	248	480	151	152	551
Future Vol, veh/h	204	248	480	151	152	551
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	130	-	-	100	0	80
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	8	3	3	7	7
Mvmt Flow	215	261	505	159	160	580

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	664	0	0
Stage 1	-	-	505
Stage 2	-	-	691
Critical Hdwy	4.18	-	6.47
Critical Hdwy Stg 1	-	-	5.47
Critical Hdwy Stg 2	-	-	5.47
Follow-up Hdwy	2.272	-	3.563
Pot Cap-1 Maneuver	897	-	201 ~ 557
Stage 1	-	-	596
Stage 2	-	-	488
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	897	-	~ 153 ~ 557
Mov Cap-2 Maneuver	-	-	~ 153
Stage 1	-	-	453
Stage 2	-	-	488

Approach	EB	WB	SB
HCM Control Delay, s	4.6	0	91.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	897	-	-	-	153	557
HCM Lane V/C Ratio	0.239	-	-	-	1.046	1.041
HCM Control Delay (s)	10.3	-	-	-	144.6	76.6
HCM Lane LOS	B	-	-	-	F	F
HCM 95th %tile Q(veh)	0.9	-	-	-	8.2	16.3

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

HCM 6th TWSC
6: NE 28th St & N Juniper St

10/25/2021

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	290	409	10	29	67
Future Vol, veh/h	23	290	409	10	29	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	1	1
Mvmt Flow	27	337	476	12	34	78

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	488	0	-	0	873 482
Stage 1	-	-	-	-	482 -
Stage 2	-	-	-	-	391 -
Critical Hdwy	4.13	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.227	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1070	-	-	-	322 586
Stage 1	-	-	-	-	623 -
Stage 2	-	-	-	-	686 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1070	-	-	-	314 586
Mov Cap-2 Maneuver	-	-	-	-	436 -
Stage 1	-	-	-	-	607 -
Stage 2	-	-	-	-	686 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1070	-	-	-	531
HCM Lane V/C Ratio	0.025	-	-	-	0.21
HCM Control Delay (s)	8.5	-	-	-	13.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

HCM 6th TWSC
 8: NE 232nd Ave & NE 28th St/NE 28th

10/25/2021

Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	162	178	67	316	0	128	0	31	0	1	1
Future Vol, veh/h	1	162	178	67	316	0	128	0	31	0	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3	5	5	5	0	0	0
Mvmt Flow	1	186	205	77	363	0	147	0	36	0	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	363	0	0	391	0	0	809	808	289	826	910	363
Stage 1	-	-	-	-	-	-	291	291	-	517	517	-
Stage 2	-	-	-	-	-	-	518	517	-	309	393	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.15	6.55	6.25	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.1	5.5	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.545	4.045	3.345	3.5	4	3.3
Pot Cap-1 Maneuver	1190	-	-	1162	-	-	295	311	743	293	277	686
Stage 1	-	-	-	-	-	-	710	666	-	545	537	-
Stage 2	-	-	-	-	-	-	535	529	-	705	609	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1190	-	-	1162	-	-	275	285	743	261	254	686
Mov Cap-2 Maneuver	-	-	-	-	-	-	275	285	-	261	254	-
Stage 1	-	-	-	-	-	-	709	665	-	544	492	-
Stage 2	-	-	-	-	-	-	489	485	-	671	608	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1.5			31.4			14.8		
HCM LOS							D			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	313	1190	-	-	1162	-	-	371
HCM Lane V/C Ratio	0.584	0.001	-	-	0.066	-	-	0.006
HCM Control Delay (s)	31.4	8	0	-	8.3	0	-	14.8
HCM Lane LOS	D	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	3.5	0	-	-	0.2	-	-	0

HCM 6th TWSC
 9: SE Everett St & SE Leadbetter Rd

10/25/2021

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	158	92	366	436	17
Future Vol, veh/h	44	158	92	366	436	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	115	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	7	7	2	2	3	3
Mvmt Flow	48	174	101	402	479	19

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1093	489	498	0	-	0
Stage 1	489	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Critical Hdwy	6.47	6.27	4.12	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.363	2.218	-	-	-
Pot Cap-1 Maneuver	232	569	1066	-	-	-
Stage 1	606	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	210	569	1066	-	-	-
Mov Cap-2 Maneuver	210	-	-	-	-	-
Stage 1	548	-	-	-	-	-
Stage 2	536	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.2	1.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1066	-	415	-	-
HCM Lane V/C Ratio	0.095	-	0.535	-	-
HCM Control Delay (s)	8.7	-	23.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	3.1	-	-

HCM 6th TWSC
 1: NE 199th Ave & NE 58th St

10/25/2021

Intersection						
Int Delay, s/veh	32.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	279	415	23	204	344	26
Future Vol, veh/h	279	415	23	204	344	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	1	1	3	3	3	3
Mvmt Flow	297	441	24	217	366	28

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	738	0	783 518
Stage 1	-	-	-	-	518 -
Stage 2	-	-	-	-	265 -
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	-	-	863	-	~ 361 556
Stage 1	-	-	-	-	596 -
Stage 2	-	-	-	-	777 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	863	-	~ 349 556
Mov Cap-2 Maneuver	-	-	-	-	~ 349 -
Stage 1	-	-	-	-	596 -
Stage 2	-	-	-	-	752 -











Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	111.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	358	-	-	863	-
HCM Lane V/C Ratio	1.099	-	-	0.028	-
HCM Control Delay (s)	111.4	-	-	9.3	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	14.6	-	-	0.1	-

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

HCM Signalized Intersection Capacity Analysis
 2: NE 192nd Ave & NE 13th Ave

10/25/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	251	328	646	274	330	494
Future Volume (vph)	251	328	646	274	330	494
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00		1.00		1.00	1.00
Frt	0.92		0.96		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1717		1806		1805	1900
Flt Permitted	0.98		1.00		0.06	1.00
Satd. Flow (perm)	1717		1806		121	1900
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	270	353	695	295	355	531
RTOR Reduction (vph)	39	0	13	0	0	0
Lane Group Flow (vph)	584	0	977	0	355	531
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Actuated Green, G (s)	33.5		58.5		77.5	77.5
Effective Green, g (s)	34.0		59.0		78.0	78.0
Actuated g/C Ratio	0.28		0.49		0.65	0.65
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	486		887		289	1235
v/s Ratio Prot	c0.34		0.54		c0.15	0.28
v/s Ratio Perm					c0.65	
v/c Ratio	1.20		1.10		1.23	0.43
Uniform Delay, d1	43.0		30.5		41.2	10.2
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	108.8		62.0		129.4	0.2
Delay (s)	151.8		92.5		170.6	10.4
Level of Service	F		F		F	B
Approach Delay (s)	151.8		92.5			74.6
Approach LOS	F		F			E
Intersection Summary						
HCM 2000 Control Delay			100.9		HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.25			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			113.0%		ICU Level of Service	H
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Summary
 2: NE 192nd Ave & NE 13th Ave

10/25/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	251	328	646	274	330	494
Future Volume (veh/h)	251	328	646	274	330	494
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1885	1885	1900	1900
Adj Flow Rate, veh/h	270	310	695	284	355	531
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	1	1	0	0
Cap, veh/h	224	257	625	256	286	1235
Arrive On Green	0.28	0.28	0.49	0.49	0.13	0.65
Sat Flow, veh/h	789	906	1272	520	1810	1900
Grp Volume(v), veh/h	581	0	0	979	355	531
Grp Sat Flow(s),veh/h/ln	1698	0	0	1792	1810	1900
Q Serve(g_s), s	34.0	0.0	0.0	59.0	15.0	16.3
Cycle Q Clear(g_c), s	34.0	0.0	0.0	59.0	15.0	16.3
Prop In Lane	0.46	0.53		0.29	1.00	
Lane Grp Cap(c), veh/h	481	0	0	881	286	1235
V/C Ratio(X)	1.21	0.00	0.00	1.11	1.24	0.43
Avail Cap(c_a), veh/h	481	0	0	881	286	1235
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	0.0	0.0	30.6	41.7	10.2
Incr Delay (d2), s/veh	111.8	0.0	0.0	65.7	134.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.0	0.0	0.0	39.6	14.7	6.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	154.9	0.0	0.0	96.3	176.0	10.4
LnGrp LOS	F	A	A	F	F	B
Approach Vol, veh/h	581		979			886
Approach Delay, s/veh	154.9		96.3			76.8
Approach LOS	F		F			E
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	19.0	63.0			82.0	38.0
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	14.5	58.5			77.5	33.5
Max Q Clear Time (g_c+I1), s	17.0	61.0			18.3	36.0
Green Ext Time (p_c), s	0.0	0.0			3.6	0.0

Intersection Summary





















HCM 6th Ctrl Delay	103.1
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

HCM Signalized Intersection Capacity Analysis
 3: NW Friberg-Strunk St/NE 202nd Ave & NE 13th Ave/NE Goodwin Rd

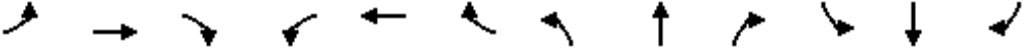
10/25/2021

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	4	478	83	224	425	1	124	2	450	3	4	2		
Future Volume (vph)	4	478	83	224	425	1	124	2	450	3	4	2		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		4.0	4.0	4.0	4.0			4.0	4.0		4.0			
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00			
Frbp, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.96		1.00			
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00			
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.97			
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.98			
Satd. Flow (prot)		1880	1562	1805	1899			1793	1537		1813			
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.65			
Satd. Flow (perm)		1876	1562	1805	1899			1793	1537		1199			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Adj. Flow (vph)	4	509	88	238	452	1	132	2	479	3	4	2		
RTOR Reduction (vph)	0	0	56	0	0	0	0	0	395	0	2	0		
Lane Group Flow (vph)	0	513	32	238	453	0	0	134	84	0	7	0		
Confl. Peds. (#/hr)	2					2								
Confl. Bikes (#/hr)			3			4			9					
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	0%	0%	0%		
Turn Type	Perm	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA			
Protected Phases		2		1	6		8	8			4			
Permitted Phases	2		2						8	4				
Actuated Green, G (s)		29.5	29.5	16.7	50.7			13.8	13.8		3.6			
Effective Green, g (s)		30.0	30.0	17.2	51.2			14.3	14.3		4.1			
Actuated g/C Ratio		0.37	0.37	0.21	0.63			0.18	0.18		0.05			
Clearance Time (s)		4.5	4.5	4.5	4.5			4.5	4.5		4.5			
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0	3.0		3.0			
Lane Grp Cap (vph)		689	574	380	1191			314	269		60			
v/s Ratio Prot				c0.13	0.24			c0.07						
v/s Ratio Perm		c0.27	0.02						0.05		c0.01			
v/c Ratio		0.74	0.06	0.63	0.38			0.43	0.31		0.12			
Uniform Delay, d1		22.5	16.7	29.3	7.4			30.0	29.4		37.0			
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00			
Incremental Delay, d2		4.4	0.0	3.2	0.2			0.9	0.7		0.9			
Delay (s)		26.8	16.7	32.5	7.6			30.9	30.0		37.9			
Level of Service		C	B	C	A			C	C		D			
Approach Delay (s)		25.4			16.2			30.2			37.9			
Approach LOS		C			B			C			D			
Intersection Summary														
HCM 2000 Control Delay			23.7									HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio			0.61											
Actuated Cycle Length (s)			81.6								16.5			
Intersection Capacity Utilization			71.4%										ICU Level of Service	C
Analysis Period (min)			15											
c	Critical Lane Group													

HCM 6th Signalized Intersection Summary

3: NW Friberg-Strunk St/NE 202nd Ave & NE 13th Ave/NE Goodwin Rd

10/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗			↖	↗		↕	
Traffic Volume (veh/h)	4	478	83	224	425	1	124	2	450	3	4	2
Future Volume (veh/h)	4	478	83	224	425	1	124	2	450	3	4	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	4	509	45	238	452	1	132	2	319	3	4	2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	0	0	0
Cap, veh/h	53	632	523	302	1061	2	445	7	388	11	15	7
Arrive On Green	0.33	0.34	0.34	0.17	0.56	0.55	0.24	0.25	0.25	0.01	0.02	0.01
Sat Flow, veh/h	3	1879	1556	1810	1895	4	1770	27	1544	599	799	400
Grp Volume(v), veh/h	513	0	45	238	0	453	134	0	319	9	0	0
Grp Sat Flow(s),veh/h/ln	1882	0	1556	1810	0	1899	1797	0	1544	1798	0	0
Q Serve(g_s), s	0.0	0.0	1.4	8.9	0.0	9.7	4.3	0.0	13.7	0.3	0.0	0.0
Cycle Q Clear(g_c), s	17.6	0.0	1.4	8.9	0.0	9.7	4.3	0.0	13.7	0.3	0.0	0.0
Prop In Lane	0.01		1.00	1.00		0.00	0.99		1.00	0.33		0.22
Lane Grp Cap(c), veh/h	671	0	523	302	0	1063	451	0	388	33	0	0
V/C Ratio(X)	0.76	0.00	0.09	0.79	0.00	0.43	0.30	0.00	0.82	0.27	0.00	0.00
Avail Cap(c_a), veh/h	1343	0	1082	539	0	1995	714	0	614	153	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.4	0.0	16.0	28.2	0.0	9.0	21.5	0.0	24.9	34.2	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.1	4.6	0.0	0.3	0.4	0.0	5.0	4.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	0.0	0.5	4.0	0.0	3.4	1.7	0.0	5.1	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.2	0.0	16.0	32.8	0.0	9.2	21.9	0.0	29.9	38.5	0.0	0.0
LnGrp LOS	C	A	B	C	A	A	C	A	C	D	A	A
Approach Vol, veh/h		558			691			453				9
Approach Delay, s/veh		22.6			17.3			27.5				38.5
Approach LOS		C			B			C				D
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	15.7	27.7		5.3		43.4		21.7				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	20.5	48.5		5.5		73.5		27.5				
Max Q Clear Time (g_c+I1), s	10.9	19.6		2.3		11.7		15.7				
Green Ext Time (p_c), s	0.5	3.6		0.0		3.1		1.5				

Intersection Summary

HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved changes to right turn type.

HCM 6th TWSC
 4: NE Camas Meadows Dr & NE Goodwin Rd

10/25/2021

Intersection						
Int Delay, s/veh	6.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	894	36	85	579	66	109
Future Vol, veh/h	894	36	85	579	66	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	50	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	941	38	89	609	69	115

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	979	0	1728 941
Stage 1	-	-	-	-	941 -
Stage 2	-	-	-	-	787 -
Critical Hdwy	-	-	4.1	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	-	-	2.2	-	3.509 3.309
Pot Cap-1 Maneuver	-	-	713	-	98 321
Stage 1	-	-	-	-	381 -
Stage 2	-	-	-	-	450 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	713	-	86 321
Mov Cap-2 Maneuver	-	-	-	-	86 -
Stage 1	-	-	-	-	381 -
Stage 2	-	-	-	-	394 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	64.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	86	321	-	-	713	-
HCM Lane V/C Ratio	0.808	0.357	-	-	0.125	-
HCM Control Delay (s)	134.3	22.3	-	-	10.8	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	4.2	1.6	-	-	0.4	-

HCM 6th TWSC
 5: NE Goodwin Rd /NE 28th St & NE Ingle Rd

10/25/2021

Intersection

Int Delay, s/veh 320.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗	↘	↘	↘
Traffic Vol, veh/h	461	511	342	127	255	249
Future Vol, veh/h	461	511	342	127	255	249
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	130	-	-	100	0	80
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	485	538	360	134	268	262

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	494	0	0
Stage 1	-	-	360
Stage 2	-	-	1508
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1080	-	~ 81
Stage 1	-	-	710
Stage 2	-	-	~ 204
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1080	-	~ 45
Mov Cap-2 Maneuver	-	-	~ 45
Stage 1	-	-	391
Stage 2	-	-	~ 204

Approach	EB	WB	SB
HCM Control Delay, s	5.2	0	\$ 1226.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1080	-	-	-	45	689
HCM Lane V/C Ratio	0.449	-	-	-	5.965	0.38
HCM Control Delay (s)	11	-	-	-	\$ 2411.5	13.4
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	2.4	-	-	-	31.2	1.8

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

HCM 6th TWSC
6: NE 28th St & N Juniper St

10/25/2021

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	73	519	353	31	19	44
Future Vol, veh/h	73	519	353	31	19	44
Conflicting Peds, #/hr	0	0	0	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	81	577	392	34	21	49

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	426	0	-	0	1150 409
Stage 1	-	-	-	-	409 -
Stage 2	-	-	-	-	741 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1139	-	-	-	220 645
Stage 1	-	-	-	-	673 -
Stage 2	-	-	-	-	473 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1139	-	-	-	204 645
Mov Cap-2 Maneuver	-	-	-	-	336 -
Stage 1	-	-	-	-	625 -
Stage 2	-	-	-	-	473 -

Approach	EB	WB	SB
HCM Control Delay, s	1	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1139	-	-	-	505
HCM Lane V/C Ratio	0.071	-	-	-	0.139
HCM Control Delay (s)	8.4	-	-	-	13.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5

HCM 6th TWSC
8: NE 232nd Ave & NE 28th St/NE 28th

10/25/2021

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	371	136	15	289	1	151	0	10	0	0	6
Future Vol, veh/h	4	371	136	15	289	1	151	0	10	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	386	142	16	301	1	157	0	10	0	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	302	0	0	528	0	0	802	799	459	806	870	302
Stage 1	-	-	-	-	-	-	465	465	-	334	334	-
Stage 2	-	-	-	-	-	-	337	334	-	472	536	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1265	-	-	1049	-	-	305	321	606	303	292	742
Stage 1	-	-	-	-	-	-	581	566	-	684	647	-
Stage 2	-	-	-	-	-	-	681	647	-	576	527	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1265	-	-	1049	-	-	297	314	605	292	285	742
Mov Cap-2 Maneuver	-	-	-	-	-	-	297	314	-	292	285	-
Stage 1	-	-	-	-	-	-	578	563	-	681	635	-
Stage 2	-	-	-	-	-	-	663	635	-	562	524	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.4			30			9.9		
HCM LOS							D			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	307	1265	-	-	1049	-	-	742
HCM Lane V/C Ratio	0.546	0.003	-	-	0.015	-	-	0.008
HCM Control Delay (s)	30	7.9	0	-	8.5	0	-	9.9
HCM Lane LOS	D	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	3.1	0	-	-	0	-	-	0

HCM 6th TWSC
 9: SE Everett St & SE Leadbetter Rd

10/25/2021

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	110	95	239	219	3
Future Vol, veh/h	6	110	95	239	219	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	115	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	1	1	1
Mvmt Flow	7	120	103	260	238	3

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	706	240	241	0	0
Stage 1	240	-	-	-	-
Stage 2	466	-	-	-	-
Critical Hdwy	6.4	6.2	4.11	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.209	-	-
Pot Cap-1 Maneuver	405	804	1331	-	-
Stage 1	805	-	-	-	-
Stage 2	636	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	374	804	1331	-	-
Mov Cap-2 Maneuver	374	-	-	-	-
Stage 1	743	-	-	-	-
Stage 2	636	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1331	-	759	-	-
HCM Lane V/C Ratio	0.078	-	0.166	-	-
HCM Control Delay (s)	7.9	-	10.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.6	-	-

HCM 6th TWSC
1: NE 199th Ave & NE 58th St

10/25/2021

Intersection						
Int Delay, s/veh	29.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	153	455	27	193	341	7
Future Vol, veh/h	153	455	27	193	341	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	9	9	5	5	7	7
Mvmt Flow	176	523	31	222	392	8

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	699	0	722 438
Stage 1	-	-	-	-	438 -
Stage 2	-	-	-	-	284 -
Critical Hdwy	-	-	4.15	-	6.47 6.27
Critical Hdwy Stg 1	-	-	-	-	5.47 -
Critical Hdwy Stg 2	-	-	-	-	5.47 -
Follow-up Hdwy	-	-	2.245	-	3.563 3.363
Pot Cap-1 Maneuver	-	-	884	-	~ 386 608
Stage 1	-	-	-	-	640 -
Stage 2	-	-	-	-	753 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	884	-	~ 371 608
Mov Cap-2 Maneuver	-	-	-	-	~ 371 -
Stage 1	-	-	-	-	640 -
Stage 2	-	-	-	-	723 -











Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	100.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	374	-	-	884	-
HCM Lane V/C Ratio	1.07	-	-	0.035	-
HCM Control Delay (s)	100.1	-	-	9.2	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	14	-	-	0.1	-

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

HCM Signalized Intersection Capacity Analysis
 2: NE 192nd Ave & NE 13th Ave

10/25/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	383	292	284	196	447	326
Future Volume (vph)	383	292	284	196	447	326
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00		1.00		1.00	1.00
Frt	0.94		0.94		1.00	1.00
Flt Protected	0.97		1.00		0.95	1.00
Satd. Flow (prot)	1705		1678		1687	1776
Flt Permitted	0.97		1.00		0.10	1.00
Satd. Flow (perm)	1705		1678		178	1776
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	445	340	330	228	520	379
RTOR Reduction (vph)	23	0	21	0	0	0
Lane Group Flow (vph)	762	0	537	0	520	379
Heavy Vehicles (%)	2%	2%	7%	7%	7%	7%
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Actuated Green, G (s)	40.5		35.5		70.5	70.5
Effective Green, g (s)	41.0		36.0		71.0	71.0
Actuated g/C Ratio	0.34		0.30		0.59	0.59
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	582		503		495	1050
v/s Ratio Prot	c0.45		0.32		c0.27	0.21
v/s Ratio Perm					c0.35	
v/c Ratio	1.31		1.07		1.05	0.36
Uniform Delay, d1	39.5		42.0		36.5	12.7
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	151.2		59.4		54.4	0.2
Delay (s)	190.7		101.4		90.9	12.9
Level of Service	F		F		F	B
Approach Delay (s)	190.7		101.4			58.0
Approach LOS	F		F			E
Intersection Summary						
HCM 2000 Control Delay			115.3		HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.17			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			100.8%		ICU Level of Service	G
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Summary
 2: NE 192nd Ave & NE 13th Ave

10/25/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	383	292	284	196	447	326
Future Volume (veh/h)	383	292	284	196	447	326
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1796	1796	1796	1796
Adj Flow Rate, veh/h	445	305	330	205	520	379
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	7	7	7	7
Cap, veh/h	343	235	311	193	502	1063
Arrive On Green	0.34	0.34	0.30	0.30	0.26	0.59
Sat Flow, veh/h	1005	689	1036	644	1711	1796
Grp Volume(v), veh/h	751	0	0	535	520	379
Grp Sat Flow(s),veh/h/ln	1696	0	0	1680	1711	1796
Q Serve(g_s), s	41.0	0.0	0.0	36.0	31.0	13.1
Cycle Q Clear(g_c), s	41.0	0.0	0.0	36.0	31.0	13.1
Prop In Lane	0.59	0.41		0.38	1.00	
Lane Grp Cap(c), veh/h	580	0	0	504	502	1063
V/C Ratio(X)	1.30	0.00	0.00	1.06	1.04	0.36
Avail Cap(c_a), veh/h	580	0	0	504	502	1063
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	0.0	0.0	42.1	36.6	12.7
Incr Delay (d2), s/veh	145.6	0.0	0.0	57.3	49.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	40.2	0.0	0.0	22.4	16.5	5.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	185.2	0.0	0.0	99.4	86.3	12.9
LnGrp LOS	F	A	A	F	F	B
Approach Vol, veh/h	751		535			899
Approach Delay, s/veh	185.2		99.4			55.4
Approach LOS	F		F			E
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	35.0	40.0			75.0	45.0
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	30.5	35.5			70.5	40.5
Max Q Clear Time (g_c+I1), s	33.0	38.0			15.1	43.0
Green Ext Time (p_c), s	0.0	0.0			2.4	0.0

Intersection Summary





















HCM 6th Ctrl Delay	110.8
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

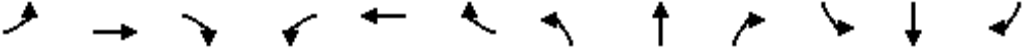
HCM Signalized Intersection Capacity Analysis
 3: NW Friberg-Strunk St/NE 202nd Ave & NE 13th Ave/NE Goodwin Rd

10/25/2021

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	2	291	322	372	600	6	84	4	166	2	6	2		
Future Volume (vph)	2	291	322	372	600	6	84	4	166	2	6	2		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		4.0	4.0	4.0	4.0			4.0	4.0		4.0			
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00			
Frbp, ped/bikes		1.00	0.98	1.00	1.00			1.00	1.00		1.00			
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00			
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.97			
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.99			
Satd. Flow (prot)		1792	1491	1719	1806			1679	1495		1645			
Flt Permitted		0.99	1.00	0.95	1.00			0.95	1.00		0.47			
Satd. Flow (perm)		1783	1491	1719	1806			1679	1495		776			
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79		
Adj. Flow (vph)	3	368	408	471	759	8	106	5	210	3	8	3		
RTOR Reduction (vph)	0	0	208	0	0	0	0	0	181	0	3	0		
Lane Group Flow (vph)	0	371	200	471	767	0	0	111	29	0	11	0		
Confl. Peds. (#/hr)	1					1								
Confl. Bikes (#/hr)			1											
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	8%	8%	8%	11%	11%	11%		
Turn Type	Perm	NA	Perm	Prot	NA		Split	NA	Prot	Perm	NA			
Protected Phases		2		1	6		8	8	8		4			
Permitted Phases	2		2							4				
Actuated Green, G (s)		24.5	24.5	26.5	55.5			11.4	11.4		4.7			
Effective Green, g (s)		25.0	25.0	27.0	56.0			11.9	11.9		5.2			
Actuated g/C Ratio		0.29	0.29	0.32	0.66			0.14	0.14		0.06			
Clearance Time (s)		4.5	4.5	4.5	4.5			4.5	4.5		4.5			
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0	3.0		3.0			
Lane Grp Cap (vph)		523	438	545	1188			234	209		47			
v/s Ratio Prot				c0.27	c0.42			c0.07	0.02					
v/s Ratio Perm		0.21	0.13								c0.01			
v/c Ratio		0.71	0.46	0.86	0.65			0.47	0.14		0.24			
Uniform Delay, d1		26.8	24.5	27.3	8.6			33.7	32.1		38.1			
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00			
Incremental Delay, d2		4.4	0.8	13.4	1.2			1.5	0.3		2.6			
Delay (s)		31.2	25.3	40.7	9.9			35.2	32.4		40.7			
Level of Service		C	C	D	A			D	C		D			
Approach Delay (s)		28.1			21.6			33.4			40.7			
Approach LOS		C			C			C			D			
Intersection Summary														
HCM 2000 Control Delay			25.5									HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio			0.70											
Actuated Cycle Length (s)			85.1								16.5			
Intersection Capacity Utilization			68.9%										ICU Level of Service	C
Analysis Period (min)			15											
c Critical Lane Group														

HCM 6th Signalized Intersection Summary
 3: NW Friberg-Strunk St/NE 202nd Ave & NE 13th Ave/NE Goodwin Rd

10/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔	↔	↔			↔	↔		↔	
Traffic Volume (veh/h)	2	291	322	372	600	6	84	4	166	2	6	2
Future Volume (veh/h)	2	291	322	372	600	6	84	4	166	2	6	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1826	1826	1826	1781	1781	1781	1737	1737	1737
Adj Flow Rate, veh/h	3	368	218	471	759	8	106	5	140	3	8	3
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	6	6	6	5	5	5	8	8	8	11	11	11
Cap, veh/h	59	484	402	541	1160	12	228	11	212	9	24	9
Arrive On Green	0.26	0.27	0.27	0.31	0.64	0.64	0.13	0.14	0.14	0.02	0.03	0.02
Sat Flow, veh/h	3	1802	1499	1739	1803	19	1624	77	1510	355	946	355
Grp Volume(v), veh/h	371	0	218	471	0	767	111	0	140	14	0	0
Grp Sat Flow(s),veh/h/ln	1806	0	1499	1739	0	1822	1700	0	1510	1655	0	0
Q Serve(g_s), s	0.0	0.0	7.8	16.1	0.0	16.3	3.8	0.0	5.5	0.5	0.0	0.0
Cycle Q Clear(g_c), s	11.9	0.0	7.8	16.1	0.0	16.3	3.8	0.0	5.5	0.5	0.0	0.0
Prop In Lane	0.01		1.00	1.00		0.01	0.95		1.00	0.21		0.21
Lane Grp Cap(c), veh/h	528	0	402	541	0	1172	239	0	212	42	0	0
V/C Ratio(X)	0.70	0.00	0.54	0.87	0.00	0.65	0.46	0.00	0.66	0.34	0.00	0.00
Avail Cap(c_a), veh/h	788	0	621	720	0	1625	704	0	625	685	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.2	0.0	19.7	20.4	0.0	6.9	25.0	0.0	25.6	30.2	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	1.1	8.9	0.0	0.6	1.4	0.0	3.5	4.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	2.6	7.1	0.0	4.4	1.5	0.0	2.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	20.8	29.3	0.0	7.5	26.4	0.0	29.0	34.8	0.0	0.0
LnGrp LOS	C	A	C	C	A	A	C	A	C	C	A	A
Approach Vol, veh/h		589			1238			251				14
Approach Delay, s/veh		22.1			15.8			27.9				34.8
Approach LOS		C			B			C				C
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	23.5	20.8		5.6		44.4		12.8				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	25.5	25.5		25.5		55.5		25.5				
Max Q Clear Time (g_c+I1), s	18.1	13.9		2.5		18.3		7.5				
Green Ext Time (p_c), s	1.0	2.3		0.0		6.4		0.9				

Intersection Summary												
HCM 6th Ctrl Delay				19.2								
HCM 6th LOS				B								

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th TWSC
 4: NE Camas Meadows Dr & NE Goodwin Rd

10/25/2021

Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	411	39	128	959	21	65
Future Vol, veh/h	411	39	128	959	21	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	50	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	9	4	4	2	2
Mvmt Flow	433	41	135	1009	22	68

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	474	0	1712
Stage 1	-	-	-	-	433
Stage 2	-	-	-	-	1279
Critical Hdwy	-	-	4.14	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.236	-	3.518
Pot Cap-1 Maneuver	-	-	1078	-	100
Stage 1	-	-	-	-	654
Stage 2	-	-	-	-	261
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1078	-	88
Mov Cap-2 Maneuver	-	-	-	-	88
Stage 1	-	-	-	-	654
Stage 2	-	-	-	-	228

Approach	EB	WB	NB
HCM Control Delay, s	0	1	23.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	88	623	-	-	1078	-
HCM Lane V/C Ratio	0.251	0.11	-	-	0.125	-
HCM Control Delay (s)	59.1	11.5	-	-	8.8	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	0.4	-	-	0.4	-

HCM 6th TWSC
 5: NE Goodwin Rd /NE 28th St & NE Ingle Rd

10/25/2021

Intersection						
Int Delay, s/veh	66.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑	↘		↙	↘
Traffic Vol, veh/h	204	259	514	163	158	551
Future Vol, veh/h	204	259	514	163	158	551
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	130	-	-	-	0	80
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	8	3	3	7	7
Mvmt Flow	215	273	541	172	166	580

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	713	0	-	0	1330 627
Stage 1	-	-	-	-	627 -
Stage 2	-	-	-	-	703 -
Critical Hdwy	4.18	-	-	-	6.47 6.27
Critical Hdwy Stg 1	-	-	-	-	5.47 -
Critical Hdwy Stg 2	-	-	-	-	5.47 -
Follow-up Hdwy	2.272	-	-	-	3.563 3.363
Pot Cap-1 Maneuver	860	-	-	-	~ 166 ~ 475
Stage 1	-	-	-	-	523 -
Stage 2	-	-	-	-	482 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	860	-	-	-	~ 125 ~ 475
Mov Cap-2 Maneuver	-	-	-	-	~ 125 -
Stage 1	-	-	-	-	392 -
Stage 2	-	-	-	-	482 -

Approach	EB	WB	SB
HCM Control Delay, s	4.7	0	169.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	860	-	-	-	125	475
HCM Lane V/C Ratio	0.25	-	-	-	1.331	1.221
HCM Control Delay (s)	10.6	-	-	-	259.1	143.8
HCM Lane LOS	B	-	-	-	F	F
HCM 95th %tile Q(veh)	1	-	-	-	10.9	22.7

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

HCM 6th TWSC
6: NE 28th St & N Juniper St

10/25/2021

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	32	298	432	10	29	90
Future Vol, veh/h	32	298	432	10	29	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	1	1
Mvmt Flow	37	347	502	12	34	105

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	514	0	-	0	929
Stage 1	-	-	-	-	508
Stage 2	-	-	-	-	421
Critical Hdwy	4.13	-	-	-	6.41
Critical Hdwy Stg 1	-	-	-	-	5.41
Critical Hdwy Stg 2	-	-	-	-	5.41
Follow-up Hdwy	2.227	-	-	-	3.509
Pot Cap-1 Maneuver	1046	-	-	-	298
Stage 1	-	-	-	-	606
Stage 2	-	-	-	-	664
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1046	-	-	-	288
Mov Cap-2 Maneuver	-	-	-	-	414
Stage 1	-	-	-	-	585
Stage 2	-	-	-	-	664

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1046	-	-	-	520
HCM Lane V/C Ratio	0.036	-	-	-	0.266
HCM Control Delay (s)	8.6	-	-	-	14.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1

HCM 6th TWSC
 7: NE 28th St & Site Access

10/25/2021

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	319	418	6	21	23
Future Vol, veh/h	8	319	418	6	21	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	1	1
Mvmt Flow	9	371	486	7	24	27

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	493	0	-	0	879 490
Stage 1	-	-	-	-	490 -
Stage 2	-	-	-	-	389 -
Critical Hdwy	4.13	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.227	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1065	-	-	-	319 580
Stage 1	-	-	-	-	618 -
Stage 2	-	-	-	-	687 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1065	-	-	-	316 580
Mov Cap-2 Maneuver	-	-	-	-	439 -
Stage 1	-	-	-	-	613 -
Stage 2	-	-	-	-	687 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1065	-	-	-	503
HCM Lane V/C Ratio	0.009	-	-	-	0.102
HCM Control Delay (s)	8.4	-	-	-	13
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

HCM 6th TWSC
 8: NE 232nd Ave & NE 28th St/NE 28th

10/25/2021

Intersection

Int Delay, s/veh 6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	176	185	67	320	0	130	0	31	0	1	1
Future Vol, veh/h	1	176	185	67	320	0	130	0	31	0	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3	5	5	5	0	0	0
Mvmt Flow	1	202	213	77	368	0	149	0	36	0	1	1

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	368	0	0	415
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.13	-	-	4.13
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.227	-	-	2.227
Pot Cap-1 Maneuver	1185	-	-	1139
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1185	-	-	1139
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.5	34.3	15.1
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	301	1185	-	-	1139	-	-	358
HCM Lane V/C Ratio	0.615	0.001	-	-	0.068	-	-	0.006
HCM Control Delay (s)	34.3	8	0	-	8.4	0	-	15.1
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	3.8	0	-	-	0.2	-	-	0

HCM 6th TWSC
 9: SE Everett St & SE Leadbetter Rd

10/25/2021

Intersection						
Int Delay, s/veh	5.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	165	94	368	443	17
Future Vol, veh/h	44	165	94	368	443	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	115	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	7	7	2	2	3	3
Mvmt Flow	48	181	103	404	487	19

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1107	497	506	0	-	0
Stage 1	497	-	-	-	-	-
Stage 2	610	-	-	-	-	-
Critical Hdwy	6.47	6.27	4.12	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.363	2.218	-	-	-
Pot Cap-1 Maneuver	227	563	1059	-	-	-
Stage 1	601	-	-	-	-	-
Stage 2	533	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	205	563	1059	-	-	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	543	-	-	-	-	-
Stage 2	533	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.2	1.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1059	-	412	-	-
HCM Lane V/C Ratio	0.098	-	0.557	-	-
HCM Control Delay (s)	8.8	-	24.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	3.3	-	-

HCM 6th TWSC
 1: NE 199th Ave & NE 58th St

10/25/2021

Intersection						
Int Delay, s/veh	34.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	279	428	23	204	350	26
Future Vol, veh/h	279	428	23	204	350	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	1	1	3	3	3	3
Mvmt Flow	297	455	24	217	372	28

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	752	0	790
Stage 1	-	-	-	-	525
Stage 2	-	-	-	-	265
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	-	-	853	-	~ 358
Stage 1	-	-	-	-	591
Stage 2	-	-	-	-	777
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	853	-	~ 347
Mov Cap-2 Maneuver	-	-	-	-	~ 347
Stage 1	-	-	-	-	591
Stage 2	-	-	-	-	752











Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	119.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	356	-	-	853	-
HCM Lane V/C Ratio	1.124	-	-	0.029	-
HCM Control Delay (s)	119.6	-	-	9.3	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	15.3	-	-	0.1	-

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

HCM Signalized Intersection Capacity Analysis
 2: NE 192nd Ave & NE 13th Ave

10/25/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	256	333	646	282	338	494
Future Volume (vph)	256	333	646	282	338	494
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00		1.00		1.00	1.00
Frt	0.92		0.96		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1718		1804		1805	1900
Flt Permitted	0.98		1.00		0.06	1.00
Satd. Flow (perm)	1718		1804		122	1900
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	275	358	695	303	363	531
RTOR Reduction (vph)	39	0	13	0	0	0
Lane Group Flow (vph)	594	0	985	0	363	531
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Actuated Green, G (s)	33.9		57.7		77.1	77.1
Effective Green, g (s)	34.4		58.2		77.6	77.6
Actuated g/C Ratio	0.29		0.49		0.65	0.65
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	492		874		294	1228
v/s Ratio Prot	c0.35		0.55		c0.16	0.28
v/s Ratio Perm					c0.64	
v/c Ratio	1.21		1.13		1.23	0.43
Uniform Delay, d1	42.8		30.9		41.1	10.4
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	111.0		71.8		131.5	0.2
Delay (s)	153.8		102.7		172.5	10.6
Level of Service	F		F		F	B
Approach Delay (s)	153.8		102.7			76.4
Approach LOS	F		F			E
Intersection Summary						
HCM 2000 Control Delay			106.2		HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.25			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			114.5%		ICU Level of Service	H
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Summary
 2: NE 192nd Ave & NE 13th Ave

10/25/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	256	333	646	282	338	494
Future Volume (veh/h)	256	333	646	282	338	494
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1885	1885	1900	1900
Adj Flow Rate, veh/h	275	315	695	292	363	531
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	1	1	0	0
Cap, veh/h	226	259	611	257	292	1229
Arrive On Green	0.29	0.28	0.48	0.48	0.13	0.65
Sat Flow, veh/h	790	905	1260	530	1810	1900
Grp Volume(v), veh/h	591	0	0	987	363	531
Grp Sat Flow(s),veh/h/ln	1698	0	0	1790	1810	1900
Q Serve(g_s), s	34.4	0.0	0.0	58.2	15.4	16.4
Cycle Q Clear(g_c), s	34.4	0.0	0.0	58.2	15.4	16.4
Prop In Lane	0.47	0.53		0.30	1.00	
Lane Grp Cap(c), veh/h	487	0	0	868	292	1229
V/C Ratio(X)	1.21	0.00	0.00	1.14	1.24	0.43
Avail Cap(c_a), veh/h	487	0	0	868	292	1229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.9	0.0	0.0	31.0	41.6	10.4
Incr Delay (d2), s/veh	114.2	0.0	0.0	75.7	134.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.7	0.0	0.0	41.6	19.5	6.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	157.1	0.0	0.0	106.6	176.2	10.6
LnGrp LOS	F	A	A	F	F	B
Approach Vol, veh/h	591		987			894
Approach Delay, s/veh	157.1		106.6			77.9
Approach LOS	F		F			E
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	19.4	62.2			81.6	38.4
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	14.9	57.7			77.1	33.9
Max Q Clear Time (g_c+I1), s	17.4	60.2			18.4	36.4
Green Ext Time (p_c), s	0.0	0.0			3.6	0.0

Intersection Summary

HCM 6th Ctrl Delay	108.3
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

HCM Signalized Intersection Capacity Analysis
 3: NW Friberg-Strunk St/NE 202nd Ave & NE 13th Ave/NE Goodwin Rd

10/25/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	4	494	83	233	435	1	124	2	465	3	4	2		
Future Volume (vph)	4	494	83	233	435	1	124	2	465	3	4	2		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		4.0	4.0	4.0	4.0			4.0	4.0		4.0			
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00			
Frbp, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.96		1.00			
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00			
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.97			
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.98			
Satd. Flow (prot)		1880	1562	1805	1899			1793	1537		1813			
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.63			
Satd. Flow (perm)		1876	1562	1805	1899			1793	1537		1170			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Adj. Flow (vph)	4	526	88	248	463	1	132	2	495	3	4	2		
RTOR Reduction (vph)	0	0	56	0	0	0	0	0	407	0	2	0		
Lane Group Flow (vph)	0	530	32	248	464	0	0	134	88	0	7	0		
Confl. Peds. (#/hr)	2					2								
Confl. Bikes (#/hr)			3			4			9					
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	0%	0%	0%		
Turn Type	Perm	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA			
Protected Phases		2		1	6		8	8			4			
Permitted Phases	2		2						8	4				
Actuated Green, G (s)		30.3	30.3	17.3	52.1			14.3	14.3		3.7			
Effective Green, g (s)		30.8	30.8	17.8	52.6			14.8	14.8		4.2			
Actuated g/C Ratio		0.37	0.37	0.21	0.63			0.18	0.18		0.05			
Clearance Time (s)		4.5	4.5	4.5	4.5			4.5	4.5		4.5			
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0	3.0		3.0			
Lane Grp Cap (vph)		691	575	384	1194			317	272		58			
v/s Ratio Prot				c0.14	0.24			c0.07						
v/s Ratio Perm		c0.28	0.02						0.06		c0.01			
v/c Ratio		0.77	0.06	0.65	0.39			0.42	0.32		0.12			
Uniform Delay, d1		23.2	17.0	30.0	7.6			30.6	30.0		37.9			
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00			
Incremental Delay, d2		5.1	0.0	3.7	0.2			0.9	0.7		1.0			
Delay (s)		28.3	17.1	33.7	7.8			31.5	30.7		38.9			
Level of Service		C	B	C	A			C	C		D			
Approach Delay (s)		26.7			16.8			30.9			38.9			
Approach LOS		C			B			C			D			
Intersection Summary														
HCM 2000 Control Delay			24.5									HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio			0.62											
Actuated Cycle Length (s)			83.6								16.5			
Intersection Capacity Utilization			72.8%										ICU Level of Service	C
Analysis Period (min)			15											
c	Critical Lane Group													

HCM 6th Signalized Intersection Summary

3: NW Friberg-Strunk St/NE 202nd Ave & NE 13th Ave/NE Goodwin Rd

10/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↗	↖	↖	↗		↔	↗		↕	
Traffic Volume (veh/h)	4	494	83	233	435	1	124	2	465	3	4	2
Future Volume (veh/h)	4	494	83	233	435	1	124	2	465	3	4	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	4	526	45	248	463	1	132	2	335	3	4	2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	0	0	0
Cap, veh/h	49	642	532	308	1071	2	456	7	398	11	14	7
Arrive On Green	0.33	0.34	0.34	0.17	0.56	0.56	0.25	0.26	0.26	0.01	0.02	0.01
Sat Flow, veh/h	3	1879	1556	1810	1895	4	1770	27	1545	599	799	400
Grp Volume(v), veh/h	530	0	45	248	0	464	134	0	335	9	0	0
Grp Sat Flow(s),veh/h/ln	1882	0	1556	1810	0	1899	1797	0	1545	1798	0	0
Q Serve(g_s), s	0.0	0.0	1.5	9.9	0.0	10.6	4.5	0.0	15.5	0.4	0.0	0.0
Cycle Q Clear(g_c), s	19.5	0.0	1.5	9.9	0.0	10.6	4.5	0.0	15.5	0.4	0.0	0.0
Prop In Lane	0.01		1.00	1.00		0.00	0.99		1.00	0.33		0.22
Lane Grp Cap(c), veh/h	679	0	532	308	0	1073	463	0	398	32	0	0
V/C Ratio(X)	0.78	0.00	0.08	0.81	0.00	0.43	0.29	0.00	0.84	0.28	0.00	0.00
Avail Cap(c_a), veh/h	1258	0	1013	505	0	1868	669	0	575	143	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.7	0.0	16.8	30.0	0.0	9.4	22.6	0.0	26.5	36.6	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	0.1	5.0	0.0	0.3	0.3	0.0	7.5	4.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	0.0	0.5	4.5	0.0	3.8	1.8	0.0	6.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.7	0.0	16.9	35.0	0.0	9.7	23.0	0.0	34.0	41.1	0.0	0.0
LnGrp LOS	C	A	B	C	A	A	C	A	C	D	A	A
Approach Vol, veh/h		575			712			469				9
Approach Delay, s/veh		24.1			18.5			30.9				41.1
Approach LOS		C			B			C				D
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	16.8	29.7		5.4		46.5		23.4				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	20.5	48.5		5.5		73.5		27.5				
Max Q Clear Time (g_c+I1), s	11.9	21.5		2.4		12.6		17.5				
Green Ext Time (p_c), s	0.5	3.7		0.0		3.2		1.4				

Intersection Summary

HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved changes to right turn type.

HCM 6th TWSC
 4: NE Camas Meadows Dr & NE Goodwin Rd

10/25/2021

Intersection						
Int Delay, s/veh	8.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	925	36	90	598	66	117
Future Vol, veh/h	925	36	90	598	66	117
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	50	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	974	38	95	629	69	123

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	1012	0	1793	974
Stage 1	-	-	-	-	974	-
Stage 2	-	-	-	-	819	-
Critical Hdwy	-	-	4.1	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.2	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	693	-	89	307
Stage 1	-	-	-	-	368	-
Stage 2	-	-	-	-	435	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	693	-	77	307
Mov Cap-2 Maneuver	-	-	-	-	77	-
Stage 1	-	-	-	-	368	-
Stage 2	-	-	-	-	375	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	76.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	77	307	-	-	693	-
HCM Lane V/C Ratio	0.902	0.401	-	-	0.137	-
HCM Control Delay (s)	169.3	24.4	-	-	11	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	4.7	1.9	-	-	0.5	-

HCM 6th TWSC
 5: NE Goodwin Rd /NE 28th St & NE Ingle Rd

10/25/2021

Intersection

Int Delay, s/veh 401.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗	↘	↘	↘
Traffic Vol, veh/h	461	550	366	133	268	249
Future Vol, veh/h	461	550	366	133	268	249
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	130	-	-	100	0	80
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	485	579	385	140	282	262

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	525	0	0
Stage 1	-	-	385
Stage 2	-	-	1549
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1052	-	~ 73
Stage 1	-	-	692
Stage 2	-	-	~ 195
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1052	-	~ 39
Mov Cap-2 Maneuver	-	-	~ 39
Stage 1	-	-	373
Stage 2	-	-	~ 195

Approach	EB	WB	SB
HCM Control Delay, s	5.2	0	\$ 1564.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1052	-	-	-	39	667
HCM Lane V/C Ratio	0.461	-	-	-	7.233	0.393
HCM Control Delay (s)	11.3	-	-	-	\$ 3005.7	13.8
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	2.5	-	-	-	33.5	1.9

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

HCM 6th TWSC
6: NE 28th St & N Juniper St

10/25/2021

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	99	545	368	31	19	59
Future Vol, veh/h	99	545	368	31	19	59
Conflicting Peds, #/hr	0	0	0	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	110	606	409	34	21	66

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	443	0	-	0	1254 426
Stage 1	-	-	-	-	426 -
Stage 2	-	-	-	-	828 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1122	-	-	-	191 631
Stage 1	-	-	-	-	661 -
Stage 2	-	-	-	-	431 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1122	-	-	-	172 631
Mov Cap-2 Maneuver	-	-	-	-	304 -
Stage 1	-	-	-	-	596 -
Stage 2	-	-	-	-	431 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1122	-	-	-	500
HCM Lane V/C Ratio	0.098	-	-	-	0.173
HCM Control Delay (s)	8.6	-	-	-	13.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.6

HCM 6th TWSC
7: NE 28th St & Site Access

10/25/2021

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	538	384	24	15	15
Future Vol, veh/h	26	538	384	24	15	15
Conflicting Peds, #/hr	0	0	0	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	29	598	427	27	17	17

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	454	0	-	0	1099 441
Stage 1	-	-	-	-	441 -
Stage 2	-	-	-	-	658 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1112	-	-	-	236 618
Stage 1	-	-	-	-	651 -
Stage 2	-	-	-	-	517 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1112	-	-	-	230 618
Mov Cap-2 Maneuver	-	-	-	-	363 -
Stage 1	-	-	-	-	634 -
Stage 2	-	-	-	-	517 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1112	-	-	-	457
HCM Lane V/C Ratio	0.026	-	-	-	0.073
HCM Control Delay (s)	8.3	-	-	-	13.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

HCM 6th TWSC
 8: NE 232nd Ave & NE 28th St/NE 28th

10/25/2021

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	381	141	15	305	1	159	0	10	0	0	6
Future Vol, veh/h	4	381	141	15	305	1	159	0	10	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	397	147	16	318	1	166	0	10	0	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	319	0	0	544	0	0	833	830	473	837	903	319
Stage 1	-	-	-	-	-	-	479	479	-	351	351	-
Stage 2	-	-	-	-	-	-	354	351	-	486	552	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1247	-	-	1035	-	-	290	308	595	288	279	726
Stage 1	-	-	-	-	-	-	571	558	-	670	636	-
Stage 2	-	-	-	-	-	-	667	636	-	566	518	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1247	-	-	1035	-	-	282	301	594	277	272	726
Mov Cap-2 Maneuver	-	-	-	-	-	-	282	301	-	277	272	-
Stage 1	-	-	-	-	-	-	568	555	-	667	624	-
Stage 2	-	-	-	-	-	-	649	624	-	552	515	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.4			34.6			10		
HCM LOS							D			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	291	1247	-	-	1035	-	-	726
HCM Lane V/C Ratio	0.605	0.003	-	-	0.015	-	-	0.009
HCM Control Delay (s)	34.6	7.9	0	-	8.5	0	-	10
HCM Lane LOS	D	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	3.7	0	-	-	0	-	-	0

HCM 6th TWSC
 9: SE Everett St & SE Leadbetter Rd

10/25/2021

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑	↑	
Traffic Vol, veh/h	6	115	103	247	224	3
Future Vol, veh/h	6	115	103	247	224	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	115	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	1	1	1
Mvmt Flow	7	125	112	268	243	3

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	737	245	246	0	0
Stage 1	245	-	-	-	-
Stage 2	492	-	-	-	-
Critical Hdwy	6.4	6.2	4.11	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.209	-	-
Pot Cap-1 Maneuver	389	799	1326	-	-
Stage 1	800	-	-	-	-
Stage 2	619	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	356	799	1326	-	-
Mov Cap-2 Maneuver	356	-	-	-	-
Stage 1	733	-	-	-	-
Stage 2	619	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1326	-	753	-	-
HCM Lane V/C Ratio	0.084	-	0.175	-	-
HCM Control Delay (s)	8	-	10.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.6	-	-

HCM 6th TWSC
1: NE 199th Ave & NE 58th St

10/25/2021

Intersection						
Int Delay, s/veh	8.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	
Traffic Vol, veh/h	153	455	27	193	341	7
Future Vol, veh/h	153	455	27	193	341	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	9	9	5	5	7	7
Mvmt Flow	176	523	31	222	392	8













Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	699	0	460
Stage 1	-	-	-	-	176
Stage 2	-	-	-	-	284
Critical Hdwy	-	-	4.15	-	6.47
Critical Hdwy Stg 1	-	-	-	-	5.47
Critical Hdwy Stg 2	-	-	-	-	5.47
Follow-up Hdwy	-	-	2.245	-	3.563
Pot Cap-1 Maneuver	-	-	884	-	550
Stage 1	-	-	-	-	843
Stage 2	-	-	-	-	753
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	884	-	528
Mov Cap-2 Maneuver	-	-	-	-	528
Stage 1	-	-	-	-	843
Stage 2	-	-	-	-	723

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	29.5
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	532	-	-	884	-
HCM Lane V/C Ratio	0.752	-	-	0.035	-
HCM Control Delay (s)	29.5	-	-	9.2	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	6.5	-	-	0.1	-













HCM Signalized Intersection Capacity Analysis
 2: NE 192nd Ave & NE 13th Ave

10/25/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	383	292	284	196	447	326
Future Volume (vph)	383	292	284	196	447	326
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1776	1509	1687	1776
Flt Permitted	0.95	1.00	1.00	1.00	0.26	1.00
Satd. Flow (perm)	1770	1583	1776	1509	466	1776
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	445	340	330	228	520	379
RTOR Reduction (vph)	0	234	0	150	0	0
Lane Group Flow (vph)	445	106	330	78	520	379
Heavy Vehicles (%)	2%	2%	7%	7%	7%	7%
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Actuated Green, G (s)	28.4	28.4	23.6	23.6	53.3	53.3
Effective Green, g (s)	28.9	28.4	24.1	23.6	53.8	53.8
Actuated g/C Ratio	0.32	0.31	0.27	0.26	0.59	0.59
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	563	495	471	392	622	1053
v/s Ratio Prot	c0.25		0.19		c0.24	0.21
v/s Ratio Perm		0.07		0.05	c0.26	
v/c Ratio	0.79	0.22	0.70	0.20	0.84	0.36
Uniform Delay, d1	28.1	22.9	30.0	26.2	15.1	9.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.4	0.2	4.7	0.3	9.5	0.2
Delay (s)	35.6	23.2	34.7	26.4	24.6	9.8
Level of Service	D	C	C	C	C	A
Approach Delay (s)	30.2		31.3			18.3
Approach LOS	C		C			B
Intersection Summary						
HCM 2000 Control Delay			25.7		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.85			
Actuated Cycle Length (s)			90.7		Sum of lost time (s)	12.0
Intersection Capacity Utilization			70.9%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Summary
 2: NE 192nd Ave & NE 13th Ave

10/25/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	383	292	284	196	447	326
Future Volume (veh/h)	383	292	284	196	447	326
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1796	1796	1796	1796
Adj Flow Rate, veh/h	445	305	330	205	520	379
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	7	7	7	7
Cap, veh/h	547	474	441	363	625	1025
Arrive On Green	0.31	0.30	0.25	0.24	0.26	0.57
Sat Flow, veh/h	1781	1585	1796	1522	1711	1796
Grp Volume(v), veh/h	445	305	330	205	520	379
Grp Sat Flow(s),veh/h/ln	1781	1585	1796	1522	1711	1796
Q Serve(g_s), s	15.1	10.9	11.1	7.8	13.1	7.5
Cycle Q Clear(g_c), s	15.1	10.9	11.1	7.8	13.1	7.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	547	474	441	363	625	1025
V/C Ratio(X)	0.81	0.64	0.75	0.57	0.83	0.37
Avail Cap(c_a), veh/h	986	865	950	794	1146	2082
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	19.9	22.8	21.9	12.1	7.6
Incr Delay (d2), s/veh	3.0	1.5	2.6	1.4	3.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	3.9	4.5	2.6	4.2	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.0	21.4	25.3	23.3	15.1	7.9
LnGrp LOS	C	C	C	C	B	A
Approach Vol, veh/h			535			899
Approach Delay, s/veh			24.6			12.0
Approach LOS			C			B
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	21.3	20.1			41.3	24.1
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	36.7	34.1			75.3	35.7
Max Q Clear Time (g_c+I1), s	15.1	13.1			9.5	17.1
Green Ext Time (p_c), s	1.6	2.5			2.4	2.5
Intersection Summary						
HCM 6th Ctrl Delay			18.8			
HCM 6th LOS			B			

HCM 6th TWSC
 4: NE Camas Meadows Dr & NE Goodwin Rd

10/25/2021

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	411	39	128	959	21	65
Future Vol, veh/h	411	39	128	959	21	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	50	-	100	0
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	9	4	4	2	2
Mvmt Flow	433	41	135	1009	22	68

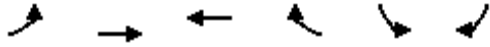
Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	474	0	1712
Stage 1	-	-	-	-	433
Stage 2	-	-	-	-	1279
Critical Hdwy	-	-	4.14	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.236	-	3.518
Pot Cap-1 Maneuver	-	-	1078	-	100
Stage 1	-	-	-	-	654
Stage 2	-	-	-	-	261
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1078	-	88
Mov Cap-2 Maneuver	-	-	-	-	210
Stage 1	-	-	-	-	654
Stage 2	-	-	-	-	228

Approach	EB	WB	NB
HCM Control Delay, s	0	1	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	210	623	-	-	1078	-
HCM Lane V/C Ratio	0.105	0.11	-	-	0.125	-
HCM Control Delay (s)	24.2	11.5	-	-	8.8	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.4	-	-	0.4	-

HCM Signalized Intersection Capacity Analysis
 5: NE Goodwin Rd /NE 28th St & NE Ingle Rd

10/25/2021

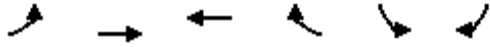


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	204	259	514	163	158	551
Future Volume (vph)	204	259	514	163	158	551
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1671	1759	1845	1568	1687	1509
Flt Permitted	0.18	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	324	1759	1845	1568	1687	1509
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	215	273	541	172	166	580
RTOR Reduction (vph)	0	0	0	66	0	282
Lane Group Flow (vph)	215	273	541	106	166	298
Heavy Vehicles (%)	8%	8%	3%	3%	7%	7%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	41.0	41.0	25.9	25.9	18.2	18.2
Effective Green, g (s)	41.0	41.0	25.9	25.9	18.2	18.2
Actuated g/C Ratio	0.59	0.59	0.37	0.37	0.26	0.26
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	388	1042	690	586	443	396
v/s Ratio Prot	c0.08	0.16	c0.29		0.10	
v/s Ratio Perm	0.25			0.07		c0.20
v/c Ratio	0.55	0.26	0.78	0.18	0.37	0.75
Uniform Delay, d1	10.0	6.8	19.2	14.5	20.8	23.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.1	5.8	0.1	0.5	7.9
Delay (s)	11.7	6.9	25.0	14.7	21.4	31.4
Level of Service	B	A	C	B	C	C
Approach Delay (s)		9.0	22.5		29.1	
Approach LOS		A	C		C	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	69.2	Sum of lost time (s)	15.0
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
 5: NE Goodwin Rd /NE 28th St & NE Ingle Rd

10/25/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↗	↑	↑	↗	↗	↗
Traffic Volume (veh/h)	204	259	514	163	158	551
Future Volume (veh/h)	204	259	514	163	158	551
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1781	1781	1856	1856	1796	1796
Adj Flow Rate, veh/h	215	273	541	172	166	580
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	8	8	3	3	7	7
Cap, veh/h	312	897	624	529	632	562
Arrive On Green	0.10	0.50	0.34	0.34	0.37	0.37
Sat Flow, veh/h	1697	1781	1856	1572	1711	1522
Grp Volume(v), veh/h	215	273	541	172	166	580
Grp Sat Flow(s),veh/h/ln	1697	1781	1856	1572	1711	1522
Q Serve(g_s), s	6.1	7.1	21.5	6.4	5.3	29.0
Cycle Q Clear(g_c), s	6.1	7.1	21.5	6.4	5.3	29.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	312	897	624	529	632	562
V/C Ratio(X)	0.69	0.30	0.87	0.33	0.26	1.03
Avail Cap(c_a), veh/h	352	1157	851	721	632	562
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.5	11.4	24.4	19.4	17.3	24.8
Incr Delay (d2), s/veh	4.8	0.2	7.2	0.4	0.2	46.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	2.3	9.4	2.1	1.9	7.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.3	11.6	31.6	19.8	17.5	71.2
LnGrp LOS	C	B	C	B	B	F
Approach Vol, veh/h		488	713		746	
Approach Delay, s/veh		16.3	28.8		59.2	
Approach LOS		B	C		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		44.5		34.0	13.1	31.4
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s		51.0		29.0	10.0	36.0
Max Q Clear Time (g_c+I1), s		9.1		31.0	8.1	23.5
Green Ext Time (p_c), s		1.5		0.0	0.1	3.0
Intersection Summary						
HCM 6th Ctrl Delay			37.3			
HCM 6th LOS			D			

HCM 2010 Roundabout
 101: NE 199th Ave & NE 58th St

10/25/2021

Intersection			
Intersection Delay, s/veh	12.4		
Intersection LOS	B		
Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	699	253	400
Demand Flow Rate, veh/h	762	266	428
Vehicles Circulating, veh/h	33	419	192
Vehicles Exiting, veh/h	652	201	603
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	14.9	9.7	9.9
Approach LOS	B	A	A
Lane	Left	Left	Left
Designated Moves	TR	LT	LR
Assumed Moves	TR	LT	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	762	266	428
Cap Entry Lane, veh/h	1093	743	933
Entry HV Adj Factor	0.918	0.951	0.935
Flow Entry, veh/h	699	253	400
Cap Entry, veh/h	1003	707	872
V/C Ratio	0.697	0.358	0.459
Control Delay, s/veh	14.9	9.7	9.9
LOS	B	A	A
95th %tile Queue, veh	6	2	2

HCM 6th TWSC
 1: NE 199th Ave & NE 58th St

10/25/2021

Intersection						
Int Delay, s/veh	11.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	
Traffic Vol, veh/h	279	428	23	204	350	26
Future Vol, veh/h	279	428	23	204	350	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	1	1	3	3	3	3
Mvmt Flow	297	455	24	217	372	28













Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	752	0	562 297
Stage 1	-	-	-	-	297 -
Stage 2	-	-	-	-	265 -
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	-	-	853	-	486 740
Stage 1	-	-	-	-	752 -
Stage 2	-	-	-	-	777 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	853	-	470 740
Mov Cap-2 Maneuver	-	-	-	-	470 -
Stage 1	-	-	-	-	752 -
Stage 2	-	-	-	-	752 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	39.4
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	482	-	-	853	-
HCM Lane V/C Ratio	0.83	-	-	0.029	-
HCM Control Delay (s)	39.4	-	-	9.3	0
HCM Lane LOS	E	-	-	A	A
HCM 95th %tile Q(veh)	8.2	-	-	0.1	-













HCM Signalized Intersection Capacity Analysis
 2: NE 192nd Ave & NE 13th Ave

10/25/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	256	333	646	282	338	494
Future Volume (vph)	256	333	646	282	338	494
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1615	1881	1599	1805	1900
Flt Permitted	0.95	1.00	1.00	1.00	0.14	1.00
Satd. Flow (perm)	1805	1615	1881	1599	268	1900
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	275	358	695	303	363	531
RTOR Reduction (vph)	0	280	0	101	0	0
Lane Group Flow (vph)	275	78	695	202	363	531
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Actuated Green, G (s)	19.1	19.1	40.8	40.8	59.9	59.9
Effective Green, g (s)	19.6	19.1	41.3	40.8	60.4	60.4
Actuated g/C Ratio	0.22	0.22	0.47	0.46	0.69	0.69
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	402	350	882	741	447	1304
v/s Ratio Prot	c0.15		0.37		c0.14	0.28
v/s Ratio Perm		0.05		0.13	c0.42	
v/c Ratio	0.68	0.22	0.79	0.27	0.81	0.41
Uniform Delay, d1	31.4	28.3	19.7	14.5	18.9	6.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.8	0.3	4.7	0.2	10.7	0.2
Delay (s)	36.1	28.7	24.4	14.7	29.7	6.2
Level of Service	D	C	C	B	C	A
Approach Delay (s)	31.9		21.4			15.7
Approach LOS	C		C			B
Intersection Summary						
HCM 2000 Control Delay			22.0		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.81			
Actuated Cycle Length (s)			88.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			76.9%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Summary
 2: NE 192nd Ave & NE 13th Ave

10/25/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	256	333	646	282	338	494
Future Volume (veh/h)	256	333	646	282	338	494
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1885	1885	1900	1900
Adj Flow Rate, veh/h	275	315	695	292	363	531
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	1	1	0	0
Cap, veh/h	440	380	842	703	429	1225
Arrive On Green	0.24	0.24	0.45	0.44	0.14	0.64
Sat Flow, veh/h	1810	1610	1885	1598	1810	1900
Grp Volume(v), veh/h	275	315	695	292	363	531
Grp Sat Flow(s),veh/h/ln	1810	1610	1885	1598	1810	1900
Q Serve(g_s), s	9.7	13.3	23.1	8.9	6.9	9.8
Cycle Q Clear(g_c), s	9.7	13.3	23.1	8.9	6.9	9.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	440	380	842	703	429	1225
V/C Ratio(X)	0.63	0.83	0.82	0.42	0.85	0.43
Avail Cap(c_a), veh/h	684	597	1636	1375	654	2261
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.1	25.9	17.3	13.7	13.7	6.3
Incr Delay (d2), s/veh	1.5	5.5	2.1	0.4	6.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	5.4	8.9	2.9	3.0	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.6	31.4	19.4	14.1	20.1	6.5
LnGrp LOS	C	C	B	B	C	A
Approach Vol, veh/h	590		987			894
Approach Delay, s/veh	28.7		17.9			12.0
Approach LOS	C		B			B
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.1	35.9			50.1	21.4
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	18.5	61.5			84.5	26.5
Max Q Clear Time (g_c+I1), s	8.9	25.1			11.8	15.3
Green Ext Time (p_c), s	0.8	6.3			3.6	1.6
Intersection Summary						
HCM 6th Ctrl Delay			18.3			
HCM 6th LOS			B			

HCM 6th TWSC
 4: NE Camas Meadows Dr & NE Goodwin Rd

10/25/2021

Intersection						
Int Delay, s/veh	2.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	925	36	90	598	66	117
Future Vol, veh/h	925	36	90	598	66	117
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	50	-	100	0
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	974	38	95	629	69	123

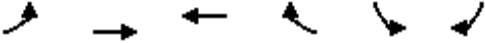
Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	1012	0	1793
Stage 1	-	-	-	-	974
Stage 2	-	-	-	-	819
Critical Hdwy	-	-	4.1	-	6.41
Critical Hdwy Stg 1	-	-	-	-	5.41
Critical Hdwy Stg 2	-	-	-	-	5.41
Follow-up Hdwy	-	-	2.2	-	3.509
Pot Cap-1 Maneuver	-	-	693	-	89
Stage 1	-	-	-	-	368
Stage 2	-	-	-	-	435
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	693	-	77
Mov Cap-2 Maneuver	-	-	-	-	259
Stage 1	-	-	-	-	368
Stage 2	-	-	-	-	375

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	24.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	259	307	-	-	693	-
HCM Lane V/C Ratio	0.268	0.401	-	-	0.137	-
HCM Control Delay (s)	23.9	24.4	-	-	11	-
HCM Lane LOS	C	C	-	-	B	-
HCM 95th %tile Q(veh)	1.1	1.9	-	-	0.5	-

HCM Signalized Intersection Capacity Analysis
 5: NE Goodwin Rd /NE 28th St & NE Ingle Rd

10/25/2021

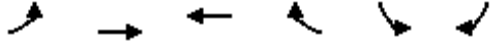


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	461	550	366	133	268	249
Future Volume (vph)	461	550	366	133	268	249
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1900	1881	1599	1805	1615
Flt Permitted	0.25	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	471	1900	1881	1599	1805	1615
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	485	579	385	140	282	262
RTOR Reduction (vph)	0	0	0	86	0	156
Lane Group Flow (vph)	485	579	385	54	282	106
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	42.9	42.9	19.7	19.7	15.4	15.4
Effective Green, g (s)	42.9	42.9	19.7	19.7	15.4	15.4
Actuated g/C Ratio	0.63	0.63	0.29	0.29	0.23	0.23
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	651	1193	542	461	406	364
v/s Ratio Prot	c0.20	0.30	0.20		c0.16	
v/s Ratio Perm	c0.27			0.03		0.07
v/c Ratio	0.75	0.49	0.71	0.12	0.69	0.29
Uniform Delay, d1	9.3	6.8	21.7	17.9	24.3	21.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.6	0.3	4.4	0.1	5.1	0.4
Delay (s)	13.9	7.1	26.1	18.0	29.4	22.4
Level of Service	B	A	C	B	C	C
Approach Delay (s)		10.2	24.0		26.0	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	68.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
 5: NE Goodwin Rd /NE 28th St & NE Ingle Rd

10/25/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↕	↕	↕	↕	↕	↕
Traffic Volume (veh/h)	461	550	366	133	268	249
Future Volume (veh/h)	461	550	366	133	268	249
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1885	1885	1900	1900
Adj Flow Rate, veh/h	485	579	385	140	282	262
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	1	1	0	0
Cap, veh/h	624	1129	513	435	389	346
Arrive On Green	0.23	0.59	0.27	0.27	0.21	0.21
Sat Flow, veh/h	1810	1900	1885	1598	1810	1610
Grp Volume(v), veh/h	485	579	385	140	282	262
Grp Sat Flow(s),veh/h/ln	1810	1900	1885	1598	1810	1610
Q Serve(g_s), s	8.9	9.3	9.8	3.7	7.6	8.0
Cycle Q Clear(g_c), s	8.9	9.3	9.8	3.7	7.6	8.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	624	1129	513	435	389	346
V/C Ratio(X)	0.78	0.51	0.75	0.32	0.72	0.76
Avail Cap(c_a), veh/h	869	2175	1295	1097	691	614
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.8	6.2	17.4	15.2	19.1	19.3
Incr Delay (d2), s/veh	3.0	0.4	2.2	0.4	2.6	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	1.9	3.6	1.1	2.8	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.9	6.6	19.7	15.6	21.7	22.7
LnGrp LOS	B	A	B	B	C	C
Approach Vol, veh/h		1064	525		544	
Approach Delay, s/veh		9.4	18.6		22.2	
Approach LOS		A	B		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		36.1		16.3	16.9	19.3
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s		60.0		20.0	19.0	36.0
Max Q Clear Time (g_c+I1), s		11.3		10.0	10.9	11.8
Green Ext Time (p_c), s		3.6		1.3	1.0	2.5
Intersection Summary						
HCM 6th Ctrl Delay			14.9			
HCM 6th LOS			B			

Notes

User approved pedestrian interval to be less than phase max green.

HCM 2010 Roundabout
 101: NE 199th Ave & NE 58th St

10/25/2021

Intersection			
Intersection Delay, s/veh	12.1		
Intersection LOS	B		
Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	752	241	400
Demand Flow Rate, veh/h	760	249	412
Vehicles Circulating, veh/h	25	383	300
Vehicles Exiting, veh/h	607	329	485
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	13.7	8.7	11.1
Approach LOS	B	A	B
Lane	Left	Left	Left
Designated Moves	TR	LT	LR
Assumed Moves	TR	LT	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	760	249	412
Cap Entry Lane, veh/h	1102	770	837
Entry HV Adj Factor	0.990	0.970	0.971
Flow Entry, veh/h	752	241	400
Cap Entry, veh/h	1090	747	813
V/C Ratio	0.690	0.323	0.492
Control Delay, s/veh	13.7	8.7	11.1
LOS	B	A	B
95th %tile Queue, veh	6	1	3

HCM 6th TWSC
 1: NE 199th Ave & NE 58th St

10/25/2021

Intersection						
Int Delay, s/veh	11.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	279	333	13	204	288	15
Future Vol, veh/h	279	333	13	204	288	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	1	1	3	3	3	3
Mvmt Flow	297	354	14	217	306	16

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	651	0	719
Stage 1	-	-	-	-	474
Stage 2	-	-	-	-	245
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	-	-	931	-	394
Stage 1	-	-	-	-	624
Stage 2	-	-	-	-	793
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	931	-	387
Mov Cap-2 Maneuver	-	-	-	-	387
Stage 1	-	-	-	-	624
Stage 2	-	-	-	-	780

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	44.2
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	394	-	-	931	-
HCM Lane V/C Ratio	0.818	-	-	0.015	-
HCM Control Delay (s)	44.2	-	-	8.9	0
HCM Lane LOS	E	-	-	A	A
HCM 95th %tile Q(veh)	7.4	-	-	0	-

HCM 6th TWSC
 1: NE 199th Ave & NE 58th St

10/25/2021

Intersection						
Int Delay, s/veh	10.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	153	421	23	193	262	5
Future Vol, veh/h	153	421	23	193	262	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	9	9	5	5	7	7
Mvmt Flow	176	484	26	222	301	6

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	660	0	692
Stage 1	-	-	-	-	418
Stage 2	-	-	-	-	274
Critical Hdwy	-	-	4.15	-	6.47
Critical Hdwy Stg 1	-	-	-	-	5.47
Critical Hdwy Stg 2	-	-	-	-	5.47
Follow-up Hdwy	-	-	2.245	-	3.563
Pot Cap-1 Maneuver	-	-	914	-	402
Stage 1	-	-	-	-	654
Stage 2	-	-	-	-	761
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	914	-	389
Mov Cap-2 Maneuver	-	-	-	-	389
Stage 1	-	-	-	-	654
Stage 2	-	-	-	-	737

Approach	EB	WB	NB
HCM Control Delay, s	0	1	40.3
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	392	-	-	914	-
HCM Lane V/C Ratio	0.783	-	-	0.029	-
HCM Control Delay (s)	40.3	-	-	9.1	0
HCM Lane LOS	E	-	-	A	A
HCM 95th %tile Q(veh)	6.7	-	-	0.1	-

HCM 6th TWSC
 1: NE 199th Ave & NE 58th St

10/25/2021

Intersection						
Int Delay, s/veh	11.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	153	427	23	193	274	5
Future Vol, veh/h	153	427	23	193	274	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	9	9	5	5	7	7
Mvmt Flow	176	491	26	222	315	6

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	667	0	696
Stage 1	-	-	-	-	422
Stage 2	-	-	-	-	274
Critical Hdwy	-	-	4.15	-	6.47
Critical Hdwy Stg 1	-	-	-	-	5.47
Critical Hdwy Stg 2	-	-	-	-	5.47
Follow-up Hdwy	-	-	2.245	-	3.563
Pot Cap-1 Maneuver	-	-	909	-	400
Stage 1	-	-	-	-	651
Stage 2	-	-	-	-	761
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	909	-	387
Mov Cap-2 Maneuver	-	-	-	-	387
Stage 1	-	-	-	-	651
Stage 2	-	-	-	-	736

Approach	EB	WB	NB
HCM Control Delay, s	0	1	45.1
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	390	-	-	909	-
HCM Lane V/C Ratio	0.822	-	-	0.029	-
HCM Control Delay (s)	45.1	-	-	9.1	0
HCM Lane LOS	E	-	-	A	A
HCM 95th %tile Q(veh)	7.5	-	-	0.1	-

HCM 6th TWSC
1: NE 199th Ave & NE 58th St

10/25/2021

Intersection						
Int Delay, s/veh	13					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	279	346	13	204	294	15
Future Vol, veh/h	279	346	13	204	294	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	1	1	3	3	3	3
Mvmt Flow	297	368	14	217	313	16

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	665	0	726
Stage 1	-	-	-	-	481
Stage 2	-	-	-	-	245
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	-	-	919	-	390
Stage 1	-	-	-	-	620
Stage 2	-	-	-	-	793
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	919	-	383
Mov Cap-2 Maneuver	-	-	-	-	383
Stage 1	-	-	-	-	620
Stage 2	-	-	-	-	780

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	48.2
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	389	-	-	919	-
HCM Lane V/C Ratio	0.845	-	-	0.015	-
HCM Control Delay (s)	48.2	-	-	9	0
HCM Lane LOS	E	-	-	A	A
HCM 95th %tile Q(veh)	8	-	-	0	-